

2012-2013 Graduate Catalog

University of North Texas



The latest information is available online at catalog.unt.edu.

Catalog Home

Official release date is July 1.

Catalog goes into effect at the beginning of the 2012 fall semester.

Program requirements are subject to necessary corrections.

University of North Texas

Bulletin 2012-2013 Graduate Catalog

WELCOME to the UNT online *Graduate Catalog*.

In accord with UNT's other sustainability initiatives, we are saving trees by producing the official UNT catalogs online only. We hope you will find the new catalogs easy to use. Now powered by alogTM (a product of Digital Architecture), both catalogs offer several new and helpful features:

- **Advanced search features** allow you to search by course prefix, course number, exact match, or descriptive phrases.
- The **My Catalog** feature allows you to save course and program information in a personal space (similar to an online shopping cart) that you can access from any computer with Internet access. All you need to get started is your e-mail address.
- Each section of the catalog has a **print-friendly view** to provide cleaner, more attractive pages when you print.
- **Help in using the catalog** is readily available – just look for the help icon at the top of each page.
- **Switching from one catalog to another** is as easy as clicking on the catalog you want from the drop-down list at the top right of the page and then on "GO."

See the Catalog User Guide in the *Undergraduate Catalog* for more information about using the online catalogs. Should you have additional questions about the catalog, please contact the Office of Catalog and Curriculum Support at catalog@unt.edu.

This catalog is an official bulletin of the University of North Texas and is intended to provide general information. It includes policies, regulations, procedures and fees in effect at the time of release. UNT reserves the right to make changes at any time to reflect current board policies, administrative regulations and procedures, amendments by state law and fee changes. Information provided by this catalog is subject to change without notice and does not constitute a contract between the University of North Texas and a student, an applicant for admission, or other individual.

Students are responsible for observing the regulations included here; therefore, they are urged to read this catalog carefully. This catalog does not include all university rules, regulations and policies for which a student is responsible. Students also should consult other publications, such as the *Student Handbook*, the *Code of Student Conduct*, *Parking Regulations*, *ABCs of Residence Hall Living* and specific contracts. This catalog becomes effective on the first day of the fall term/semester, 2012.

Toulouse Graduate School Address

The mailing address for the University of North Texas Toulouse Graduate School is 1155 Union Circle #305459, Denton, TX 76203-5017; 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 112-3, July 2012

Non-Discrimination Policy

It is the policy of the University of North Texas not to discriminate on the basis of race, color, religion, sex, age, national origin, disability, disabled veteran status or veterans of the Vietnam era status in its educational programs, activities, admissions or employment policies.

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 Office of Equal Opportunity 940-565-2737, or the Dean of Students Office 940-565-2648. TDD access: 800-735-2989.

Date of initial release: July 1, 2012.

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The university

At the University of North Texas, our greatest passion is to give a green light to greatness in all we do: in the achievements of our students, in the excellence of our teaching and research, and in the impact our university has on the larger North Texas region.

The flagship of the UNT System, UNT has a legacy of excellence in a broad range of academic areas. UNT is the most comprehensive university in the Dallas–Fort Worth area, offering 97 bachelor’s, 82 master’s and 35 doctoral degree programs—many nationally and internationally recognized. Enrolling 36,000 students, it’s one of the largest universities in Texas and the nation’s 26th largest public university.

UNT is a student-focused public research university. Named one of America’s 100 Best College Buys® for 16 consecutive years, UNT offers the state’s most affordable research university education. With more than 80 research centers and cross-disciplinary research clusters, our faculty and students are discovering innovative solutions to real-world problems and serving the public good.

Location

UNT is in Denton, a college town of about 122,000 people located about 40 miles north of Dallas and Fort Worth. The 900-acre campus includes 157 buildings and Discovery Park, a 300-acre research facility. Discovery Park is accessible by shuttle buses, as are residence halls, athletic facilities and other areas of campus.

The Dallas–Fort Worth area is one of the largest, most dynamic regions in the United States and home to many of the nation’s fastest growing cities. UNT powers the North Texas region through innovation, education and research; forming partnerships with many business, industry, education, government and cultural organizations.

The university’s mission

UNT is a major public research university deeply committed to advancing educational excellence and preparing students to become thoughtful, engaged citizens of the world.

The university’s vision

As the most comprehensive public research university providing a top quality education in one of the nation’s largest, most dynamic regions, UNT will be celebrated for its academics, arts and athletics. UNT will be a diverse and inclusive institution creating knowledge and innovations that will shape the future, while cultivating excellence in the next generation of scholars and leaders for the global community.

Achieving the vision

UNT’s promise

The University of North Texas’ ultimate responsibility is to provide students with the best education possible, so they may achieve their goals, succeed at the highest levels and improve their communities, the state of Texas, the nation and the world.

UNT promises to offer students a challenging, rigorous, high-quality education and provide a supportive environment to help them successfully learn and grow.

UNT promises to contribute to the greater good through scholarship, research, creative endeavors and public service.

UNT’s four bold goals

At the heart of the university’s strategic plan are four cornerstone goals that drive UNT to provide the best education possible and rival the nation’s best higher education institutions. The goals are ambitious, but the plan builds on UNT’s strengths and momentum. We are reaching our destination by working together to meet the most ambitious goals. We

hold ourselves accountable to the highest standards of quality, service and engagement and measure our progress against clear and accepted standards.

Goal 1: Provide the best undergraduate educational experience in Texas.

Goal 2: Provide superior graduate education, scholarship and artistic endeavors and achieve status among the nation’s tier-one research institutions.

Goal 3: Become a national leader among universities in student support, employee relations, operational effectiveness and service to constituencies.

Goal 4: Establish UNT as a nationally recognized, engaged university and regional leader by building and expanding mutually beneficial partnerships and resources.

History of the university

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 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 score well above the national and state averages on the SAT, and choose UNT for the quality of its programs, many of which are nationally and internationally recognized. UNT “firsts” through the years include:

- First jazz studies program in the U.S.
- First undergraduate emergency administration and planning program in the U.S.
- First bachelor’s degree in digital retailing in the U.S. and first master’s degree in merchandising offered completely online
- First school library certification program in the U.S. offered completely online
- First accredited master’s program in applied behavior analysis in the world
- First master’s program in international sustainable tourism in the U.S.
- First four-year aviation logistics program at a university in Texas and one of only two such programs in the nation
- First comprehensive training/research center for Spanish language media
- First and only PhD program in art education in Texas
- World’s first graduate program in environmental philosophy and world’s first field station in environmental philosophy, science and policy at Cape Horn, Chile

Research

UNT engages in innovative research in a wide range of disciplines, promoting new discoveries through collaborative, multidisciplinary initiatives. UNT supports its world-class faculty, top-notch students and state-of-the-art research facilities through strategic investments. Graduate students actively participate in research and scholarly activities with supportive faculty mentors, building strong research records and expertise for their chosen careers.

Accreditation

The University of North Texas is accredited by the Southern Association of Colleges and Schools Commission on Colleges (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.

In addition, the University of North Texas offers programs accredited by the following organizations.

AACSB International — The Association to Advance Collegiate Schools of Business
ABET
Accreditation Commission for Programs in Hospitality Administration
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 International
Commission on English Language Program Accreditation
Computing Accreditation Commission of ABET
Council for Accreditation of Counseling and Related Educational Programs
Council for Interior Design Accreditation
Council on Rehabilitation Education
Council on Social Work Education
Forensic Science Education Programs Accreditation Commission
National Association for the Education of Young Children
National Association of Schools of Art and Design
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 ABET

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 Council of Teachers of English
National Council of Teachers of Mathematics

Institutional memberships

The University of North Texas holds the following memberships.

American Association of Family and Consumer Sciences
American Association of State Colleges and Universities
American College Dance Festival Association
American Collegiate Retailing Association
American Council on Education
American Hotel and Lodging Association
American Mathematical Society
American Political Science Association
Association for Symbolic Logic
Association of Texas Colleges and Universities
Association of Texas Graduate Schools
Association of Women in Mathematics
Broadcast Education Association
Coalition of Urban and Metropolitan Universities
Conference of Southern Graduate Schools
Council for Chemical Research
Council for Higher Education Accreditation
Council for Public University Presidents and Chancellors
Council of Graduate Schools

Council on Undergraduate Research
Dallas Dance Council
Federation of North Texas Area Universities
Greater Denton Arts Council
Hospitality Sales and Marketing Association International
International Council of Shopping Centers
International Council on Hotel, Restaurant and Institutional Education
International Textile and Apparel Association
Mathematical Association of America
National Association of State Universities and Land-Grant Colleges
National Collegiate Honors Council
National Restaurant Association
National Retail Federation
National Women's Studies Association
Oak Ridge Associated Universities
Society for Cinema and Media Studies
Texas Association of Broadcast Educators
Texas Educational Theatre Association
University Film and Video Association

UNT firsts

- 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 patent for a silicon-based ultra-sensitive chemical sensor for use in integrated circuit fabrication.
- 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.

Administration, faculty and librarians

See Administration, faculty and librarians for lists of university officers, UNT System officers and Graduate School administration.

Information regarding individual faculty members and librarians is available from the Faculty Profile System (<https://faculty.unt.edu/index.php>). Select "Faculty Profiles" from the Browse menu. To access faculty information from a specific department or from the Libraries, use the drop-down menu at the head of the faculty list.

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) 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 Graduate Catalog* for UNTHSC graduate faculty listings.

Academic calendar

Dates are subject to change by official action of UNT.

Fall 2012

August 29, 2012	First class day (Wednesday)
September 3, 2012	Labor Day (university closed)
November 22-25, 2012	Thanksgiving break (university closed)
December 1-7, 2012	Pre-finals week
December 6, 2012	Last class day
December 7, 2012	Reading day (no classes)
December 8-14, 2012	Final examinations
December 14, 2012	Doctoral and master's commencement
December 15, 2012	Undergraduate commencement
December 24, 2012 – January 1, 2013	Winter break (university closed)

Spring 2013

January 14, 2013	First class day
January 21, 2013	MLK Day (university closed)
March 11-17, 2013	Spring break (no classes)
April 27-May 3, 2013	Pre-finals week
May 2, 2013	Last class day
May 3, 2013	Reading day (no classes)
May 4-10, 2013	Final examinations
May 10, 2013	Doctoral and master's commencement
May 11, 2013	Undergraduate commencement

Summer term 2013

May 13, 2013	First class day
May 27, 2013	Memorial Day (university closed)
July 4, 2013	Independence Day (university closed)
August 8, 2013	Last class day
August 9, 2013	Final examinations
August 9, 2013	Doctoral and master's commencement
August 10, 2013	Undergraduate commencement

3W1 term 2013

May 13, 2013	First class day
May 27, 2013	Memorial Day (university closed)
May 29, 2013	Last class day
May 30, 2013	Final examinations
August 9, 2013	Doctoral and master's commencement
August 10, 2013	Undergraduate commencement

8W1 term 2013

May 13, 2013	First class day
May 27, 2013	Memorial Day (university closed)
July 3, 2013	Last class day
July 4, 2013	Independence Day (university closed)
July 5, 2013	Final examinations
August 9, 2013	Doctoral and master's commencement
August 10, 2013	Undergraduate commencement

5W1 term 2013

June 3, 2013	First class day
June 7, 2013	Make-up day for July 4
July 3, 2013	Last class day
July 4, 2013	Independence Day (university closed)
July 5, 2013	Final examinations
August 9, 2013	Doctoral and master's commencement
August 10, 2013	Undergraduate commencement

10W term 2013

June 3, 2013	First class day
July 4, 2013	Independence Day (university closed)
August 8, 2013	Last class day
August 9, 2013	Final examinations
August 9, 2013	Doctoral and master's commencement
August 10, 2013	Undergraduate commencement

5W2 term 2013

July 8, 2013	First class day
August 8, 2013	Last class day
August 9, 2013	Final examinations
August 9, 2013	Doctoral and master's commencement
August 10, 2013	Undergraduate commencement

Additional calendar information

Admissions	Phone: 940-565-2681 Web site: www.unt.edu/admissions.htm
Graduate School	Phone: 940-565-2383 E-mail: gradsch.unt.edu Web site: www.graduateschool.unt.edu
Registrar's Office	Phone: 940-565-2378 E-mail: registrar@unt.edu Web site: www.unt.edu/registrar
Student Accounting and University Cashiering Services	Phone: 940-565-3225 Web site: www.unt.edu/tuition
Housing	Phone: 940-565-2610 E-mail: housinginfo@unt.edu Web site: www.unt.edu/housing
New Student Programs including Orientation, which is required of all new undergraduate students)	Phone: 940-565-4198 E-mail: freshman@unt.edu and transfer@unt.edu Web site: www.unt.edu/nsp
UNT-International	Phone: 940-565-4822 E-mail: international@unt.edu Web site: www.international.unt.edu
Libraries	Web site: www.library.unt.edu

Admission

Admission application

The University of North Texas is a selective university and does not guarantee admission of all applicants. It is recommended that students apply well in advance of the stated application deadlines. **Many departments have earlier deadlines that vary by program.** (See the departmental sections of this publication and the departmental web site for these program-specific dates.)

Applications are submitted online at www.applytexas.org. Application is made through the Toulouse Graduate School.

Some funding opportunities require early admission to the program to ensure eligibility. Please consult the department and the graduate school regarding deadlines.

Admission application fee

U.S. citizens and permanent resident aliens applying to the University of North Texas Toulouse Graduate School must pay a \$60 nonrefundable admission application fee. The fee must be paid in U.S. dollars. Applications received after the deadline require a \$90 fee.

International students applying to the University of North Texas Toulouse Graduate School 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 the application fee is received. Admission decisions will be made after all academic credentials are received and evaluated.

Contact the Toulouse Graduate School for more information at 940-565-2383, 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 2011

- July 15, 2011, for classes beginning Aug. 25, 2011

Spring 2012

- Nov. 15, 2011, for classes beginning Jan. 17, 2012

Summer 2012

- May 1, 2011, for classes beginning May 14, 2012
- May 15, 2011, for classes beginning June 4, 2012
- June 15, 2011, for classes beginning July 9, 2012

Fall 2012

- July 15, 2012 for classes beginning August 29, 2012

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. For more information, visit gradschool.unt.edu.

Requirements for admission to the Toulouse Graduate School

General admission requirements

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

All applicants for admission to the Toulouse Graduate School 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 (or the whole semester closest to the last 60 hours) 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 Graduate School. 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 below 2.8 on the last 60 semester hours (or the whole semester closest to the last 60 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 and deadlines 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 (or the whole semester closest to the last 60 hours) prior to receiving the bachelor's degree or a 2.8 GPA on all undergraduate work prior to the bachelor's degree to be considered for unconditional admission to the Toulouse Graduate School for master's study. Applicants who have already completed a master's degree must have at least a 3.4 master's degree 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). Some programs require other materials (e.g., a writing portfolio, an art portfolio or an audition, etc.). For the applicable standardized admission test and **any additional admission requirements**, contact the academic program.

Requirements for admission to specific degree programs may differ from the minimum requirements for admission to the Graduate School. Specific requirements for admission to a degree program may be found in the appropriate departmental section of this catalog or the program web site. **Admission to the Toulouse Graduate School 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 (or the whole semester closest to the last 60 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 Graduate School 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 (or the whole semester closest to the last 60 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, etc.). For standardized admission test and additional admission requirements, contact the academic program.
4. The applicant may be required to take entrance examinations, either oral, written or both, before admission to the degree program 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 Graduate School:
 - a. complete official transcripts from all colleges or universities attended,
 - b. an application for admission to the Toulouse Graduate School (www.ApplyTexas.org),
 - c. official scores from the testing service on the required entrance test (see below for mailing address), and
 - d. the application fee.

The mailing address for the University of North Texas Toulouse Graduate School is 1155 Union Circle #305459, Denton, TX 76203-5017.
7. An applicant who has attempted graduate work at another institution within the six-year period immediately prior to first enrollment as a graduate student at 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. Applicants for admission are furnished written notification of their admission status by the dean of the Toulouse Graduate School. Statements by other university officers concerning the applicant's admissibility are not valid until confirmed by the graduate dean in writing.
9. 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 Graduate School.

Other admission requirements

In addition to meeting the general requirements, 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 may be 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 not be permitted unless the standardized test provision is met.

In no case may students who have 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, (c) be permitted to enroll in such courses as thesis, dissertation, problem in lieu of thesis, internship, practicum, etc, (d) change their major to another degree program, or (e) submit an application for a concurrent program. Students may experience a loss of financial eligibility if they fail to satisfy their provisional admission and elect to register for undergraduate course work for a semester.

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 Graduate School 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 holds 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 at www.unt.edu/registrar/schedule.htm.

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

Readmission of graduate students

Students who have previously been admitted to the Toulouse Graduate School but who have not enrolled at UNT 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). Programs are not required to readmit students who left the university on probation or suspension and reapply.

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 Graduate School 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 Graduate School 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 Graduate School 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.

Note: students admitted to graduate study prior to completion of the bachelor's degree and who are receiving financial aid should check with the financial aid office to prevent disruption of aid.

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 Graduate School 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

Students who wish to obtain a second bachelor's degree must hold a bachelor's degree from a regionally accredited U.S. institution or an equivalent credential from a foreign institution recognized by UNT's Office of International Admissions. U.S. citizens and permanent residents apply directly to the Toulouse Graduate School for admission. International students apply to UNT's Office of International Admissions.

To be eligible to receive a second bachelor's degree, the student must meet all of the current requirements for the second bachelor's degree, including 12 hours of advanced courses in a field different from the major of the first bachelor's degree. Specific requirements for the second bachelor's degree are found in the current undergraduate catalog. Advising is provided by the college in which the second bachelor's degree is sought.

Admission to non-degree status

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

1. The applicant must meet all of the *general* admission requirements described previously.
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-seeking status must have standardized admission test scores on file in the Toulouse Graduate School 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-seeking 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 must be approved in advance of registration by the College of Business 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 Graduate School. No change of major will be accepted for students who are on probation, or are otherwise not in good standing with the university. In addition, a student must satisfy the standardized admission test requirement for the intended major prior to submitting the request form. 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 consideration to the graduate advisor in the proposed major.

Conditional admission of students with low grade point average

For students who wish to pursue a graduate-level degree at the university (except the College of Business), but who do not meet the Toulouse Graduate School 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 advisor 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. Completion of the 15-hour leveling program does not imply admission to a degree program or eligibility for certification programs at UNT. It is the responsibility of the student to determine, in consultation with the program, if the 15-hour leveling program will help the student reach the goal of program admission. **To maximize the benefit to the student, this determination should be made prior to enrolling in the 15-hour program.**
3. The student must satisfy the standardized admission test requirement 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 College of Information, the standardized admission test score must be submitted prior to beginning the 15-hour program.

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.

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.

International students

Applicants who do not hold either U.S. citizenship or U.S. permanent resident alien status should apply to the International Admissions Office.

Application deadlines

Undergraduate: Submit all documents at least six months before enrollment date.

Graduate: Submit all documents at least six months before enrollment date. Some departments have much earlier application deadlines. Check application deadlines with your department (www.unt.edu/find-people-department.htm).

English language proficiency measure

Proficiency measure	Score required
English language study at UNT	
Completion of the Intensive English Language Institute (IELI)	Graduation from Level 6
English language proficiency tests	
CAE (Certificate in Advanced English) www.cambridgeesol.org/exams	B or higher
CPE (Certificate of Proficiency in English) www.cambridgeesol.org/exams	C or higher
IELTS–Academic (International English Language) www.ielts.org	Overall band 6.5 or higher
TOEFL (Test of English as a Foreign Language) www.ets.org Score must be less than 2 years old unless the student has been continuously studying at a U.S. college/university.	213 computer 79 iBT 550 International paper
GCE, GCSE, IGCSE www.cie.org.uk	C or higher in English Language
WASC, KCSE, SSCE	B or higher in English Language
SAT Critical Reading and Writing	500 or higher on Reading and 9 or higher on Writing
MELAB–Official version (Michigan English Language Assessment Battery) www.lsa.umich.edu/eli/testing/melab	80 or higher
Advanced Placement language and composition exams	3.0 or higher on both sections
Courses/degrees/diplomas	
High school (3 years), Associate’s, Bachelor’s, Master’s or Doctoral Degree earned in the U.S. or other English speaking countries: Anguilla, Antigua/Barbuda, Australia, Bahamas, Barbados, Belize, Bermuda, British Guyana, Canada (except Quebec), Cayman Islands, Dominica, Falkland Islands, Fiji, Grenada, Guam, Guyana, Ireland, Jamaica/other West Indies, Liberia, Montserrat, New Zealand, South Africa, St. Helena, St. Kitts and Nevis, St. Lucia, St. Vincent, Trinidad and Tobago, Turks and Caicos, United Kingdom and Virgin Islands.	Graduation with a degree
IB (International Baccalaureate) www.ibo.org	Grade 5 or higher
English Composition I and II passed at a U.S. institution, which counts as transfer credit at UNT (not ESL courses)	B or higher
Articulation partnerships with international institutions	As pre-arranged

Three types of admission

1. **Direct UNT admission**
Undergraduate: With proof of English language proficiency. (See “English Language Proficiency Measure” chart.)

Graduate: With proof of English language proficiency (See “English Language Proficiency Measure” chart.) and all other departmental requirements (www.unt.edu/departmentscontactinfo.htm).
2. **Conditional UNT admission**
 - a. UNT Undergraduate and Intensive English Language Institute (IELI).
 - b. UNT Graduate and Intensive English Language Institute (IELI).
 - c. UNT Graduate and Graduate Preparation Course. Students must show English language proficiency to be admitted.
3. **English language study only**
UNT’s Intensive English Language Institute (IELI).

Application form

Paper: Download and print the UNT International Student Application for Admission at international.unt.edu/admissions

Online:

UNT application: www.applytexas.org

IELI application: international.unt.edu/forms/apply-ieli/program/lang/en_US

Application fee

The non-refundable application fee must be received for the admission processing to begin.

Direct UNT Admission—undergraduate: \$85 and graduate: \$95

Conditional UNT Admission—undergraduate: \$160 and graduate: \$170

English language study only—IELI only: \$75

Send all application forms and documents to:

UNT International Admissions Office
University of North Texas
1155 Union Circle #311067
Sycamore Hall, Room 288
Denton, TX 76203-5017 U.S.A.
E-mail: international@unt.edu
Telephone: 940-565-2442
Fax: 940-565-4822

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 UNT Intensive English Language Institute 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 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 IELI. Applicants eligible for the GPC must have successfully completed level six of the IELI or have met current UNT English proficiency (i.e., TOEFL) requirements, and must have conditional admission to a UNT graduate program. Each GPC applicant must also complete one 3 semester credit hour graduate-level course (or another 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 may receive a waiver of the verbal GRE score, but must complete all other admission requirements of the graduate school and the academic unit including other sections of the required standardized test.

Academics

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 unconditionally 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 Graduate School 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 Graduate School at UNT.

Texas does not include online degree programs in its Academic Common Market inventory if the student does not reside in Texas.

Academic status

This term is used as an indication of a student's academic standing with the university. Graduate students must maintain a minimum cumulative grade point average (CGPA) of 2.67 in the initial term of enrollment and a CGPA of 3.0 in all subsequent terms to remain in good academic standing.

Academic probation

A graduate student is placed on academic probation at the end of the initial period of enrollment if the CGPA drops below 2.67. A graduate student is placed on academic probation at the end of any subsequent term in which the CGPA falls below a 3.0.

Academic suspension

A graduate student who is placed on academic probation and 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. Programs are not required to readmit students who left the university on probation or suspension and reapply.

Certification-only students

Certification-only students are admitted to the Toulouse Graduate School 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.

Classification as a graduate student on this basis does not guarantee financial aid eligibility. Students should consult the Office of Financial Aid and Scholarships for details.

Concentration

A concentration is a recognized focus in a sub-field 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 office of the graduate dean prior to registration, and students must not exceed the maximum enrollment limitation set by UNT.

Concurrent programs

Concurrent programs are defined as programs (degrees, graduate academic certificates or teacher certification) that a student is pursuing simultaneously. Students in their first semester of graduate enrollment must satisfy the admission test requirement prior to submitting an application for a concurrent degree.

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 program that requires completion of a thesis or dissertation. Once enrollment in 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 through the semester of graduation. 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 or to graduate in August. Doctoral students must maintain continuous enrollment in dissertation subsequent to passing the qualifying examination for admission to candidacy.

Course numbering system

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 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.

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 Graduate School and at gradschool.unt.edu.

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 Graduate School. 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 being admitted to a graduate degree program, 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 (graduated students only)

Former students are those graduated 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 require 9–18 hours of graduate-level course work. (5000- or 6000-level courses). Since each certificate has its own admission requirements in addition to those of the Graduate School, a student should apply for admission to each graduate academic certificate separately (and/or concurrently) to other degree, certificate or teacher certification programs. All of the course work must be completed and the certificate awarded within four years of the date of the first course. No credit applied to a previously awarded master's or doctoral program, including UNT degrees, can be applied toward the graduate academic certificate. Transfer credit from other institutions cannot be applied to the graduate academic certificate. Graduate academic certificates are posted to the UNT transcript. Verification forms for completion should be requested from the program director in the last semester of related course work. Disclosures: gradschool.unt.edu/certificatedisclosure.

Leave of absence

Leave of absence applies to students admitted to the master's or doctoral degree who wish to discontinue work toward the degree for a specified period of time due to exigent circumstances. Leave of absence may be granted by the academic program, which then notifies the Graduate School. If the student has begun thesis or dissertation and is under the continuous enrollment requirement, a waiver of continuous enrollment must also be requested and approved by the Graduate School. Degree requirements and graduation must be completed within the appropriate time limit for completion of the degree. (See "Time Limitations" in the master's and doctoral degree requirements sections of this catalog.)

Non-degree students

Non-degree seeking students are admitted to the Toulouse Graduate School 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 seeking student may be used toward a degree only with approval from the academic department. Non-degree seeking students must meet Graduate School admission requirements.

Students who continue to register for courses beyond the first 12 hours risk earning credits that cannot be applied to a degree program if admission is obtained later. Satisfactory completion of course work and/or other degree requirements does not imply acceptance of those credits toward a degree program. It is the responsibility of the student to know his or her admission status and seek admission to a degree program in a timely manner.

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 online schedule of classes at www.unt.edu/registrar.

Pass-through master's degree

Students who are admitted to a 72-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, doctoral residency and other tool-subject requirements as well as filing an official degree plan. (Degree plans should be filed within the first year of doctoral study.) 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 Dean of Students Office of their intent to withdraw from the university. Procedures and deadlines for dropping or withdrawing are available in the Dean of Students Office or online at deanofstudents.unt.edu/withdrawals.

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 and 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 outlined in the TA/TF Handbook and under "Student Load" in the Enrollment section of this catalog. 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 Toulouse Graduate School hosts a required Teaching Excellence Seminar. See the Campus resources 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), 5W1 and 5W2 (five week one and two), 8W1 (eight week one), 10W (ten week) and SUM (full summer term).

Time limitation

Master's and doctoral degrees

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 eight years to complete their degree requirements. Students anticipating that they will exceed the time limit must apply for a time extension through the academic department and college, and then approval by the graduate dean before the time limit has expired. Information on filing a time extension can be found at gradschool.unt.edu/extension.htm. Time limitations also apply to transfer credit used toward a degree. Programs may adopt shorter time limits.

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. Tracks do not appear on transcripts or diplomas.

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, the majority of which 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 Toulouse Graduate School
- The College of Arts and Sciences
- The College of Business
- The College of Education
- The College of Engineering
- The College of Information
- The Frank W. and Sue Mayborn School of Journalism
- The College of Merchandising, Hospitality and Tourism
- The College of Music
- The College of Public Affairs and Community Service
- The College of Visual Arts and Design
- The Honors College

These schools and colleges offer degrees, majors, concentrations under majors, minors, certifications and preprofessional programs. 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 Graduate School for program opportunities and requirements and see the Toulouse Graduate School section of this catalog for additional information.

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 Graduate School. 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 being admitted to a graduate degree program and 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.

Universities Center at Dallas degree programs

The Federation of North Texas Area Universities manages the Universities Center at Dallas (UCD). Four 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 two of the three principal Federation universities (Texas A&M University–Commerce and the University of North Texas), and by UNT Dallas and the University of Texas at Arlington.

Graduate degree offerings are under development and may be available entirely through the UCD. Contact the UCD or the Toulouse Graduate School for up-to-date information.

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

Enrollment at the Collin Higher Education Center

In 2009 the Texas Higher Education Coordinating Board approved the Collin Higher Education Center (CHEC), where UNT cooperates with Collin College and other universities in the offering of undergraduate and graduate courses and degrees. Enrollment is open to all UNT students.

The CHEC is located at 3452 Spur 399, McKinney, Texas 75059. For current information about the CHEC, call 972-599-3126, visit the CHEC web site at www.collin.edu/chec/, or call the UNT Office of Admissions at 940-565-2681.

Disability accommodation

In accordance with university policies, and state and federal regulations [especially Section 504 of the Rehabilitation Act and the Americans with Disabilities Act as Amended], the University of North Texas endeavors to make reasonable academic adjustments for qualified students with disabilities who require accommodation in order to fulfill the requirements for a degree.

A student who encounters access problems in a campus instructional facility or who wishes to request accommodation in a course because of a disability (i.e., sign language interpreters, material in alternate format, modified testing) should follow the procedures listed below:

1. Students must be registered with the ODA and receive an Accommodation Request form to present to their instructors. This form will contain information relative to the reasonable accommodations of the student and will assure the instructor that proof of disability is on file with the ODA. Students who do not present such a form can be referred to the ODA for assistance in completing the Accommodation Request. The ODA collects proof of disability and recommended compensation techniques from the licensed or certified professional making the diagnosis of disability.
2. Preferably, within the first week of class, qualified students must notify the instructor of the need for academic adjustments and present the letter containing suggested accommodations from the ODA.
3. The qualified student should confer with the instructor to reach mutual agreement on how accommodation is to be achieved and to discuss the challenges of the course, teaching methods, learning techniques, testing methodologies, special equipment needs, access challenges and other pertinent topics.
4. If a student does not feel the accommodations being offered are effective, or if they are not provided, the student should first meet with the professor; if the problem persists the primary counselor at the ODA should be contacted to help facilitate a solution. If the student is not satisfied with the resolution, a formal appeal may be filed in accordance with the procedures described here: www.unt.edu/oda/pdf/grievance_report.pdf.

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 gradschool.unt.edu/content/graduation 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 www.unt.edu/tuition. Students anticipating graduation should consult the Academic calendar for final dates for payment of fees and meeting other graduation requirements.

Classification of graduate faculty

Full and associate members of the graduate faculty are expected to actively participate in the graduate programs of the university through scholarly and creative accomplishments, effective teaching of graduate courses and mentoring of graduate students.

Faculty appointed to full membership may teach graduate-level courses; serve as members of master's advisory committees, dissertation committees, or DMA advisory committees; serve as major professors, directors or co-major professors for master's theses, doctoral dissertations, or DMA lecture recitals; and serve as university members for doctoral dissertations or final comprehensive examinations for the DMA.

Associate members of the graduate faculty may teach graduate-level courses and serve as members of master's advisory committees, dissertation committees, or DMA advisory committees and serve as university members for doctoral dissertations or comprehensive examinations for the DMA.

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 the Course Descriptions.

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 the student is (1) passing the course; (2) has a justifiable reason (such as serious illness), for not completing the work on schedule. The student must arrange with the instructor to finish the course at a later date by completing specified requirements. These requirements must be entered on the grade roster by the instructor. Students seeking a second bachelor's degree will be subject to the "I" policy as stated in the *Undergraduate Catalog*.
- 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 online academic calendar at www.unt.edu/catalog. 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 from 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 online academic calendar at www.unt.edu/catalog/calendar.htm). 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 Graduate School 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.** Special probation and suspension rules apply for all degree-seeking students in the College of Business. Consult the College of Business 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 apply for graduation and 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 advisor 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 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

The electronic grade report and academic standing are available online at my.unt.edu at the close of each term/semester. If the grade report or the academic standing 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 (www.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 student center at my.unt.edu. 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
1155 Union Circle #311400
Denton, TX 76203-5017

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 940-565-2344.

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 option

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 Graduate School 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 the UNT Grade Change Form and obtains the department chair’s signature. For graduate students, the office of the graduate dean in the Toulouse Graduate School completes processing with the Registrar’s Office, where the grade point average is adjusted accordingly. If the 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.

Students seeking a second bachelor’s degree are subject to the “Removal of I” policy as stated in the *Undergraduate Catalog*.

Records policies

State privacy policy

State law, with few exceptions, gives individuals the right to be informed about the information UNT collects about the individual. It also gives individuals the right to receive and review collected information and the opportunity to have UNT change any incorrect information. UNT's privacy policy (no. 1.7.9) is available at www.unt.edu/policy.

Student education records

Pursuant to the Family Educational Rights and Privacy Act (FERPA), 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 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 public information not subject to FERPA must be submitted to the university Public Information Officer in writing. The complete FERPA Policy (18.1.9) is available at www.unt.edu/policy.

FERPA affords students certain rights with respect to their education records. Student have the right to:

1. 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. Request the amendment of personal education records the student believes are inaccurate, misleading or a violation of privacy.

A student may ask the university to amend a record that he or she believes is inaccurate, misleading or a violation of privacy. The student should write to the UNT System Office of 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 to deny a request to amend.

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

Directory information consists of a student's name; address; university assigned e-mail address; university assigned enterprise-wide user identification number (EUID); month, day and place of birth; major field of study; participation in officially recognized activities and sports; weight and height of members of athletic teams; dates of attendance; enrollment status (e.g., undergraduate or graduate; full-time or part-time); classification; degrees, awards and honors received (including selection criteria); expected graduation date; dissertation and thesis titles; most recent previous school attended; and photograph.

Directory information will be provided without a student's consent upon request unless the student files a request in the Registrar's Office asking that their directory information not be disclosed without specific authorization. The request should be submitted prior to the 12th class day in the fall and spring terms, the 2nd class day of a three week session, or the 4th class day of a five week summer session. A request to withhold information may be submitted after the stated deadline for a term or session, but information may be released between the deadline and receipt of the request. The university will comply with a student's request to have their information excluded from available directory information until the request is amended in writing.

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.
2. Parents when:
 - a. the student is a dependent of the parent for tax purposes as evidenced by appropriate documentation, including the parent's most recent tax return or a student financial aid application;
 - b. a health or safety emergency necessitates disclosure to protect the health or safety of the student or another individual; or
 - c. the student is under 21 years of age at the time of the disclosure and the student has violated a federal, state or local law or any rule or UNT policy governing the use or possession of alcohol or a controlled substance and UNT has found the student in violation of the Code of Student's Rights, Responsibilities and Conduct.
3. Officials of another school to which a student seeks or intends to enroll or has already enrolled, upon written request, if the disclosure is for purposes related to the student's enrollment or transfer.
4. Certain officials of the U.S. Department of Education, the Comptroller General, the Attorney General of the United States, the U.S. Department of Veteran Affairs, and state and local educational authorities in connection with an audit or evaluation of federal or state supported education programs, or for the enforcement of or compliance with federal legal requirements that relate to those programs.
5. Financial aid personnel in conjunction with an application for or receipt of financial assistance, provided the disclosure is needed: (i) to determine the eligibility of the student for financial aid, (ii) to determine the amount of financial aid, (iii) to determine the conditions that will be imposed, or (iv) to enforce the terms or conditions of the financial aid.
6. Individuals delivering a judicial order or lawfully issued subpoena. The university will make reasonable efforts to notify the student in advance of compliance. The university will not disclose any information about a grand jury subpoena issued for law enforcement purposes when so ordered and when required by law or government regulation.
7. Organizations conducting studies for or on behalf of UNT pursuant to a written agreement to develop, validate or administer predictive tests or student aid programs, or to improve instruction. Information from education records may only be used to meet the purposes of the study stated in the written agreement between the university and the organization(s) and must contain the current restrictions on redisclosure and destruction of information requirements applicable to information disclosed under this exception.
8. Accrediting organizations to carry out their accrediting functions.
9. To appropriate parties in a health or safety emergency. Appropriate parties include, but are not limited to, school officials, law enforcement officials, parents and emergency/medical personnel.

10. To victims of an alleged perpetrator of a crime of violence or a non-forcible sex offense, limited only to the final results of a UNT disciplinary proceeding regardless of whether UNT determines through its own investigation that a violation was committed.
11. To any member of the public in matters relating to sex offenders and information provided to UNT under relevant federal law.
12. To a court in which the university is defending itself against legal action initiated by a parent or eligible student.
13. To the originating party identified as the party that provided or created the record. This allows for returning documents, such as official transcripts, that appear to have been falsified back to the institution or school official identified as the creator or sender of the record for confirmation of its status as an authentic record.
14. Individuals requesting records for students who are deceased. 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

For information regarding the university's policy on access to student education records, contact the university Registrar. For information regarding access to public information and to request accessibility to university records, contact the UNT System Office of General Counsel.

Master's degree requirements

Application for admission

Applications must be submitted online at www.applytexas.org. Application is made through the Toulouse Graduate School. Most master's degree programs require supplemental application materials. Contact the academic unit for additional information.

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

All of the course work to be credited toward the master's degree plan must be numbered 5000 or higher. Deficiencies or background courses are completed in addition to course work to be credited toward the master's degree plan regardless of course number.

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 course work and other requirements to be credited toward 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 two semesters **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 gradschool.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.

Leave of absence

Leave of absence applies to students admitted to the master's or doctoral degree who wish to discontinue work toward the degree for a specified period of time due to exigent circumstances. Leave of absence may be granted by the academic program, which then notifies the Graduate School. If the student has begun thesis or dissertation and is under the continuous enrollment requirement, a waiver of continuous enrollment must also be requested and approved by the Graduate School. Degree requirements and graduation must be completed within the appropriate time limit for completion of the degree.

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 Graduate School 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 previously.

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 proposed degree plan will be sent to the Toulouse Graduate School 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 advisor, 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 Graduate School 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 preparation 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 master's students all hours counted toward a minor must carry graduate credit and 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 or a tool subject 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 World Languages, Literatures and Cultures (contact that department 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 World Languages, Literatures and Cultures (scheduled dates for taking the examination in the current academic year appear in the academic calendar at www.unt.edu/catalog/calendar.htm); 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;
3. A student may use their native language (other than English) to satisfy this requirement if their native language is relevant to their degree program and proficiency can be established by the Department of World Languages, Literatures and Cultures.

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 online academic calendar at www.unt.edu/catalog/calendar.htm for the proper deadline.

The master's degree thesis

In most departments the candidate for a master's degree 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 advisor or department chair in the student's discipline. The thesis chair must hold full membership in the graduate faculty. 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 an associate membership nomination form, justification for the appointment, and a vita of the prospective committee member. Associate members may not chair the thesis committee. The majority of committee members must hold regular UNT faculty status.

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 and 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 through the semester of graduation. 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 or to graduate in August.

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 online academic calendar at gradschool.unt.edu/content/graduation 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 Graduate School 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.

Format

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

Openness of theses and dissertations

The University of North Texas, as a member of the Council of Graduate Schools (CGS), ascribes to the fundamental tenant on openness and access of thesis and dissertation research as stated in the CGS policy manual *The Doctor of Philosophy Degree: A Policy Statement* (CGS, 2005). In compliance with CGS, it is the policy at the University of North Texas that "an essential aspect of [thesis] and dissertation research and scholarship is the free and full dissemination of research results. Restrictions, either in the conduct of [thesis] and dissertation research or in the sharing of its results, are antithetical to that spirit." Therefore, research that is classified by a government agency or that is proprietary in nature and restricted, insofar as it must be held to secrecy and cannot be openly evaluated or published, is unsuitable for master's or doctoral research (CGS, 2005, pp. 29–30).

Faculty advisors of students conducting thesis and dissertation research shall advise their students and abide by the following:

1. If the faculty director of the thesis or dissertation is covered by a nondisclosure agreement (NDA), if either the faculty director and/or the student know in advance that the information or work planned for use in the thesis or dissertation is under an NDA or other restriction in which the work must be held to secrecy, or if at the time the topic of the thesis or dissertation is set there is any other substantial possibility that the work will lead to a thesis or dissertation that is secret (either in whole or in part), the student will not include this information or work as part of the thesis or dissertation.
2. If in the process of the student's thesis or dissertation research the student is developing a patentable work, the Vice President for Research and Economic Development must be notified as soon as possible and the utility patent filed so as to allow an open defense and publication of the thesis or dissertation.
3. In the circumstances in which the thesis or dissertation is close to completion or has been completed and a patentable work was unforeseen, the defense examination will be open only to the student's committee and departmental faculty and the thesis or dissertation held from publication until the utility patent has been filed or for no longer than 90 days after the defense examination, whichever is the shorter time period, unless the Vice President for Research and Economic Development requests an additional limited period of time for the utility patent.
4. Students may restrict access to their thesis or dissertation. Restriction limits access to the UNT community only (persons with valid EUID) for a period of five years. Interlibrary loans are not permitted during the restriction period. The restricted

electronic theses and dissertations (ETDs) will be made available to the entire Internet, via the UNT Libraries online catalog, beginning on the first day of the month following the fifth anniversary of the student's graduation. Students may request a one-time extension for an additional two years by contacting the Toulouse Graduate School in writing within 90 days of the expiration date of the original restriction period. To allow students to receive informed guidance from their faculty advisors, restrictions must be approved by the major professor at the time the ETD is filed with the Graduate School.

[Attributions: Portions of this policy were taken from *The Doctor of Philosophy Degree: A Policy Statement* (Council of Graduate Schools, 2005) and *Openness in Research*, (Stanford University Research Policy Handbook, Document 2.6, 2001).]

Option II: problem in lieu of thesis

In lieu of a thesis, the candidate must complete one or both of the problem 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 a failing grade 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 has been completed and approved. Continuous enrollment in Problem in Lieu of Thesis is not required.

As part of the requirements for each problem 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 problem 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. Information concerning this requirement is available from the student's major department or school.

Completion

When the thesis is completed and has received preliminary approval of the advisory committee, the student's major professor will schedule the final comprehensive examination and will notify the Toulouse Graduate School of the date and results 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 thesis. The thesis may not be submitted to the dean of the student's college or the graduate dean until this final examination has been passed.

No thesis credit will be recorded until the thesis 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 thesis may be obtained from the graduate dean's office.

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 at UNT 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 during each fall and spring term/semester, including the term/semester the thesis is accepted by the dean of the Toulouse Graduate School.

Milestones for the master's student

Dean — Dean of Toulouse Graduate School

ADCom — Advisory Committee

MP — Major Professor

GA — Graduate Advisor

DC — Department Chair

Thesis 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 or to graduate in August.

Master's students must maintain continuous enrollment once work on the thesis has begun.

Failure to maintain continuous enrollment through the semester in which the thesis is submitted to the office of the graduate dean 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. Strict adherence to the on-time filing deadlines for graduation is required or additional registration in 5950 may be necessary.

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 to 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.	Student		Before registration.
3. Meet with graduate advisor 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. Submit degree plan to the Graduate School for approval.	ADCom, MP, GA and Student	Dean	Upon or before completion of 12 semester hours.
6. If thesis is required, determine procedure.	ADCom	Dean	Per departmental requirements.
7. Apply for graduation.	Dean	Dean	See graduate deadline at www.unt.edu/catalog/calendar.htm .
8. Check to be sure degree program and Advisory Committee are up to date and all course work is complete.	Student		Well before final comprehensive examination. Follow regular procedures for changes.
9. Schedule and complete final comprehensive examination or schedule final defense of thesis.	ADCom		Follow deadlines at www.unt.edu/catalog/calendar.htm .
10. Submit final defended copy of thesis.	ADCom and DC	Dean	By deadline date in academic calendar at www.unt.edu/catalog/calendar.htm .
11. 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.
12. Arrange for cap and gown at University Bookstore.			By deadline date for placing order.

Doctoral degree requirements

Application for admission

Applications must be submitted online at www.applytexas.org. Application is made through the Toulouse Graduate School. Most doctoral programs require supplemental application materials. Contact the academic program for additional information.

General requirements

The candidate must earn a minimum of 42 hours of graduate credit beyond the master's degree or 72 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

Doctoral programs may 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 advisor 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 graduate hours must be taken. During the combined summer sessions/terms a minimum load of 9 graduate semester hours must be taken. Enrolling in courses during the summer does not affect doctoral residence begun the previous spring and completed the following fall. 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 8 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 of time *before* their *seventh* year of study. For information regarding extensions go to gradschool.unt.edu/extension.htm. Holding a full-time job is not considered in itself sufficient grounds for granting a time 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.

Leave of absence

Leave of absence applies to students admitted to the master's or doctoral degree who wish to discontinue work toward the degree for a specified period of time due to exigent circumstances. Leave of absence may be granted by the academic program, which then notifies the Graduate School. **If the student has begun the dissertation and is under the continuous enrollment requirement, a waiver of continuous enrollment must also be requested and approved by the Graduate School.** Degree requirements and graduation must be completed within the appropriate time limit for completion of the degree.

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

The tool subject is at the discretion of the program and is not a university 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 other tool-subjects. Students should consult subsequent sections of this publication or the graduate advisor 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 or in a manner acceptable to the program:

1. By passing the Foreign Language Proficiency Examination administered each term/semester and summer session/term by the Department of World Languages, Literatures and Cultures (contact that department 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 World Languages, Literatures and Cultures; scheduled dates for taking the examination in the current academic year appear in the online academic calendar at www.unt.edu/catalog/calendar.htm.

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 acceptable to the program.

3. Students may use their native language (other than English) to satisfy this requirement if their native language is relevant to their degree program and proficiency can be established by the Department of World Languages, Literatures and Cultures.

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 dissertation in the office of the graduate dean. Consult the online academic calendar (visit www.unt.edu/catalog/ and select "Online Academic Calendar") for the proper deadline.

Degree plan

A degree plan listing all courses required for the doctoral degree 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 advisor 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.

The student should review the entire *Doctoral Requirements* section of the **current** catalog to prepare the degree plan. The degree plan should also

be reviewed by the student in the semester **prior** to graduation in order to update any changes to the plan with the major professor and the office of the graduate dean.

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, residency, language and other tool-subject requirements should request that the major professor arrange for the qualifying examination to be held. Consult the graduate advisor 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. The department should notify the office of the Graduate Dean when a student passes the qualifying examination and is admitted to candidacy.

Dissertation requirement

Continuous enrollment

A dissertation is required of all candidates for the doctorate. No more than 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 or to graduate in August. 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 Graduate School 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 through the graduating semester.

Failure to maintain continuous enrollment through the semester in which the defended dissertation is filed with the office of the graduate dean will either invalidate any previous dissertation credit or will result in the student's being dismissed from the degree program, unless granted an official leave of absence by the graduate dean in advance. Strict adherence to the on-time filing deadlines for graduation is required or additional registration in 6950 may be necessary.

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 advisor or department chair in the student's discipline.

The dissertation chair must hold full membership in the graduate faculty. 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 an associate membership nomination form, a justification for the appointment and a vita of the prospective committee member. Associate members may not chair a thesis or dissertation committee. The majority of committee members must hold regular UNT faculty status.

Format

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

Openness of theses and dissertations

The University of North Texas, as a member of the Council of Graduate Schools (CGS), ascribes to the fundamental tenant on openness and access of thesis and dissertation research as stated in the CGS policy manual *The Doctor of Philosophy Degree: A Policy Statement* (CGS, 2005). In compliance with CGS, it is the policy at the University of North Texas that “an essential aspect of [thesis] and dissertation research and scholarship is the free and full dissemination of research results. Restrictions, either in the conduct of [thesis] and dissertation research or in the sharing of its results, are antithetical to that spirit.” Therefore, research that is classified by a government agency or that is proprietary in nature and restricted, insofar as it must be held to secrecy and cannot be openly evaluated or published, is unsuitable for master’s or doctoral research (CGS, 2005, pp. 29–30).

Faculty advisors of students conducting thesis and dissertation research shall advise their students and abide by the following:

1. If the faculty director of the thesis or dissertation is covered by a nondisclosure agreement (NDA), if either the faculty director and/or the student know in advance that the information or work planned for use in the thesis or dissertation is under an NDA or other restriction in which the work must be held to secrecy, or if at the time the topic of the thesis or dissertation is set there is any other substantial possibility that the work will lead to a thesis or dissertation that is secret (either in whole or in part), the student will not include this information or work as part of the thesis or dissertation.
2. If in the process of the student’s thesis or dissertation research the student is developing a patentable work, the Vice President for Research and Economic Development must be notified as soon as possible and the utility patent filed so as to allow an open defense and publication of the thesis or dissertation.
3. In the circumstances in which the dissertation is close to completion or has been completed and a patentable work was unforeseen, the defense examination will be open only to the student’s committee and departmental faculty and the dissertation held from publication until the utility patent has been filed or for no longer than 90 days after the defense examination, whichever is the shorter time period, unless the Vice President for Research and Economic Development requests an additional limited period of time for the utility patent.
4. Students may restrict access to their thesis or dissertation. Restriction limits access to the UNT community only (persons with valid EUID) for a period of five years. Interlibrary loans are not permitted during the restriction period. The restricted electronic theses and dissertations (ETDs) will be made available to the entire Internet, via the UNT Libraries online catalog, beginning on the first day of the month following the fifth anniversary of the student’s graduation. Students may request a one-time extension for an additional two years by

contacting the Toulouse Graduate School in writing within 90 days of the expiration date of the original restriction period. To allow students to receive informed guidance from their faculty advisors, restrictions must be approved by the major professor at the time the ETD is filed with the Graduate School.

[Attributions: Portions of this policy were taken from *The Doctor of Philosophy Degree: A Policy Statement* (Council of Graduate Schools, 2005) and *Openness in Research* (Stanford University Research Policy Handbook, Document 2.6, 2001).]

Completion

When the dissertation is completed and has received preliminary approval of the advisory committee, the student’s major professor will schedule the final defense and will notify the Toulouse Graduate School 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 Graduate School to work toward a second doctorate, subject to the following provisions.

1. The applicant must meet all requirements governing admission to the Toulouse Graduate School 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 dissertation during each fall and spring term/semester, including the term/semester the dissertation is accepted by the dean of the Toulouse Graduate School.

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 or to graduate in August.

Doctoral students must maintain continuous enrollment subsequent to passing the qualifying examination for admission to candidacy.

Failure to maintain continuous enrollment through the semester of graduation will either invalidate any previous 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. Strict adherence to the on-time filing deadlines for graduation is required or additional registration in 6950 may be necessary.

Milestones for the doctoral student

Dean — Dean of Toulouse Graduate School

GA — Graduate Advisor

ADCom — Advisory Committee

DC — Department Chair

MP — Major Professor

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 to 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.	Student		Before registration.
3. Meet with graduate advisor 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. Submit degree plan to the Graduate School for approval.	ADCom, MP, GA and Student	Dean	Upon or before completion of 12 semester hours.
6. 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.)
7. Take written/oral qualifying examination.	MP		Per departmental requirements.
8. Submit results of the qualifying exam to the graduate school.	MP		Prior to attaining ABD (all but dissertation) status.
9. Submit form to add university member to doctoral committee.	MP	Dean	Well in advance of dissertation proposal presentation.
10. Submit proposal for dissertation.	MP and ADCom		Well in advance of expected graduation date.
11. Prepare dissertation.	ADCom		Per departmental requirements.
12. Apply to graduate.	Student	Dean	During final semester. (See deadline at www.unt.edu/catalog/calendar.htm).
13. Schedule final defense of dissertation.	ADCom	Dean	No later than four to five weeks prior to filing deadline. Notify graduate school of date and time. (See deadline date.)
14. Submit final defended copy of dissertation.	ADCom and Dean	Dean	See deadline at www.unt.edu/catalog/calendar.htm .
15. Arrange for cap and gown at University Bookstore.			By deadline date for placing order.

Enrollment

Student load

Fall/spring

Graduate students may schedule as many as 16 hours during any fall or spring term/semester. For the purpose of fulfilling the graduate residence requirement, a load of 9 graduate 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 (8W1), or a maximum of 9 hours in a ten week session (10W). At no time during concurrently running summer sessions can graduate student enrollment exceed 10 semester hours.

For purposes of fulfilling the graduate residence requirements, a load of 9 graduate 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 Toulouse Graduate School. 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 a student 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, 5 hours.

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

International students also may request International Advising (Sycamore Hall, second floor) 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 www.unt.edu/tuition.

Permission forms 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 at my.unt.edu. Specific information and instructions as well as dates are found online at www.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. Refer to www.unt.edu/registrar for late registration information.

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 at UNT.

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 advisor'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 is open to all UNT students, and students from area universities may also cross-register into courses offered at the UCD. For details, an application for admission and course offerings, call UCD at 214-915-1900 or visit the UCD web site at www.ucddowntown.org. UCD is located at 1901 Main St. in downtown Dallas.

Enrollment at the Collin Higher Education Center

In 2009 the Texas Higher Education Coordinating Board approved the Collin Higher Education Center (CHEC), where UNT cooperates with Collin College and other universities in the offering of undergraduate and graduate courses and degrees. Enrollment is open to all UNT students.

The CHEC is located at 3452 Spur 399, McKinney, Texas 75059. For current information about the CHEC, call 972-599-3126, visit the CHEC web site at www.collin.edu/checl/, or call the UNT Office of Admissions at 940-565-2681.

University of North Texas at Dallas

John Ellis Price, PhD, CPA, President

Founded as an off-site campus of the University of North Texas in 2000, the University of North Texas at Dallas is the newest component institution of the UNT System. UNT Dallas, conveniently located at 7300 University Hills Boulevard in Dallas (near the intersection of I-35 and I-20), offers a range of undergraduate and graduate programs. The university also offers certificate programs and courses for career advancement.

Students who enroll at UNT Dallas must meet the same admissions requirements as students who apply to UNT in Denton. Courses of study at UNT Dallas are currently offered under the accreditation of UNT. Until UNT Dallas achieves accreditation separately from UNT, all degrees awarded by UNT Dallas will bear the name of UNT.

Enrollment at UNT Dallas has grown from only 00 students in 2000 to more than 2,300 today. In January 2007, the first building with 75,000 square feet of teaching and office space was completed on a 264-acre tract of land in southern Dallas, the permanent home of the new UNT Dallas. A second, 103,000-square-foot building opened in September 2010.

The new building features state-of-the-art classrooms, staff and faculty offices, a dining area, expanded library space and laboratories for the life sciences. UNT Dallas is staffed with student services professionals to help students with admissions, advising and counseling, financial aid, job placement, registration, disability accommodation and other student services. UNT Dallas also does not charge many of the mandatory fees other universities charge, which keeps the cost of attending UNT Dallas affordable.

UNT Dallas, the first public university in the City of Dallas, will serve as an anchor institution for businesses and residential areas around the campus. The campus, located at the heart of the city's *forward!Dallas* plan (a 3,500-acre economic development initiative), will drive economic growth in southern Dallas. A recent economic impact study projected an enrollment of 16,000 students and the addition of 1,300 jobs by 2030. Growth will be aided by public-private partnerships that will benefit students and the community.

For more information about UNT Dallas, call 972-780-3600 or visit the UNT Dallas web site at www.dallas.unt.edu.

UNT Health Science Center at Fort Worth

UNT's Health Science Center—Fort Worth's medical school and more—is one of the nation's distinguished graduate academic centers, dedicated to education, research, patient care and service. It comprises the Texas College of Osteopathic Medicine (TCOM), the Graduate School of Biomedical Sciences (GSBS), the School of Public Health (SPH) and the School of Health Professions (SHP), which includes the departments of physician assistant studies and physical therapy.

In 1999, the UNT Health Science Center became part of the University of North Texas System. See the dedicated section later in this catalog.

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 online schedule of classes at www.unt.edu/registrar, available prior to spring and fall registration, for schedule details.

A few of these classes also are available during summer terms/sessions. Consult the online schedule of classes at www.unt.edu/registrar.

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 Graduate School 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.

Schedule 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 Graduate School, ESSC Room 354, for final approval. Consult the online 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.”

No student may drop any course after the designated day 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 online academic calendar (at www.unt.edu/catalog/calendar.htm). After these dates a student may not drop a course.

See the online schedule of classes at www.unt.edu/registrar 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 at www.unt.edu/catalog/calendar.htm 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 Dean of Students 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 at www.unt.edu/catalog/calendar.htm.

To receive a refund for a parking permit, a student must return the permit to Parking Services, located in the Highland Parking Garage.

Pre-finals week

So that students can more 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.

During pre-finals week, 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 or the Director of Athletics.

On the Friday of the week immediately preceding final exams (reading day), no classes are held.

Final examinations

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

Students who have as many as 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.

Financial information

Tuition and mandatory fees

(Fees are subject to change)

Tuition, fees, room and board are subject to increase or decrease without notice by action of the Texas Legislature and/or the UNT Board of Regents. 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 regarding tuition and fees, visit the Student Accounting and University Cashiering Services web site (www.unt.edu/tuition). Student Accounting and University Cashiering Services is open from 8:15 a.m. to 5 p.m. Monday through Friday.

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 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 (www.unt.edu/tuition) for the most current tuition and fee rates.

Explanation of fees

(Fees are subject to change)

Visit the **Student Accounting and University Cashiering Services web site (www.unt.edu/tuition) 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 operating the Pohl Recreation Center.

Transportation fee

The transportation fee, which is collected in proportion to the number of credit hours for which a student is registered, supports the shuttle bus system that transports students to, and around, various locations on campus.

Undergraduate advising fee

The undergraduate advising fee, which is collected in proportion to the number of credit hours for which a student is registered, supports the advising process for undergraduate courses.

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.

Intercollegiate athletics fee

The intercollegiate athletics fee is collected in proportion to the number of credit hours for which a student is registered, and supports the cost of UNT athletic programs.

Environmental services fee

A fixed environmental services fee is used to fund environmentally related projects/activities on campus. The fee is not charged for summer sessions.

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 www.unt.edu/tuition for current information.

Amount of fee*	Number of courses*
\$ 0.00 – \$30	2,975
\$ 30.01 – \$50	420
\$ 50.01 – \$100	1,404
\$ 100.01 – \$150	231
\$ 150.01 – \$200	73
\$ 200.01 – \$250	23
\$ 250.01 – \$300	22
\$ 300.01 – \$350	6
\$ 350.01 – \$400	15
Over \$400	23

*Fees based on information available for Fall 2011. Fees for Fall 2012 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 Graduate School must pay a \$60 nonrefundable admission application fee. The fee must be paid in U.S. dollars.

International students applying to the University of North Texas Toulouse Graduate School must pay a \$95 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 Graduate School for more information at 940-565-2636, 888-UNTGRAD [868-4723], Dallas–Fort Worth metro 817-267-3731, or by e-mail at graduateschool@unt.edu.

Late application fee

A fee of \$30 is paid by students who do not meet the application deadline.

Universities Center at Dallas fee

Students enrolling for upper-division undergraduate courses or graduate courses offered by the partner universities of the Universities Center at Dallas may enroll at their home institution for courses offered by other UCD universities. UCD is located in downtown Dallas. A \$15.00 per credit hour fee is collected from students who are enrolled at UCD.

Collin Higher Education Center fee

Students enrolling in undergraduate or graduate courses offered at the Collin Higher Education Center (CHEC) will be assessed a Collin Higher Education Fee. The CHEC, a partnership with Collin County Community College, is located at 3452 Spur 399, McKinney, TX. A \$30.00 per credit hour fee is collected from students who are enrolled at CHEC.

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. selection of the installment plan. By selecting the installment plan, the student understands that it is a contractual agreement and agrees to make the installment payments by the due dates indicated.

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: \$20.00

A \$20.00 non-refundable handling fee will be charged to the student's account each semester the installment plan is selected.

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 semester/session may be denied credit for the work done that semester/session.

See the online schedule of classes at www.unt.edu/tuition for procedures and policies concerning installment payment of tuition.

Tuition and fee payments

Credit card payments (MasterCard, Visa, American Express and Discover) and check payments may be made through self-service at my.unt.edu. Tuition and fee payments also may be made by personal check, money order, cashier's check or cash at the Eagle Student Services Center. 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 at Student Accounting and University Cashiering Services in the Eagle Student Services Center. Please do not mail cash payments.

Tuition and fee policies

Tuition covers undergraduate and graduate work. Tuition 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, graduation and regalia, late filing for graduation and miscellaneous items are noted at www.unt.edu/tuition.

Student financial obligation agreement

Each semester, prior to registering for classes, a student is required to accept the Student Financial Obligation Agreement. For additional information, go to www.unt.edu/tuition.

Residency regulations for tuition purposes

Rules and regulations for determining residence status are specified under Title 19, part 1, chapter 21, subchapter B of the Texas Education Code and are available at the Texas Higher Education Coordinating Board, College for All Texans web site at www.collegeforalltexans.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 whoever assigned the original classification, either in the Office of Admissions or in the Registrar’s Office.

Tuition and fee waivers/exemptions

Several exemptions and waivers are available to qualifying students. Brief descriptions of these are listed below. Waiver/exemptions 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 will not be honored. Information regarding waivers and exemptions is available at Student Accounting and University Cashiering Services or at www.unt.edu/tuition. **Posted waivers/exemptions are subject to post audit and correction.**

Exemptions and waivers

1. Certain Texas veterans and dependents of deceased Texas veterans of the Armed Forces of the United States are exempted from payment of tuition. State application and other documents required. This exemption pays all tuition and fees except for the Student Service Fee and Property Deposit. The student must pay the Student Service Fee each term/semester.
2. Certain orphans of members of the Armed Forces, Texas National Guard and Texas Air National Guard are exempted from payment of tuition. Documentation required. This exemption pays all tuition and fees.
3. Certain students from other nations of the American hemisphere are exempted from payment of tuition. The Good Neighbor Exemption is administered by the Financial Aid Department. This exempts students from paying tuition.
4. Deaf or blind Texas residents are exempted from payment of tuition. Official letter required. This exemption pays all tuition and fees.
5. Certain disabled peace officers are exempted from payment of tuition and fees. Official letter required. This exemption pays all tuition and fees.
6. Children of disabled or deceased firemen, volunteer law enforcement officers, peace officers, employees of the Texas Department of Corrections and game wardens are exempted from the payment of tuition and fees. Official letter required. This exemption pays all tuition and fees.
7. Children of U.S. prisoners of war or persons missing in action are granted exemption of tuition. Documentation required. This exemption pays all tuition and fees.
8. Resident rather than non-resident tuition is applied to out-of-state students enrolled through the Academic Common Market Program. This waiver waives out-of-state tuition. The student pays in-state tuition rates.
9. Resident rather than non-resident tuition is applied to U.S. military personnel, their spouses and dependents if they meet designated criteria. (Certificate must be approved by the Registrar prior to registration.) Form submitted by the Registrar’s office. This waiver waives out-of-state tuition. The student pays in-state tuition rates.
10. Resident rather than non-resident tuition is applied to teachers and professors of Texas state institutions of higher education, their spouses and children. Requires official application approved by hiring department. This waiver waives out-of-state tuition. The student pays in-state tuition rates.
11. Resident rather than non-resident 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. Requires official application approved by hiring department. This waiver waives out-of-state tuition. The student pays in-state tuition rates.
12. Resident rather than non-resident tuition is applied to a non-resident holding a UNT competitive scholarship of at least \$1,000.00 for the academic year or summer for which the student is enrolled. Requires official approval from the department awarding the scholarship. This waiver waives out-of-state tuition. The student pays in-state tuition rates. Administered by Student Financial Aid and Scholarships.
13. Certain university fees are waived for students enrolled only in courses designated as off-campus or internships. Students enrolled in all classes that are held off-campus automatically receive the off campus waiver that waives the Student Union Fee, Medical Service Fee, Transportation Fee, Student Recreational Center Fee, Environmental Services Fee, Intercollegiate Athletics Fee and Property Deposit.
14. Highest ranking graduates (valedictorians) of accredited Texas high schools are exempted from payment of tuition for the first two long semesters after graduation from high school. Student must pay mandatory fees and course fees. Official letter and UNT application required. This exempts the student from paying tuition.
15. Certain Texas residents who are or have been in foster care or other residential care are exempted from the payment of tuition and mandatory fees. Copy of official letter required. This exemption pays all tuition and fees.
16. Resident rather than non-resident tuition is applied to individuals and dependents relocating to Texas as part of the program of state economic development and diversification. A list of companies participating in the Economic Diversification Program can be found at www.collegeforalltexas.com. This waiver waives out-of-state tuition. The student pays in-state tuition rates.
17. Students 65 years of age or older are exempt from paying tuition and graduate tuition up to 6 credit hours each semester. Students must pay mandatory fees and course fees. UNT application and copy of driver’s license required. This exempts the student from paying tuition up to 6 hours each semester.
18. Certain Texas residents who have been adopted (who required adoption assistance) and were formerly in foster or other residential care are exempted from the payment of tuition and mandatory fees. Copy of official letter required. This exemption pays all tuition and fees.
19. Certain paid firefighters employed in the State of Texas may be exempted from payment of tuition and fees for PADM and EADP classes in designated degree programs. Must have letter from department and fill out application.
20. Certain clinical preceptors and their children are exempted from payment of up to \$500 in tuition per semester. Completed application and current documentation required. This exemption pays up to \$500 in tuition each semester for a total of ten semesters.
21. Certain peace officers employed by the State of Texas, or a political subdivision of the state, may be exempted from the payment of undergraduate tuition and fees for qualifying

Criminal Justice classes. Excessive hour students are not eligible for the exemption. The student must provide a letter from their employer and a completed application to the Student Accounting Department each semester. The application must be submitted at least one week prior to the last day of regular registration for each semester/session attending. Satisfactory academic progress must be maintained.

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. Refund periods and rates are subject to change by the state legislature. 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 at www.unt.edu/catalog/calendar.htm 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.

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 www.unt.edu/tuition 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.

Schedule of withdrawal refunds, 2012–2013

Withdrawal dates	Percent of refund (less non-refundable fees)
Fall 2012	
Through 8/28/2012	100%
8/29/12–9/5/12	80%
9/6/12–9/12/12	70%
9/13/12–9/19/12	50%
9/20/12–9/26/12	25%
Spring 2013	
Through 1/12/13	100%
1/14/13–1/21/13	80%
1/22/13–1/28/13	70%
1/29/13–2/4/13	50%
2/5/13–2/11/13	25%

Note: Some fees are non-refundable.

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

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.

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, 1155 Union Circle #311310, Denton, TX 76203-5017. Tuition and fees information is available online at www.unt.edu/tuition.

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 UNT. The student's name and/or student ID number should be included on the payment.

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** 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.

Check issuing privileges are suspended while any returned check and/or service charges 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 based on normal refund policy.

If a student wishes to be withdrawn, the Dean of Students Office should always be contacted as soon as possible.

Financial aid

Student Financial Aid and Scholarships (SFAS) at the University of North Texas offers a variety of options to assist students in financing their education. For more information on financial aid and scholarships at UNT, please e-mail financialaid@unt.edu or financialaid@unt.edu, visit the Eagle Student Services Center, 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 Graduate School.

University of North Texas master's and doctoral fellowships

The Toulouse Graduate School 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. For additional requirements for fellowships, see gradschool.unt.edu.

Scholarships

The University of North Texas offers competitive academic scholarships to new and continuing graduate students. Many students compete for scholarships, which are awarded on merit and on a first-come, first-served basis to students enrolling in the fall term. We recommend students apply to UNT as early as possible.

The availability of all scholarship funding is affected by many factors such as the state's economy and the stock market's performance. The office of Student Financial Aid and Scholarships (SFAS) coordinates all scholarship awards once they have been awarded.

Private organizations, such as parents' or spouses' employers, fraternal organizations, and business and professional groups can often provide other sources of financial assistance.

We encourage you to visit the UNT Student Financial Aid and Scholarships web site for the most up-to-date scholarship details at financialaid.unt.edu.

Application period and deadlines

The Free Application for Federal Student Aid (FAFSA) or Renewal FAFSA is available each January 1 for the upcoming UNT academic year (fall, spring, summer). Students are encouraged to apply online at www.fafsa.gov. Students whose application files are completed by the priority dates are ensured first consideration for awards. Application data (from the FAFSA or Renewal FAFSA) is received electronically from the Central Processing System (Federal Student Aid Programs) through which applications are processed. The application data must reach our office before a file can be processed.

UNT's Priority Dates:

- Fall/spring term/semester: March 31
- Spring term/semester only: August 15
- Summer term/semester: February 15

A separate UNT summer application must be completed for summer financial aid. This application is available online (my.unt.edu) early in the spring term/semester for the following summer term/semester. The FAFSA for the year preceding the summer is also required.

General eligibility requirements

Before any assistance is granted (Federal Work-Study, Federal Perkins Loan or loans from the Federal Direct Loan Program), general eligibility and program requirements must be met. To be eligible for financial aid you must:

- establish eligibility by completing and submitting the Free Application for Federal Student Aid (FAFSA) or Renewal Application;
- not be in default on any Title IV loan (Federal Perkins, PLUS, Federal PLUS or Federal Stafford), or owe a refund or repayment on educational funds received at any institution;
- be a U.S. citizen or eligible noncitizen;
- be registered 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);
- enroll in and maintain at least a half-time class load;
- use all funds received through financial aid for educational purposes;
- be accepted for admission by the university and enrolled in a degree or certification program;
- be making satisfactory academic progress;
- have a valid Social Security Number;
- have a high school diploma or a GED (general equivalency diploma); and
- not be convicted for the possession or sale of illegal drugs for an offense that occurred while you were receiving federal student aid.

Note: Visiting students are not eligible for financial aid.

Special conditions for financial aid recipients

Enrollment

Students in an academic program under the graduate career (major or concentration) are required to enroll in at least 5 graduate hours per term/semester to be considered for financial aid.

Financial aid recipients must notify Student Financial Aid and Scholarships before dropping courses. Current award year or future aid eligibility may be affected.

Enrollment hours for financial aid eligibility and loan deferment may differ. Students needing certification of enrollment for loan deferment purposes should visit the UNT Registrar's Office. Also see "Enrollment Certification" in the Enrollment section of this catalog.

Official Withdrawal from UNT

If a student has registered for classes and decides not to attend UNT, he or she **must** notify **both** Student Financial Aid and Scholarships (SFAS) **and** the Dean of Students Office as early as possible.

If circumstances require that the student withdraw from all classes, SFAS strongly encourages the contact his or her academic advisor and Student Financial Aid and Scholarships before making the final decision. The consequences of withdrawing from all classes can be explained and clearly illustrated.

If the student has already made the decision to withdraw, he or she must begin the withdrawal process with UNT's Dean of Students Office. For online information on how to drop a course or withdraw from UNT, including official dates and deadlines, please visit the UNT Registrar's Office's Schedule of Classes.

If a student officially withdraws, ceases attendance, or is administratively withdrawn from UNT, federal regulations require post-secondary institutions to calculate the amount of Federal Title IV funds (aid) earned

during the term from which the student withdrew. Factors considered in this federally mandated calculation include: number of days in the payment period, date of withdrawal/number of calendar days the student attends before total withdrawal as determined by SFAS (excluding scheduled breaks of at least 5 days in length), the total amount of Title IV aid eligibility, tuition and fee charges, on-campus room and board charges (if applicable), and class attendance.

The percentage of time spent in attendance is the percentage of federal funds the student has earned. Other funds received are unearned.

After Student Financial Aid and Scholarships personnel applies the federally mandated calculation, unearned Federal Title IV funds (aid) will be returned to the programs from which the money was paid to the student (or parent) in the following order:

- Unsubsidized Federal Stafford Loans
- Subsidized Federal Stafford Loans
- Unsubsidized Direct Stafford Loans
- Subsidized Direct Stafford Loans
- Federal Perkins Loans
- Federal Parent (PLUS) Loans
- Direct Parent (PLUS) Loans
- Federal Pell Grants
- Academic Competitiveness Grants
- National SMART Grants
- TEACH Grants
- Iraq Afghanistan Service Grants
- Federal Supplemental Educational Opportunity Grants (FSEOG)
- Other Title IV Programs
- Other Federal, State, Private or Institutional Student Aid

It is possible the student will owe a repayment of unearned financial aid funds to the university if he or she ceases attendance prior to the sixty percent (60%) completion point of any payment period for which the student has received financial aid funds. The completion point is based on the total number of class days in a payment period. If it is determined that the student owes a repayment of funds, he or she will receive notification from SFAS. The student can also check the balance owed through the myUNT student portal. Students who owe a balance to UNT from a previous academic year will not be disbursed aid until the balance owed is paid. Official transcripts are not released to any student who has an unpaid account or has defaulted on loans received from any university.

Summer term official withdrawal from UNT

A student is considered to have withdrawn from programs offered in a session of enrollment during the summer term when the student ceases attendance at any point prior to completing the payment period unless the school obtains written confirmation at the time of the withdrawal that the student will attend a session that begins later in the same payment period. This confirmation must be obtained at the same time of the withdrawal even if the student has registered for subsequent courses.

Basic calculation example

- Payment period is 113 calendar days. Student attends and participates in academically related activities for 54 days and then withdraws.
- Student stayed 47.8 percent of the number of payment period days. 52.2 percent was unearned.
- Student tuition and fees for payment period totaled \$547.20.
- Federal Title IV funds (aid) disbursed to the student during payment period
 - \$1,312.00 Subsidized Direct Stafford Loan
 - \$1,562.00 Federal Pell Grant
 - \$2,874 total 47.8 percent equals \$1,373.77 earned aid
- Since earned aid is less than disbursed aid, funds must be returned to the programs from which they were paid to the student (or parent).
- \$2,874 disbursed aid minus \$1,373.77 earned aid equals \$1,500.23 unearned aid.

- It is assumed by regulations that Federal Title IV funds (aid) paid for institutional charges (tuition/fees and room/board if applicable).
- The school pays the lesser of the total unearned (\$1,500.23) aid or the unearned institutional charges \$547.20 multiplied by 52.2 percent equals \$285.64
- The college must return \$285.64 to the lender since the loan funds are returned before grant funds and the school pays its share first.
- Once the school repays its unearned share (\$285.64), the remaining unearned share (\$1,214.59) must be returned (repaid) by the student.
- Of the remaining loan amount to be paid (\$1,026.36), the student by regulation will repay the usual monthly repayment by the terms of the loan promissory note. Therefore, there is no immediate repayment of loan funds to the lender.
- The remaining amount of the student's unearned share (\$1,214.59 minus \$1,026) is \$188.23; however, by regulation, 50 percent of all Federal Title IV grant aid disbursed plus Federal Title IV grant aid awarded that could have been disbursed is protected. In this example, the Federal Title IV grant aid awarded was \$1,562 in Federal Pell Grant and it was all disbursed. Therefore, \$1,562 multiplied by 50 percent equals \$781 is protected.

If circumstances allow the student to remain in school past the sixty percent (60%) completion point of any payment period, then there is a definite advantage. No calculations are required for students who attend past the 60 percent completion point. There will however be other consequences to consider. Withdrawing from classes will affect your future eligibility for financial aid and possibly affect future scholarship disbursements. The student must meet satisfactory academic progress (SAP) requirements to maintain eligibility for financial aid as defined by Student Financial Aid and Scholarships.

Students who do not officially withdraw through the UNT Dean of Students Office/cease attending class are also subject to the federally mandated calculation described above. Of the student's last date of attendance in an academically related activity is unknown to the school, then the student's last date of attendance used in the federally mandated calculation will be the midpoint of the payment period.

Financial aid is awarded to students with the expectation that they will attend classes for the entire payment period and that they will make progress toward a degree. If the student receives all failing grades (any combination of Fs, WFs and NPs), SFAS is required to calculate the amount of Federal Title IV funds (aid) earned during the term in which all failing grades were received. The student will be required to have at least one of the student's instructors e-mail SFAS the student's last date of attendance in an academically related activity. If the instructor provides SFAS with the student's last date of attendance by the prescribed deadline, then SFAS will use this date as the student's withdrawal date in the federally mandated calculation described above. If the student's last date of attendance in an academically related activity is unknown to the school by the prescribed deadline, then the student's last date of attendance used in the federally mandated calculation will be the midpoint of the payment period or the equivalent date for summer sessions of enrollment.

If it is determined that the student never attended any of the classes for which the student (or parent) was paid, then you never earned the funds (aid). As a result, all funds (aid) will be canceled and returned to the programs from which they were awarded. The student will then owe a complete repayment to the university.

For full policy information, please view consumer information for return of Title IV funds.

Unofficial Withdrawal from UNT

Unofficial withdrawals encompass all other withdrawals where official notification is not provided to UNT. When a recipient of Title IV grant or loan assistance unofficially withdraws from an institution, after having begun class attendance during a payment period or period of enrollment, the institution must determine the amount of Title IV grant or loan

assistance that the student earned up to the date of withdrawal. For these unofficial withdrawals, commonly known as dropouts, the withdrawal date is the midpoint of the payment period or the equivalent date for summer sessions of enrollment, as applicable, or the last date of an academically related activity in which the student participated.

If a student who began attendance, does not officially withdraw, and subsequently fails to earn a passing grade in at least one course offered over an entire period, the institution must assume, for Title IV purposes, that the student has unofficially withdrawn, unless the institution can document that the student completed the enrollment.

If a student receives Title IV grant or loan assistance and does **not** begin attendance in a payment period or period of enrollment, the student is considered to be ineligible for any Title IV aid.

Unofficially withdrawing from classes, not beginning attendance or failing to complete and pass registered hours may affect your future eligibility for financial aid. You must meet satisfactory academic progress requirements to maintain eligibility for financial aid as defined by Student Financial Aid and Scholarships.

Satisfactory Academic Progress

Federal and state regulations require that each student maintain satisfactory academic progress (SAP) 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 (SAP) is defined in both pace of progression and qualitative measures. Pace of progression measures require a student to complete a minimum number of required course hours each term/semester of enrollment as defined below.

Number of current registered hours	Minimum number of current registered hours a student must pass (including pass/no pass hours)
1	1
2	2
3–5	3
6–11	6
12–15	9
16–19	12
20–23	15
24+	18

The qualitative measure requires a graduate student to maintain a minimum cumulative UNT grade point average of 3.0.

Maximum Hour Limit

Graduate students have a maximum time frame to receive financial aid funds based on their program of study.

All academic requirements are effective whether or not financial aid has ever been applied for or received. Students should visit financialaid.unt.edu for the latest information regarding satisfactory academic progress (SAP) and the appeal process.

Minimum Hour Limit

Students in an academic program under the graduate career (major or concentration) are required to enroll in at least 5 graduate hours per term/semester to be considered for financial aid.

Failing Grades

If a student receives all failing grades (any combination Fs, WFs and NPs), attendance in all classes will be reviewed. If attendance cannot be confirmed via official UNT Registrar records, Student Financial Aid and Scholarships (SFAS) personnel will apply the federally mandated calculation for the return of financial aid funds. Unearned Title IV funds (aid) will be returned to the programs from which the money was paid to the student and it is possible that the student will owe a repayment to the university.

Grant Programs

A grant is a type of need-based aid that does not require payment. Your financial need is determined by the Free Application for Federal Student Aid (FAFSA).

At UNT, the only application needed annually to be considered for federal, state and institutional aid is the Free Application for Federal Student Aid. However, eligibility for a grant program does not guarantee you will receive an award. Applicants are considered based on the date of their application while considering the FAFSA-determined Expected Family Contribution (EFC). The earliest applicants with a completed award file have the best opportunity to be considered for available grant funding. We encourage you to apply early every year and make sure you complete any requests made for additional information so your awards can be finalized.

For descriptions, amounts and eligibility requirements of federal, state and institutional grants offered at UNT, please visit financialaid.unt.edu.

Benefits for Veterans

Students who have served in the military or who are currently serving or dependents/spouses of our veterans may be eligible to receive benefits from the federal Department of Veteran Affairs (VA). To find out what you may be entitled to receive, veterans will want to fill out and submit the VA online application at www.gibill.va.gov.

Current Educational Programs:

- Selected Reserves (Chapter 1606)
- Reserve Educational Assistance Program (Chapter 1607)
- Montgomery GI Bill (Chapter 30)
- Post 9/11 GI Bill (Chapter 33)
- Survivors and Dependents Assistance Program (Chapter 35)

VA Certifying Officials at UNT are located in the Registrar's Office on the 2nd floor of the Eagle Student Services Center and can be reached at 940-565-2112. Veterans or dependents/spouses who have questions concerning the administration of benefits should contact the Regional VA Office at 1-888-442-4551.

Hazelwood Act for Texas Veterans

Information on tuition waivers and exemptions for qualified veterans is available online at www.unt.edu/tuition or 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, availability of monies to make awards, at least half-time enrollment, and maintaining satisfactory academic progress (SAP) standards as defined by Student Financial Aid and Scholarships. Students awarded Federal Work-Study are eligible to earn the financial aid amount 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, applicant's skills, educational background and interest. Eligibility must be confirmed each term/semester to continue in the Federal Work-Study Program.

Career Center

The Career Center, located in Chestnut Hall, Room 103, 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 employment records. For information, call 940-565-2105 or e-mail careercenter@unt.edu. Information regarding on- and off-campus jobs can be accessed on each student's my.unt.edu web site. Just click on the Eagle Network icon in the middle of the page and use your EUID and password.

Loan programs

Federal Perkins Student Loan

The Federal Perkins Student Loan provides low-interest loans to assist needy students with educational expenses. Awards are based upon available funds, established financial need, at least half-time enrollment, and maintaining satisfactory academic progress (SAP) standards as defined by Student Financial Aid and Scholarships (SFAS). Annual and aggregate limits are imposed based upon classification status.

Repayment begins nine months after graduation or termination of at least half-time enrollment.

Federal Direct Stafford Loans

All Federal Direct Stafford Loans (subsidized, unsubsidized and GRAD PLUS) are awarded based upon established financial need, at least half-time enrollment, and maintaining satisfactory academic progress (SAP) standards as defined by Student Financial Aid and Scholarships (SFAS). 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.

Campus resources

Division of Student Affairs

The Division of Student Affairs (DSA) provides opportunities for students and the campus community to cultivate academic, personal and professional success. We enhance the student experience through a wide array of intentional programs, services and activities that support the life cycle of our students.

In addition, the division champions the over-arching goals of the university by implementing programs essential to realizing UNT's mission and goals.

Departments and programs within the DSA include: Career Center, Center for Leadership and Service, Center for Student Rights and Responsibilities, Counseling and Testing Services, Dean of Students, Dining Services, Greek Life, Housing and Residence Life, Orientation and Transition Programs, Parent Programs, Research Planning and Assessment, Recreational Sports, Student Activities Center, Student Affairs Administration, Student Health and Wellness Center, Student Legal Services, Student Money Management Center, University Union, and the Veterans Center.

For more information call, 940-565-4909.

UNT-International

UNT-International assists all students, citizens of the U.S. and of other countries, who wish to include an international experience in their education. UNT-International assists UNT administration, faculty, colleges and departments in the development and conduct of international education activities and programs on and off campus. UNT-International also directs and supports activity office constituent units. All units are located on the second floor of Sycamore Hall (e-mail: international@unt.edu; web site: 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 visit international.unt.edu/ieli.

The **International Admissions Office** assists students with admissions advising. Contact: 940-565-2442 or international@unt.edu or visit international.unt.edu/admissions.

The **International Student and Scholar Services Office** assists students and scholars with matters related to immigration and maintaining student status. Contact: 940-565-2195 or internationaladvising@unt.edu or visit international.unt.edu/advising.

The **International Welcome Center** is a "home away from home" for international students. It provides orientation programs and campus and community information and activities. Contact: 940-369-8625 or international@unt.edu or visit international.unt.edu/welcome.

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, aleka.myre@unt.edu or visit www.international.unt.edu/sspc.

The **Study Abroad Office (SAO)** encourages study experience all over the world. It assists faculty, staff and students with exchanges, Fulbright Programs and travel logistics. SAO hosts exchange students from other countries on the UNT campus. U.S. students wishing to transfer credits from international institutions should contact the SAO for pre-approval. Contact: 940-565-2207 or studyabroad@unt.edu or visit international.unt.edu/gle.

International student health insurance requirement

Since 1982, UNT has required all international students to have medical insurance. Consequently, all international students are automatically assessed for the UNT-offered health plan each semester at registration.

There are only three instances when a student may receive a waiver from the UNT-offered health care plan:

1. an international student has a government sponsored plan;
2. an international student has insurance through employment in the U.S.; or
3. an international student has coverage based through the employment of a parent or relative in the U.S.

Students who request an insurance waiver will be required to show proof of coverage that is either government sponsored or provided by a U.S. employer. Supplementary insurance to cover medical evacuation and repatriation will also be required. A waiver will not be granted until such proof is shown.

International students eligible for UNT employee insurance are sent an e-mail from the Benefits Office with instructions on how to enroll in employee coverage. Once enrollment is completed, the student then proceeds to the Student Health and Wellness Center to complete a Waiver Request Form. Information is then provided regarding the purchase of medical evacuation and repatriation coverage which is required for all international students. If the student is in the mandatory 90-day waiting period, the student will wait until the following semester to waive the UNT-offered student insurance. Waivers are processed each semester up until the official 12th class day.

Questions about the UNT-offered health plan or about a waiver from the plan should be addressed to the Student Health and Wellness Center, Chestnut Hall, Room 205 or 940-565-2157.

University Libraries

A wide range of student- and faculty-centered services are the cornerstone of the Libraries' integral role in the UNT community. As an essential component of education and research at UNT, the Libraries offer access to more than six million items (print and digital), along with expert personnel to assist patrons in achieving their academic and scholarly goals.

Services

UNT Libraries' services include:

- The campus' only 24/7 computer lab for students, located in Willis Library
- Willis Library open 24/5 for study around the clock
- Mac and PC laptop checkout
- Free video games, movies, music and more
- Cyber Cafe and Image Depot in Willis Library
- Electronic resources, including journals, books and other research materials
- Library instruction, subject guides and tutorials
- Research assistance from subject experts

Libraries and collections

The Willis Library houses several exceptional collections:

- The Music Library is one of the country's largest music collections, with an extensive phonographic disc and tape collection, and the private jazz collections of Stan Kenton, Don Gillis, Whit Ozier and Leon Breeden.
- The University Archives and Rare Books/Texana collections preserve and provide access to an incredible wealth of materials that document the history and legacy of Texas, as well as touch on numerous topics of national import. Collections include the history of the university, oral histories and Texas county records. Other important archival collections include those of Sarah T. Hughes, Enid Justin and Ruth Salmon. The holding also feature an outstanding miniature book collection; the private library of Anson Jones, President of the Republic of Texas; Texas Society of Sons of the American Revolution; the Weaver Collection of Juvenile materials; and examples of important early publishing, printing and binding styles.

Willis Library also is home to the Federal and State Depository Collection, which includes U.S. and Texas government documents, including the Texas Register. The library has received national recognition for efforts to preserve online government information

through the CyberCemetery and participation in the 2008 End-of-Term Harvest of U.S. government web sites. The UNT libraries have the distinction of being one of ten affiliated archives of the National Archives.

Through collaborative efforts such as the Portal to Texas History and the UNT Digital Library, the Libraries provide digital content to a worldwide audience. The Portal is a gateway to Texas history materials from more than 200 partners at libraries, museums and archives across Texas. The UNT Digital Library is ranked in the top 10 digital repositories in North America and is 19th best globally. Highlighted collections in the UNT Digital Library include UNT electronic theses and dissertations, the Federal Communications Commission Record, UNT Scholarly Works, a Virtual Music Rare Book Room and the World War poster collections.

In addition to Willis Library, UNT Libraries include the following:

The Media Library in Chilton Hall, which houses a large collection of audiovisual materials, including videos, 16 mm films and audio CDs. Video-on-demand service is provided for curriculum support.

The Discovery Park Library, which supports the College of Engineering and the College of Information. There are two library locations: reference assistance and current periodicals, and the library collection of books, bound periodicals and reserves.

The Eagle Commons Library in Sycamore Hall, which focuses on physics, chemistry, biology, art and psychology and includes an outstanding collection in mathematics. The Collaboration and Learning Commons offers the ideal place on campus to study in groups, create multimedia projects and record presentations.

The Library Annex, which provides storage for more than 500,000 items. These items are included in the library online catalog and may be requested if needed for research. The annex also houses the preservation and technical services departments.

Computer services

Centralized campus computing services that support instruction, research and student learning are provided through Academic Computing and User Services (ACUS). ACUS is a division of University Information Technology (UIT) and is located in Room 119 of Sycamore Hall. ACUS services include support for a wide range of research computing platforms, student messaging, training, consulting and the university computing help desk (helpdesk.unt.edu).

In addition to the services directly supported by ACUS, 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 Internet connectivity. Wireless networking (Eaglenet) is available in most campus classroom buildings and in public buildings such as the University Union and UNT Libraries. Online courses are offered with support from the Center for Learning Enhancement, Assessment and Redesign (CLEAR) using computing systems supported by Information Shared Services (ITSS).

Student computing services

Fourteen general access microcomputer labs (www.gacl.unt.edu), 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 network connections, allowing students to have high-speed access to the Internet and the campus network on their own computers.

Information Technology Shared Services (ITSS) provides electronic mail to all students via EagleConnect, a web-based e-mail and calendar system. EagleConnect is used as an official communication medium between the university and students. Other Internet services available to students include personal web page publishing and online file storage. Most buildings, including the University Union and libraries, have wireless network access, which is available to enrolled students.

Research computing support

Academic Computing and User Services (ACUS) supports a large High Performance Computing (HPC) system used for computationally intensive scientific research (citc.unt.edu/hpc). A Research and Visualization Environment (RAVE) with multiple high-end workstations and a 12-screen video array is available for large-scale display of research data results (citc.unt.edu/rave).

ACUS provides support for the SPSS, SAS, R, Matlab, and other statistical analysis and mathematics programming languages. SAS, SPSS, R, and Matlab are available for use in many of the general access computing labs. Documentation, training and consultation support are available for all supported statistical programming applications (www.unt.edu/rss).

ACUS supports access to machine-readable data collections 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 and User Services (ACUS) to facilitate the use of research and instructional computing facilities. Short courses are offered on statistical packages and research techniques that are of particular interest to students involved in research activities.

Computer-based training programs are accessible within general access computer labs or via the web (www.unt.edu/training). Experienced consultants are available to assist students with computing problems.

ACUS operates the university help desk service to provide students with information and help on a variety of computing problems (helpdesk.unt.edu).

Benchmarks Online (www.unt.edu/benchmarks), University Information Technology's (UIT) newsletter, is published monthly and is an excellent resource for news about computing and information technology resources in use at UNT.

Student services, activities and information

Center for Achievement and Lifelong Learning

The Center for Achievement and Lifelong Learning provides the administrative structure for continuing education academic programs 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 can be 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 Commission on Colleges as an important part of the accreditation process.

Lifelong learning programs for adults include the Emeritus College and Grandparents University. Emeritus College offers non-credit classes for adults 50 and older. Grandparents University is a two-day program for grandparents and grandchildren (ages 7–12) who take special classes at UNT and stay in the dorm to experience college life.

Online mini-courses and programs, including business and professional certification courses and test preparation programs (LSAT, GRE and GMAT), also are major emphases.

The center is responsible for arranging and scheduling the use of university classroom facilities for off-campus groups and for university departments for purposes other than credit classes.

The Center for Achievement and Lifelong Learning is located in Marquis Hall, Rooms 212–230. For additional information, call 940-565-2656, visit the web site at call.unt.edu, or write to the director, 1155 Union Circle #310560, Denton, TX 76203-5017.

Student Activities Center

The Student Activities Center 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 a connection with people of similar and varied 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.

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 the Student Activities Center, University Union, Suite 320; www.unt.edu/sa; or call 940-565-3807.

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 Sycamore Hall, Room 104. To contact the Adaptive Computer Lab, call 940-565-3048, TDD Access through Relay Texas: 800-735-2989, or write to:

Mikal Hensarling, Manager
Adaptive Computer Lab
Computing Center
University of North Texas
1155 Union Circle #305398
Denton, TX 76203-5017

E-mail: mikal.hensarling@unt.edu

The lab may be accessed through the Internet (www.unt.edu/ACSGAL/).

UNT Alumni Association

The UNT Alumni Association supports the mission and vision of the University of North Texas by enhancing its institutional reputation, community engagement and advancement with UNT constituents. For more information, visit UNTalumni.com or call 940-565-2834.

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 Pohl Recreation Center with two swimming pools, four gymnasiums, an indoor soccer court, 45-foot tall climbing wall, weight room and cardio area, 1/8 mile indoor track, group exercise rooms, and a Smoothie King and Point Bank lounge area. The Waranch Tennis Complex has 12 lighted tennis courts. 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.

Pohl Recreation Center

The Pohl Recreation Center (Rec Center) provides facilities for recreational and fitness activities, including a weight room, a climbing wall, a bouldering wall, an indoor track for walking and jogging, an aquatics area, four gymnasiums and an outdoor pursuits center. The aquatics 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 of the multi-purpose courts featuring an indoor soccer arena. The outdoor pursuits center provides outdoor equipment rental and sponsors outdoor adventure trips and clinics.

Also located in the Rec Center are locker rooms, the Smoothie King, lounge and seating areas, meeting rooms, two group exercise rooms, lighted outdoor sand volleyball and basketball courts, and the Recreational Sports offices.

Open throughout the day for recreation and fitness opportunities, the Rec Center offers group exercise classes in a variety of formats.

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 recreational facility fee.

For more information regarding the Pohl Recreation Center's programs and facilities, contact Recreational Sports in 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, informal recreation and recreational instruction programs to provide students with recreational and competitive opportunities. Any student who pays the recreational facility 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 baseball, bowling, billiards, cycling, disc golf, dodgeball, fencing, gamers, ice hockey, in-line hockey, indoor soccer, men's lacrosse, men's rugby, men's soccer, men's ultimate disc, men's volleyball, paintball, powerlifting, running, sailing, table tennis, tennis, triathlon, wake, women's lacrosse, women's ultimate disc and women's volleyball.

The group exercise program offers students exciting aerobic activities for a small fee. Step aerobics, body sculpting, cycle, turbo kickboxing, Pilates, yoga, zumba and other classes provide the student with a variety of programs from which to choose. Free noncredit classes are offered, and others require the purchase of a pass.

The outdoor pursuits program offers a 45-foot climbing wall, 10-foot bouldering wall, rental of outdoor adventure equipment, outdoor trips, clinics and workshops.

The aquatics program offers classes such as Learn to Swim-Child, private swim lessons, lifeguarding classes and more.

The fitness program offers fitness assessments, personal training, RMR testing, body composition testing and other classes.

The informal recreation program in the Pohl 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. Current and retired faculty and staff employees who are members of the rec center and students with an active rec center membership may sponsor one individual over the age of 18 living in the same residence for membership. 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.

The Waranch Tennis Complex, which opened in January, 2005, offers 12 lighted tennis courts and equipment checkout. These courts are home to the Mean Green women's tennis team and open to all students, faculty and staff, and their guests. For more information about the Waranch Tennis Complex, please call 940-565-4200.

For information concerning hours of operation, call the Member Services Desk at 940-369-8347, the Recreational Sports Office at 940-565-2275, or the 24-hour information line at 940-369-7100, or visit the Recreational Sports' web site: www.unt.edu/recsports.

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, Chestnut Hall, Room 103, 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 and Career Computer Lab have 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 advisors 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 and on-campus interviews. 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 Chestnut Hall, Room 103, and is available by telephone at 940-565-2105 and on the web at careercenter.unt.edu.

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.

For more information, visit University Union, Room 322; call 940-565-2039; or visit conduct.unt.edu.

UNT Internships and Cooperative Education

Employers prefer to hire graduates with hands-on experience in their majors. Students can gain practical experience and enhance their classroom learning through an internship or a cooperative education (co-op) opportunity.

In addition to providing insight into future careers, working as an intern or a co-op student provides a competitive advantage in the job market because of the skills developed while in the position.

The Internships and Cooperative Education office helps students obtain high-quality internships and co-op positions prior to graduation by working closely with potential and existing employers to promote internships and co-op positions within their organizations.

No special application is required to explore these opportunities. The Internships and Cooperative Education office hosts a number of career-related workshops open to all enrolled students.

Internships

Internships are work experiences (typically one semester) related to the student's field of study with an emphasis on "on-the-job" training rather than mere employment.

The benefits of internships include the following:

- extending a student's classroom learning into a real-world setting,
- providing students with opportunities to reinforce your choice of major and career path,
- allowing students to obtain transferable skills by working in a professional environment, and
- helping students create a valuable network of contact within your industry.

Although some internships are unpaid, our program strives to promote paid opportunities.

Some degree programs require students to fulfill an internship as part of their course work. Our office can help in those situations, too.

Cooperative education

Cooperative education (co-op) integrates theory and practice during the course of multiple semesters. Co-op positions are always paid and offer flexibility to meet the individuals needs while attending UNT. Co-op work experience can be scheduled

- full time
- part time
- alternating semesters (work full time for one or two semesters then return to classes full time)
- for one semester
- multiple semesters

Earning academic credit

Depending on the chosen major, students may be eligible to receive academic credit for the internship or co-op position. Department policies vary based on these opportunities but often they are evaluated based on how the work relates to the student's field of study the length of the internship or co-op position what learning opportunities are available whether supervision or mentoring is provided by a professional in the field.

Internships and cooperative Education works with faculty members to coordinate the student's academic credit.

For further information, contact Internships and Cooperative Education in person in Chestnut Hall, Suite 155; by phone, 940.565.2861; or visit the web site at internships.unt.edu.

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 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 Chestnut Hall, Room 311 or call 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 fosters the development of leadership, civility, accountability and responsibility in the University of North Texas student; builds community through service and involvement; and serves as an advocate for all students. This office is dedicated to supporting the UNT student who may need assistance in resolving complex personal and academic matters. We strive to help all students achieve their academic and personal goals and enhance the UNT student experience.

For information contact the Dean of Students, University Union, Suite 319; call 940-565-2648; or visit us on the web at deanofstudents.unt.edu.

Dining Services

Dining Services at UNT is an award-winning dining program where our motto speaks volumes: "it's about the food!" Whether you are looking to enjoy a meal in one of our resident dining halls or need something quick to-go from one of our convenient retail locations, we have fresh options that will satisfy your hunger.

Resident plans

Students living in residence halls are required to have a 5 or 7 day meal plan. These plans allow you to take advantage of our popular all-you-care-to-eat open dining policy, meaning that you can visit any dining hall, any time it's open, as often as you wish. Most are open 7 a.m. to 7 p.m. (M–F) and weekend service is available as well. For even more options, you can add Flex dollars to your plan for use at all of our locations, including our popular retail restaurants.

Commuter plans

Commuter students may purchase the meal plans listed above or select commuter-specific meal plans: 8's Enough, 1-A-Day, Commuter 80, Commuter 120, Commuter 160, and Declining Balance. Anyone without a meal plan is also welcome at all of our locations as we gladly accept cash and credit for individual meals.

For more information please visit the Dining Services office located in Crumley Hall, Room 132, call 940-565-2462 or visit our web site at dining.unt.edu.

Office of Disability Accommodation

The Office of Disability Accommodation (ODA) is the central referral agency and resource clearinghouse for students who qualify for disability accommodations as defined by the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990 as Amended. The mission of the ODA is to provide reasonable accommodations and auxiliary aids to eligible students by facilitating appropriate adjustments to the classroom and associated learning environments. In order to administer this process, ODA maintains all student disability related medical and psychological documentation and the corresponding accommodation request records. Students who qualify for accommodations are responsible for presenting to their instructor an Accommodation Request Form, which is generated in ODA letter-head and signed by a department official.

ODA staff members are available to counsel and advise students regarding disability related matters and can assist in devising academic success strategies, including referral to other campus and community services. ODA arranges classroom auxiliary aids such as sign language interpreters, Computer Aided Real Time Transcriptionists (CART), readers, alternative format textbooks (such as textbooks on tape) and various forms of adaptive equipment and technologies. ODA also houses adaptive testing facilities for administration of course examinations and works closely with academic departments and course instructors in making such arrangements. For more information, call 940-565-4323, TDD 940-369-8652 or 565-2958; visit Suite 322, University Union; or go to www.unt.edu/oda.

Distance education (web-based and videoconference)

The University of North Texas offers a selection of undergraduate and graduate courses, degree programs and certificate programs via distance education, primarily through the web. Most web-based courses can be taken from any location worldwide that has Internet access and the appropriate computer equipment available. For more information, visit 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 and the Division of Student Development. 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. Recent programs have featured President George W. Bush, author Sherman Alexia, former Secretary of Defense Robert Gates, financial planner Suze Orman, author Eric Scholsser, activist Cornel West, former Mexican President Vicente Fox, TV scientist Bill Nye, and environmentalist Robert F. Kennedy Jr.

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 UNT 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 \$2,500 scholarship as well as an hourly wage and are required to maintain a minimum grade point average and full-time student status.

Eagle Alert

Eagle Alert is an automated system that allows UNT administrators to notify the campus community by phone in the event of an emergency. Eagle Alert sends voice and text messages to phones of everyone with an active EUID account who has registered with the system.

To register, students should log on to my.unt.edu and click on the Eagle Alert banner to provide and update their contact information.

EagleConnect

UNT has designated e-mail as an official form of communication between the university and students. UNT provides e-mail accounts, accessible at my.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 Achievement and Lifelong Learning 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.

Fine Arts Series

The UNT Fine Arts Series began as the Lyceum Series in 1924 during the Normal College era. The series has continued 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 students, faculty and staff, 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 non-food 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.

Graduate Student Council

The Graduate Student Council assures formal avenues of communication between representatives of the graduate student body and both the dean of the Toulouse Graduate School and the 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 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 Graduate School or visiting www.gsc.unt.edu.

The Center for Leadership and Service

The Center for Leadership and Service provides opportunities and programs to assist students in becoming engaged leaders in the community. Programs include leadership workshops and conferences, short-and long-term service programs, and opportunities for students to engage in leadership positions on campus. The Center for Leadership and Service is located in the University Union, Suite 422. For more information call 940 565-3021.

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.

Living accommodations

Graduate men and women may live in university-owned residence halls or in off-campus housing.

College Inn, Honors Hall, Santa Fe Square, Legends Hall and Mozart Square are targeted for housing junior-, senior- and graduate-level students, 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 Department of Housing and Residence Life, University of North Texas, 1155 Union Circle #311310, Denton, TX 76203-5017, by calling 940-565-2610, or online at www.unt.edu/housing.

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.

Multicultural Center

Location: University Union, Suite 216

Phone: 940-565-3424

Web site: edo.unt.edu/content/multicultural-center

The UNT Multicultural Center was established with the goal that it would be a place where students and community members could experience the cultural wealth of the university with a central purpose to teach diversity through student engagement and promote student success. The Multicultural Center provides resources, information, educational opportunities and events that build inclusion focusing on five areas of diversity: race/ethnicity, gender, sexual orientation, interfaith and disability.

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 year with the Student Activities Center through unt.orgsync.com. As well, a listing of all registered student organizations are updated regularly online.

Policies regulating the organization, functioning, sponsorship and privileges of registered or recognized organizations are available from the Student Activities Center, University Union, Suite 320; the web site (www.unt.edu/sa); or 940-565-3807.

Parking

Parking regulations, maps detailing parking facilities, parking office hours, contact information, and the links to paying parking citation online or to purchasing a parking permit online may be obtained at www.unt.edu/transit. All student, staff and faculty parking permits (except temporary permits, TF permits and “A” reserved permits) are sold online.

Spiritual life

Spiritual life at the University of North Texas is as varied as our community is diverse. College is a time when many students explore their values, relationships, beliefs, lifestyles, and spirituality. Students are given opportunities both on and off campus to begin or continue their spiritual exploration. Information for spiritual life resources is available at getconnected.unt.edu or 940-369-5080.

Speech and Hearing Center

The University of North Texas Speech and Hearing Center offers services to adults and children with communication disorders. Audiology services include hearing testing, dispensing and repair of hearing aids, management of cochlear implants, assessment of auditory processing disorders and aural rehabilitation programs. Speech-language therapy services include evaluation and treatment of language, articulation, fluency and voice disorders.

The Speech and Hearing Center offers many programs designed to meet the needs of UNT students, including a dialect reduction program for non-native speakers of English, testing and support for students with language-learning disabilities, and preventative programs for students in the performing arts, including a hearing conservation program, musician’s ear protection and a voice evaluation/treatment program for performance-related disorders. Services are free to enrolled students. The center also accepts insurance, including Medicare/Medicaid, and offers a sliding fee scale for clients from the community who meet income qualifications. To schedule an appointment, call 940-565-2262

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 are provided to maximize the academic potential of all University of North Texas students. Online tutoring, the Study Skills Laboratory, Speed Reading, Supplemental Instruction, Connecting for Success, the Volunteer Tutor Program, the Academic Success Program, Learning 101 Series, and the Academic Resource Library are all housed in the center.

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

Time Management for Graduate Students offers hands-on exercises related to goal setting and accountability. Students learn to manage their time by examining the factors that affect productivity.

Study Methods for Graduate Students is a ninety minute interactive workshop where strategies for being successful are shared, including time management, planning for the semester, and textbook reading techniques.

The **Academic Resource Library** provides books and computer programs to assist students with preparation for graduate school admissions exams.

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.

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 students in matters of policy and student welfare. SGA sponsors programs and projects that enhance students’ educational and collegiate experiences.

SGA is responsible for many services to students, such as Raup Travel Grants, Eagle’s Nest funding for student organizations, SGA/homecoming elections, SGA forums and town hall meetings.

Students interested in becoming a member of SGA may call 940-565-3850; visit the SGA office located in the University Union, Suite 320 S; or visit the SGA web site at sga.unt.edu.

Student Health and Wellness Center

The Student Health and Wellness Center, located on the second floor of Chestnut Hall, is equipped with examination and treatment rooms, a clinical laboratory and digital x-ray machine. A pharmacy and an optical clinic are located on the first floor. Medical services are available when school is in session to enrolled students paying the medical service fee. Medical care is not available between semesters or on official university holidays. In an emergency, call 911. The Student Health and Wellness Center operates on an appointment system. Call 940-565-2333 to make an appointment. Forms, hours and additional information are available online at www.healthcenter.unt.edu.

Services covered by medical services fee include routine visits for coughs, colds and other illnesses as well as monitoring of chronic conditions and referrals to outside specialists. Charges are assessed for ancillary services, including medications, supplies for procedures and treatments, vaccinations and allergy injections, and specialty provider visits, such as psychiatric, dietitian, massage therapy, travel clinic and women’s pap appointments. Students may pay with cash, check, credit card, or make billing arrangements. The Student Health and Wellness Center must have prior parental consent on file to treat minors (under 18). Anyone with a complex medical condition is urged to meet with one of our medical providers to review your medical history within the first few weeks of attending UNT.

Medical information is confidential and is not released to others without a release signed by the patient. If a parent requests information on a minor, the Student Health and Wellness Center provides the information as allowed under the law.

The UNT Pharmacy located on the first floor of Chestnut Hall fills prescriptions for the UNT Student Health and Wellness Center and offers some over-the-counter medications for students. Prescriptions from outside physicians can also be filled at the UNT Pharmacy. Students needing medications filled should speak with a pharmacist about their options by calling 940-565-2790.

The Meadows Center for Health Resources provides individual health education, outreach programs for students and campus groups as well as special programs for specific health needs. Go online to healthcenter.unt.edu/MCHR-services-and-programs for a complete list of offerings or call 940-565-2787 for more information.

Allergy injections can be administered at the Student Health and Wellness Center. Patients must have allergy serum and orders from their allergist prior to receiving allergy injections. 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, pertussis, tetanus, rubella, mumps, measles and hepatitis B. Effective January 1, 2012, a bacterial meningitis vaccination is required by Texas state law for any new or transfer student under the age of 30 who is attending UNT for the first time, and any returning students who have not been continuously enrolled for previous long semester. Additional information on this requirement, including forms, submission process and other issues relating to possible exemptions, is available at the immunization section of the UNT Student Health and Wellness Center’s web site at healthcenter.unt.edu/educational-resources/immunization-requirements. It is also recommended that all other students consider receiving the bacterial meningitis vaccination.

Health insurance program

A group student health insurance plan is offered for students enrolled at UNT. Application forms are available in the Student Health and Wellness Center or online at www.uhcsr.com.

International students should refer to “International Student Health Insurance Requirement” elsewhere in this section.

UNT Police Department

The UNT Police Department serves an integral role in campus life as the university’s principal provider of safety and security for students, faculty, staff and visitors. 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 enforce state and local laws as well as university rules and regulations. The department offers numerous programs and services available to our community.

For more information, contact the UNT Police Department at 940-565-3000, or visit our web site at www.unt.edu/police.

University Program Council

The University Program Council (UPC) is UNT’s premier program and activities office on the UNT campus. As the only student-run programming office, 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 2 of the University Union. Call 940-565-3825 for information or visit www.unt.edu/upc.

University Union

The University Union is the center for campus life at UNT. 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 Boar’s Head Deli sandwich shop. Green Mountain Coffee is a gourmet coffee bar featuring a special brew 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, which includes an Einstein Bros. Bagels; TV viewing; e-mail stations; 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, discount tickets to local attractions, lost and found, and updates on programs are available.

Also housed in the Union are the Student Activities Center, Student Government Association, banking services, Office of Disability Accommodation, UNT Bookstore, Dean of Students, post office, Multicultural Center, and Center for Leadership and Service.

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 www.unt.edu/union/scheduling.

Veterans Center

The UNT Veterans Center, in collaboration with a diversity of university departments, aims to serve as a safe place to help student veterans navigate university resources for academic success. Our focus is simply three pillars: to help remove barriers for student veterans through an emphasis on transition support through campus life; to provide connection to resources both on and off campus to assist student veterans; and to give due recognition of the service members in our UNT community through programs and scholarship. For more information, please visit the center in the University Union, Suite 320, call 940-369-8021, or e-mail veteranscenter@unt.edu for further assistance.

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 Writing Lab has two locations:

- the Auditorium Building, Room 105, open Monday through Thursday from 9 a.m. to 5 p.m. and Friday from 9 a.m. to 4 p.m. during the long terms/semesters and Monday through Thursday from 10 a.m. to 2 p.m. during the summer terms/sessions, and
- the first floor of the Willis Library, near the Cyber Cafe, open Monday through Thursday from 6 p.m. to 10 p.m. during the long terms/semesters.

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, an interactive calendar of events and other helpful materials. The primary purpose of the Writing Lab is to promote better-written composition by students at all levels. Students are encouraged to visit the Writing Lab, in the Auditorium Building, Room 105, or on the first floor of Willis Library, to discuss their writing issues.

UNT Teaching Excellence Seminar

The Toulouse Graduate School is excited to announce the UNT Teaching Excellence Seminar, a redesigned TA/TF orientation that introduces new TA, TF and adjunct faculty to best practices in teaching and supportive resources. Supported by the Office of the Provost, CLEAR and the Council of Deans, this one day workshop is mandatory for all new TAs and TFs as stated in the Graduate Catalog.

Policies

The Graduate Council

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 four 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 co-chair), the associate graduate deans, the provost, the university librarian, and each of the deans of the schools and colleges with graduate programs. The graduate dean, associate dean, and graduate school staff implement the policies determined by the Graduate Council.

Ex-officio members

Mark Wardell, PhD, Dean of the Toulouse Graduate School
Joseph R. Oppong, PhD, Associate Dean of Research and Professional Development for the Toulouse Graduate School
Victor R. Prybutok, PhD, Associate Dean of Academic Affairs for the Toulouse Graduate School
Warren W. Burggren, PhD, Provost and Associate Vice President for Academic Affairs
Michael Monticino, PhD, Dean of the College of Arts and Sciences
O. Finley Graves, PhD, Dean of the College of Business
Jerry Thomas, EdD, Dean of the College of Education
Costas Tsatsoulis, PhD, Dean of the College of Engineering
Herman Totten, PhD, Dean of the College of Information
Roy K. Busby, PhD, Interim Dean of the Frank W. and Sue Mayborn School of Journalism
Judith C. Forney, PhD, Dean of the School of Merchandising and Hospitality Management
James Scott, DMA, Dean of the College of Music
Thomas L. Evenson, PhD, Dean of the College of Public Affairs and Community Service
Robert Milnes, PhD, Dean of the College of Visual Arts and Design
Martin R. Halbert, PhD, Dean of Libraries

Elected members

Jennifer Way, PhD, Associate Professor of Art Education and Art History
Jeff M. Allen, PhD, Professor of Learning Technologies
Su Gao, PhD, Professor of Mathematics
Paul M. Collins, PhD, Associate Professor of Political Science
Shailesh S. Kulkarni, PhD, Associate Professor of Information Technology and Decision Sciences
Bertina H. Combes, Associate Professor of Educational Psychology
James H. Swan, PhD, Professor of Sociology
Paul E. Dworak, Professor of Music History, Theory and Ethnomusicology
Rebecca J. Glover, PhD, Associate Professor of Educational Psychology
Douglas Brozovic, PhD, Associate Professor of Mathematics
John Keith Johnson, MM, Regents Professor of Music
Chiachi DC Wang, PhD, Associate Professor of Psychology

Academic policies

The general policies of the Toulouse Graduate School are determined by the Graduate Council and administered by the office of the graduate dean.

Standards, fees and other requirements may be modified at any time by the Graduate Council.

Student Standards of Academic Integrity

A strong university is built upon the academic integrity of its members. As an intellectual enterprise, it is dependent upon trust, honesty, and the exchange of ideas in a manner that gives full credit and context to

the sources of those ideas. UNT's policy on the Student Standards of Academic Integrity is designed to uphold these principles of academic integrity. It protects the rights of all participants in the educational process and validates the legitimacy of degrees awarded by the university.

The policy covers categories of academic dishonesty such as cheating, plagiarism, forgery, fabrication, facilitating academic dishonesty, and sabotage. It includes descriptions of infractions, penalties and procedures. In the investigation and resolution of all allegations of student academic dishonesty, the university's actions are intended to be corrective, educationally sound, fundamentally fair, and based on reliable evidence. The full policy (18.1.16) is available online at policy.unt.edu, where it can be located by searching for either title or number.

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 Graduate School 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 and 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.

In following either procedure a, b or c above, the chair should make a judgment on the merits of the case and recommend a specific action in regard to the disputed grade. Either the student or the instructor may appeal the recommendations of the chair.

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 the Appeals Committee of the graduate school.
 - a. The Appeals Committee will have 30 days from the date of its appointment to complete its work.
 - b. The Appeals Committee shall operate within the guidelines set out for departmental *ad hoc* committees in 3b above.
 - c. All rulings made by the Appeals 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

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 Division of Institutional Equity and Diversity at 940-565-2711. TTY access: 940-369-8652 or 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 as Amended 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 go to www.unt.edu/oda; the Office of Equal Opportunity at 940-565-2737; or call Institutional Equity and Diversity 940-565-2711. TDD access is available through Relay Texas: 800-735-2989 or 940-369-8652.

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. 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. 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 Student Health and Wellness Center. It provides identification at the libraries for checking out materials and at Recreational Sports and the Student Health and Wellness 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.

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 Eagle Student Services Center, first floor. 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 Transportation Code and 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/transit/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.

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 current policy may be found in the online schedule of classes at www.unt.edu/registrar.

Closings due to severe weather are posted on the UNT web site (www.unt.edu), are released to the Dallas–Fort Worth news media, and are sent to registered students, faculty and staff via Eagle Alert system when appropriate.

Student Handbook

Policies and regulations governing students are explained or recorded in full in the *Student Handbook*, which freshmen and transfer students receive at orientation. 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. The handbook is also available online at studentaffairs.unt.edu.

Notice of complaint

The university may issue an official request or notice of complaint to a student to appear before a university administrator when a student's conduct or behavior is reasonably believed to be in violation of a published university policy or rule. A student who receives a notice of complaint should always consider it important and respond immediately. Failure to answer a notice of complaint can result in disciplinary action up to and including administrative withdrawal from the university.

Transportation services

The Denton County Transportation Authority operates the UNT Shuttle through an agreement with UNT. The UNT Shuttle serves the main campus, Discovery Park campus and the Eagle Point campus as well as off-campus student-oriented housing. Additionally, students can access the Denton local bus service fare free by presenting a valid UNT ID.

Late night transportation is provided by the e-ride service and provides transportation to and from all three Denton campuses.

Alternative transportation options, including car sharing, bicycling and ridesharing, are supported by Transportation Services as well.

For information regarding hours of operation, route schedules and alternative transportation options, visit the web site at www.unt.edu/transit.

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 Parking Services in the Sullivant Public Safety Center and the UNT Bookstore in the University Union; *The Financial Connection*, available in Student Financial Aid and Scholarships. 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 www.unt.edu/tuition.

Other policies may be found in the “Code of Student Conduct.” The code is available on the UNT web site as part of the *Student Handbook* (may be found at studentaffairs.unt.edu).

All university policies are subject to change throughout the year.

University of North Texas Drug-Free Schools and Communities Act

Pursuant to the Drug-Free Schools and Communities Act Amendments of 1989, the University of North Texas is required to establish a drug and alcohol prevention program for its students and employees. UNT is also required to provide this information to students, faculty, and staff upon entry and annually. Following is a description of UNT's program. A biennial review of this program is done to determine its effectiveness, to implement changes to the program if they are needed and to ensure that the university's disciplinary sanctions described are consistently enforced. The DFSCA report can be found at dean_of_students@unt.edu.

Standards of conduct

University of North Texas regulations prohibit the unlawful possession, use, distribution and sale of alcohol and illicit drugs by University students and their guests and for employees on University-owned or controlled property and at University-sponsored or supervised activities.

University discipline

Violation of these university regulations can result in disciplinary action up to and including expulsion for students and discharge for employees.

Legal sanctions

Local, state and federal laws also prohibit the unlawful possession, use, distribution and sale of alcohol and illicit drugs. Criminal penalties for violation of such laws range from fines up to \$20,000 to imprisonment for terms up to and including life.

Health risks

Specific serious health risks are associated with the use of alcohol and illicit drugs. Some of the major risks are listed below. For more information contact the Wellness Resource Service and Substance Abuse Resource Center at 1800 W. Chestnut, Chestnut Hall, Suite 301, or by calling 940-565-2787.

- **Alcohol and other depressants (barbiturates, sedatives, and tranquilizers)** – addiction, accidents as a result of impaired ability and judgment, alcohol poisoning, overdose when used with other depressants, damage to a developing fetus, heart and liver damage and death.
- **Marijuana** – impairs short-term memory, thinking, and physical coordination. Can cause panic reaction and increase the risk of lung cancer and emphysema. Can interfere with judgment, attention span, concentration, and overall intellectual performance. Impairs driving ability. May cause psychological dependence and compromise the immune system.
- **Cocaine** – addiction, cardiovascular system damage including heart attack, brain damage, seizures, lung damage, severe depression, paranoia, psychosis. Similar risks are associated with other stimulants, such as speed and uppers.
- **Nicotine** – tobacco smoke contains thousands of chemical compounds, many of which are known to cause cancer. Nicotine, which is a central nervous system stimulant, produces an increase in heart and respiration rates, blood pressure, adrenaline production and metabolism. People can rapidly become physically and psychologically dependent on tobacco. Compromises the immune system.
- **Inhalants** – inhalants are a diverse group of chemicals that easily evaporate and can cause intoxication when their vapors are inhaled. Most inhalants are central nervous system depressants. Use of these drugs slows down many body

functions. High doses can cause severe breathing failure and sudden death. Chronic abuse of some of these chemicals can lead to irreversible liver damage and other health problems.

- **Prescription drug abuse** – adverse reactions, dependency, withdrawal, and overdose.

Resources

A variety of resources exist for alcohol and other drug prevention education, counseling and referral. For detailed information concerning these resources available from the University and community agencies, students may contact the Meadows Center for Health Resources and the Substance Abuse Resource Center, 1800 W. Chestnut, Chestnut Hall, Suite 301, 940-565-2787. Faculty and staff members may contact the Employee Assistance Program at 800-343-3822 or Human Resources at 940-565-4817.

Contacts at UNT

General university number

Switchboard 940-565-2000

University metro number

Switchboard 817-267-3731

General university Internet address

www.unt.edu

Online catalogs and academic calendar

www.unt.edu/catalog

Schedule of Classes

www.unt.edu/registrar

Web registration

my.unt.edu

Campus tour information

940-565-4104

Web site: tours.unt.edu/

Office of Admissions (undergraduate)

Eagle Student Services Center, Room 305

Mailing address:

1155 Union Circle #311277

Denton, TX 76203-5017

940-565-2681

800-868-8211

Fax: 940-565-2408

Ask UNT (web site): www.unt.edu/AskUNT

Admission information, applications and status reports for new undergraduate students (U.S. citizens and permanent resident aliens).

Toulouse Graduate School

Graduate Admissions and Graduate Student Services

Eagle Student Services Center, Room 354

Mailing address:

1155 Union Circle #305459

Denton, TX 76203-5017

940-565-2383

Fax: 940-565-2141

E-mail: gradadmission@unt.edu

Ask UNT (web site): www.unt.edu/AskUNT

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

Mailing address:

1155 Union Circle #305459

Denton, TX 76203-5017

940-565-2383

Fax: 940-565-2141

E-mail: graduateschool@unt.edu

Web site: gradschool.unt.edu

Information regarding graduate admission, general policies, regulations and degree requirements; GRE and GMAT score recording; final approval of graduate degree plans; graduation.

General offices

The Career Center

Chestnut Hall, Room 103

Mailing address:

1155 Union Circle #310859

Denton, TX 76203-5017

940-565-2105

Fax: 940-565-4376

Web site: 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; online job listings; transmission of online resumes to potential employers; job search advising; on-campus interviews with employer representatives.

UNT Internships and Cooperative Education

Chestnut Hall, Suite 155

Mailing address:

1155 Union Circle #311305

Denton, TX 76203-5017

940-565-2861

Fax: 940-565-4995

Web site: internships.unt.edu

Student work experience in supervised work situations related to fields of study.

Counseling and Testing Services

Chestnut Hall, Room 311

Mailing address:

1155 Union Circle #310968

Denton, TX 76203-5017

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

University Union, Suite 319

Mailing address:

1155 Union Circle #305069

Denton, TX 76203-5017

940-565-2648

Web site: www.deanofstudents.unt.edu

General information; non-academic and personal assistance; policy interpretation; student complaints; student emergencies.

Office of Disability Accommodation

University Union, Suite 322

Mailing address:

1155 Union Circle #310770

Denton, TX 76203-5017

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) as Amended and Rehabilitation Act of 1973.

Housing Office

Crumley Hall, West Wing

Mailing address:
1155 Union Circle #311310
Denton, TX 76203-5017
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.

Institutional Equity and Diversity

Hurley Administration Building, Room 210

Mailing address:
1155 Union Circle #310937
Denton, TX 76203-5017
940-565-2711
Fax: 940-369-7577

UNT-International

Sycamore Hall, 2nd Floor

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2197
Fax: 940-565-4822
E-mail: international@unt.edu
Web site: international.unt.edu

UNT-International supports UNT students and faculty in international education. The department provides services to all students, whether citizens of the U.S. or 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 the activity of six constituent units: Intensive English Language Institute, International Admissions, International Student and Scholar Services, International Welcome Center, Sponsored and Special Programs Center and Center for Global Learning and Experience.

Intensive English Language Institute

Sycamore Hall, 2nd Floor

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2003
Fax: 940-565-4822

E-mail: eva@isp.admin.unt.edu

Web site: international.unt.edu/ieli

The Intensive English Language Institute (IELI) 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 through a specialized ESL instructional computer lab.

International Admissions

Sycamore Hall, 2nd Floor

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2442
Fax: 940-565-4822
E-mail: international@unt.edu

Web site: international.unt.edu/admissions

The admissions office provides application, admission and status information and advice to new and former undergraduate, graduate and Intensive English Language Institute students.

International Student and Scholar Services

Sycamore Hall, 2nd Floor

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
Immigration: 940-565-2195
Fax: 940-565-4822
E-mail: internationaladvising@unt.edu
Web site: international.unt.edu/advising

International Student and Scholar Services provides immigration information to new and former under-graduate, graduate and Intensive English Language Institute students, UNT faculty and scholars.

International Welcome Center

Sycamore Hall, 2nd Floor

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-369-8625
Fax: 940-565-4822
Web site: international.unt.edu/welcome

The International Welcome Center 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. The IWC organizes continuing orientation programs, activities and universitywide events such as the Celebration of World Cultures.

Sponsored and Special Programs Center

Sycamore Hall, 2nd Floor

Mailing address:
1155 Union Circle #305430
Denton, TX 76203-5017
940-565-2196
Fax: 940-369-7342
E-mail: aleka.myre@unt.edu
Web site: www.international.unt.edu/sspc

The SSPC tailors programs for UNT and IELI international students sponsored by governments, agencies, businesses, and other universities; provides special orientations and personal and academic counseling; reports academic progress to sponsors; and provides direct invoicing for tuition/fees.

Registrar's Office

Eagle Student Services Center, Room 147 and 209

Mailing address:
1155 Union Circle #311400
Denton, TX 76203-5017
940-565-2111
Fax: 940-565-4463
Web site: www.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

Mailing address:
1155 Union Circle #310620
Denton, TX 76203-5017
940-565-3225
Fax: 940-565-3877
Online assistance: unt.custhelp.com
Web site: www.unt.edu/tuition
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 Center

University Union, Suite 320

Mailing address:
1155 Union Circle #305358
Denton, TX 76203-5017
940-565-3807

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

Mailing address:
1155 Union Circle #311370
Denton, TX 76203-5017
940-565-2302
Administrative Staff: 940-565-3901 or 940-565-3902
Fax: 940-565-2738
Web site: financialaid.unt.edu

Student Government Association

University Union, Suite 320 S

Mailing address:
1155 Union Circle #305069
Denton, TX 76203-5017
940-565-3850
Web site: www.unt.edu/sga

Student government; student elections, Raupé Scholarships; Eagle's Nest Organization Council; Freshman Intern Program.

Student Health and Wellness Center

Chestnut Hall, Second Floor

Mailing address:
1155 Union Circle #305160
Denton, TX 76203-5017
Main phone: 940-565-2333
Fax: 940-565-4559
24-hour nurse call line: 877-440-0549
Web site: www.healthcenter.unt.edu
Online appointments: myosh.unt.edu

Student Legal Services

University Union, Room 324

Mailing address:
1155 Union Circle #305058
Denton, TX 76203-5017
940-565-2614
Fax: 940-369-7251
Web site: www.unt.edu/legal

Legal advice (landlord/tenant, consumer, debt and credit, etc.) for currently enrolled students.

Study Abroad Office

Sage Hall, 2nd Floor

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2207
Fax: 940-565-4822
E-mail: studyabroad@unt.edu
Web site: international.unt.edu/gle

The SAO provides individual advising on study abroad opportunities to students and faculty; provides information on summer, semester and year-long programs; facilitates international credit transfer; hosts students from other universities; organizes information/orientation for study, travel, work and volunteer abroad programs and national grants for international study; and provides international ID card and traveler's insurance information to traveling faculty, staff and students.

University Parking and Transportation Office

Highland Parking Garage
620 Central Avenue
Denton, TX 76201

Parking Services: 940-565-3020
Transportation Services: 940-565-3014

University Police Department

Sullivant Public Safety Center
1700 Wilshire
Denton, TX 76201-6572

Police Department: 940-565-3000

Fax: 940-369-8788

The Center for Leadership and Service

University Union, Suite 422

Mailing address:
1155 Union Circle #305008
Denton, TX 76203-5017
Phone: 940-565-3021
Fax: 940-369-8440

Web site: www.unt.edu/volunteer

University of North Texas at Dallas

(UNT Dallas campus)

7300 University Hills Boulevard
Dallas, TX 75241
972-780-3600 (*3600 dialing from the Denton campus)
Fax: 972-780-3636 (*3636 dialing from the Denton campus)

General university Internet address

www.dallas.unt.edu
E-mail: untdallas@unt.edu

Toulouse Graduate School

Main Office
Eagle Student Services Center, Room 354

Mailing address:
1155 Union Circle #305459
Denton, TX 76203-5017
940-565-2383
E-mail: graduateschool@unt.edu
Web site: graduateschool.unt.edu

Mark Wardell, Dean

Joseph R. Oppong, Interim Associate Dean
Victor Prybutok, Interim Associate Dean
Ben Dearman, Director of Graduate Services and Graduate Admission

The Graduate School leads graduate education at the University of North Texas through a variety of services and programs designed to enhance the educational experience of graduate students. These programs include professional development, milestone management and other comprehensive strategies and operations.

All students must apply to the Toulouse Graduate School to pursue any UNT graduate degree, teacher certification, graduate academic certificate, a second bachelor's degree, or to register for courses as a non-degree student. A student who meets the Graduate School's standards for admission can be considered for admission to the degree programs offered at UNT. Please consult the Admission section of this catalog for information about the Toulouse Graduate School and for general admission standards and procedures.

In addition to general admission to the Toulouse Graduate School, academic departments may require additional information specific to their degree programs. Consult the department for degree-specific admission standards and procedures.

Graduate Academic Certificate

Additional graduate academic certificates

A full list of graduate academic certificates is available from the Toulouse Graduate School.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Center for Interdisciplinary Studies

The Toulouse Graduate School administers the Center for Interdisciplinary Graduate Studies, which sponsors and develops interdisciplinary courses and degree programs. The center sponsors and develops interdisciplinary courses and degree programs.

Master's Degree

Interdisciplinary Studies with concentration in Women's Studies, MA

Interdisciplinary Studies master's degrees

The interdisciplinary studies program offers students a high degree of flexibility in designing a program of study that cuts across disciplinary boundaries. Applicants to the master's program can pursue one of two approaches — either a self-styled plan or a recognized concentration. Under a self-styled plan, students design a program to address a particular intellectual interest or study a multidisciplinary issue that combines existing courses from any graduate area of the university. Applicants should contact the Graduate School to discuss their intention to seek a self-styled plan. A recognized concentration approach involves more structure in the courses taken built around a defined

interdisciplinary theme. For either approach, the degree awarded upon completion of the program is a Master of Arts or Master of Science with a major in interdisciplinary studies.

Admission requirements

Applicants for admission to the degree in interdisciplinary studies must submit the following:

1. A completed Graduate School application form.
2. Complete transcripts from all colleges attended.
3. A non-refundable application fee.
4. Scores on the Personal Potential Index or the verbal, quantitative and analytical sections of the Graduate Record Examinations (GRE) or results from another standardized test such as the GMAT.
5. A current resume.
6. Two letters of recommendation.

After students are accepted into the program, but before they can begin taking classes, they will work with an academic advisor in the Toulouse Graduate School to develop a plan of study for the interdisciplinary program that includes the following:

1. goals for the program of study;
2. anticipated learning outcomes (i.e., what the student expects to have learned by the end of the program);
3. defined assessment methods for the learning outcomes. (The learning methods and outcomes must be designed in consultation with a faculty advisor or the entire advisory committee.) and
4. a degree plan worksheet approved by the Toulouse Graduate School and the faculty representatives from each of the disciplines from which they will take classes.

Applicants seeking admission to the recognized concentrations and guided programs of study should consult with the concentration's director for concentration specific admission requirements.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include no fewer than three separate fields of study with at least 6 hours in each field. 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 disciplines of the student's program, will be formed to help the student develop the degree plan and supervise progress.

Students may choose the non-thesis option and complete at least 30 semester hours for a Master of Arts or Master of Science. The thesis option requires 24 semester hours plus 6 hours of thesis, for a total of 30 hours.

For any non-thesis degree, the student will either successfully complete a capstone seminar, submit a portfolio of work designed in concert with the degree plan committee, or develop a project in concert with the advisory committee.

University Courses (UCRS)

University courses are interdisciplinary in nature and are available to students working toward the master's degree with the interdisciplinary major.

Women's Studies concentration

The women's studies concentration in the interdisciplinary studies master's program allows students to explore multiple aspects of women's experience through individually tailored degree plans. Students will consult with the Women's Studies Program director to formulate a degree plan reflecting the students' academic and career goals. Unlike the self-styled approach, students are not restricted to three academic disciplines or areas of the university. Courses for women's studies credit must be approved by the Women's Studies Program Committee before students register each semester.

The women's studies concentration draws from a variety of disciplines, including anthropology; art history; communication studies; counseling and higher education; English; history; journalism; kinesiology, health promotion and recreation; linguistics; merchandising and hospitality management; music; philosophy; political science; psychology; radio, television and film; rehabilitation, social work and addictions; and sociology. Women's studies courses examine women's roles, activities and experiences through history and across cultures. Courses expand understanding of gender differences, cultural diversity and social change while strengthening critical thinking and communication skills.

For further information about women's studies at UNT, please contact the Director of Women's Studies, General Academic Building, Room 467; 1155 Union Circle #305097, Denton, TX 76203-5017; or 940-565-2098.

Interdisciplinary Studies with concentration in Women's Studies, MS

Interdisciplinary Studies master's degrees

The interdisciplinary studies program offers students a high degree of flexibility in designing a program of study that cuts across disciplinary boundaries. Applicants to the master's program can pursue one of two approaches — either a self-styled plan or a recognized concentration. Under a self-styled plan, students design a program to address a particular intellectual interest or study a multidisciplinary issue that combines existing courses from any graduate area of the university. Applicants should contact the Graduate School to discuss their intention to seek a self-styled plan. A recognized concentration approach involves more structure in the courses taken built around a defined interdisciplinary theme. For either approach, the degree awarded upon completion of the program is a Master of Arts or Master of Science with a major in interdisciplinary studies.

Admission requirements

Applicants for admission to the degree in interdisciplinary studies must submit the following:

1. A completed Graduate School application form.
2. Complete transcripts from all colleges attended.
3. A non-refundable application fee.
4. Scores on the Personal Potential Index or the verbal, quantitative and analytical sections of the Graduate Record Examinations (GRE) or results from another standardized test such as the GMAT.
5. A current resume.
6. Two letters of recommendation.

After students are accepted into the program, but before they can begin taking classes, they will work with an academic advisor in the Toulouse Graduate School to develop a plan of study for the interdisciplinary program that includes the following:

1. goals for the program of study;
2. anticipated learning outcomes (i.e., what the student expects to have learned by the end of the program);
3. defined assessment methods for the learning outcomes. (The learning methods and outcomes must be designed in consultation with a faculty advisor or the entire advisory committee.) and
4. a degree plan worksheet approved by the Toulouse Graduate School and the faculty representatives from each of the disciplines from which they will take classes.

Applicants seeking admission to the recognized concentrations and guided programs of study should consult with the concentration's director for concentration specific admission requirements.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include no fewer than three separate fields of study with at least 6 hours in each field. 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 disciplines of the student's program, will be formed to help the student develop the degree plan and supervise progress.

Students may choose the non-thesis option and complete at least 30 semester hours for a Master of Arts or Master of Science. The thesis option requires 24 semester hours plus 6 hours of thesis, for a total of 30 hours.

For any non-thesis degree, the student will either successfully complete a capstone seminar, submit a portfolio of work designed in concert with the degree plan committee, or develop a project in concert with the advisory committee.

University Courses (UCRS)

University courses are interdisciplinary in nature and are available to students working toward the master's degree with the interdisciplinary major.

Women's Studies concentration

The women's studies concentration in the interdisciplinary studies master's program allows students to explore multiple aspects of women's experience through individually tailored degree plans. Students will consult with the Women's Studies Program director to formulate a degree plan reflecting the students' academic and career goals. Unlike the self-styled approach, students are not restricted to three academic disciplines or areas of the university. Courses for women's studies credit must be approved by the Women's Studies Program Committee before students register each semester.

The women's studies concentration draws from a variety of disciplines, including anthropology; art history; communication studies; counseling and higher education; English; history; journalism; kinesiology, health promotion and recreation; linguistics; merchandising and hospitality management; music; philosophy; political science; psychology; radio, television and film; rehabilitation, social work and addictions; and sociology. Women's studies courses examine women's roles, activities and experiences through history and across cultures. Courses expand understanding of gender differences, cultural diversity and social change while strengthening critical thinking and communication skills.

For further information about women's studies at UNT, please contact the Director of Women's Studies, General Academic Building, Room 467; 1155 Union Circle #305097, Denton, TX 76203-5017; or 940-565-2098.

Interdisciplinary Studies with Interactive and Virtual Digital Communication Concentration, MA

The MA candidate must complete a minimum of 36 hours from three areas. Required courses are as follows:

Frank W. Mayborn Graduate Institute of Journalism requirements

- JOUR 5510 - Internet and Interactive Communication Strategy
- JOUR 5500 - Integrated Communications
- or
- JOUR 5320 - New Technologies of Mass Communication

Electives

- JOUR 5030 - Visual Journalism
- JOUR 5100 - Case Problems in Public Relations
- JOUR 5250 - Quantitative Research
- JOUR 5260 - Qualitative Research
- JOUR 5800 - Professional Internship
- JOUR 5900 - Advanced Problems in Journalism
- JOUR 5910 - Advanced Problems in Journalism

Thesis courses (if required)

Department of Learning Technologies requirements

Computer education and cognitive systems courses:

- CECS 5200 - New Technologies of Instruction
- CECS 5260 - Computer Graphics for Mediated Communications

Electives

- CECS 5110 - Multimedia in Technology Applications
- CECS 5111 - Introduction to Video Technology
- CECS 5310 - Human-Computer Interaction
- CECS 5400 - Educational Telecommunications
- CECS 5900 - Special Problems
- CECS 5910 - Special Problems

Thesis courses (if required)

Department of Library and Information Sciences requirements

- SLIS 5040 - Information Behavior
- SLIS 5615 - Electronic Databases and Information Services

Electives

- SLIS 5020 - Economics of Information
- SLIS 5460 - Publishing and Other Information Industries
- SLIS 5712 - Horizon Technologies for Library and Information Centers
- SLIS 5714 - Web Content Development and Maintenance
- SLIS 5740 - Introduction to Digital Libraries
- SLIS 5900 - Special Problems

Thesis courses (if required)

Remaining courses

With the approval of the graduate advisor in the graduate institute, a candidate may select his or her remaining course work to support career interests such as public relations, research methods, visual journalism, electronic databases, economics of information, web content development and maintenance, digital libraries, computer graphics, multimedia in technology applications, human-computer interaction, and educational telecommunications.

Interdisciplinary Studies with Interactive and Virtual Digital Communication Concentration, MS

The MS candidate must complete a minimum of 36 hours from three areas. Required courses are as follows:

Frank W. Mayborn Graduate Institute of Journalism requirements

- JOUR 5510 - Internet and Interactive Communication Strategy
- JOUR 5500 - Integrated Communications
- or
- JOUR 5320 - New Technologies of Mass Communication

Electives

- JOUR 5030 - Visual Journalism
- JOUR 5100 - Case Problems in Public Relations
- JOUR 5250 - Quantitative Research
- JOUR 5260 - Qualitative Research
- JOUR 5800 - Professional Internship
- JOUR 5900 - Advanced Problems in Journalism
- JOUR 5910 - Advanced Problems in Journalism

Thesis courses (if required)

Department of Learning Technologies requirements

Computer education and cognitive systems courses:

- CECS 5200 - New Technologies of Instruction
- CECS 5260 - Computer Graphics for Mediated Communications

Electives

- CECS 5110 - Multimedia in Technology Applications
- CECS 5111 - Introduction to Video Technology
- CECS 5310 - Human-Computer Interaction
- CECS 5400 - Educational Telecommunications
- CECS 5900 - Special Problems
- CECS 5910 - Special Problems

Thesis courses (if required)

Department of Library and Information Sciences requirements

- SLIS 5040 - Information Behavior
- SLIS 5615 - Electronic Databases and Information Services

Electives

- SLIS 5020 - Economics of Information
- SLIS 5460 - Publishing and Other Information Industries
- SLIS 5712 - Horizon Technologies for Library and Information Centers
- SLIS 5714 - Web Content Development and Maintenance
- SLIS 5740 - Introduction to Digital Libraries
- SLIS 5900 - Special Problems

Thesis courses (if required)

Remaining courses

With the approval of the graduate advisor in the graduate institute, a candidate may select his or her remaining course work to support career interests such as public relations, research methods, visual journalism, electronic databases, economics of information, web content development and maintenance, digital libraries, computer graphics, multimedia in technology applications, human-computer interaction, and educational telecommunications.

Interdisciplinary Studies, MA

Interdisciplinary Studies master's degrees

The interdisciplinary studies program offers students a high degree of flexibility in designing a program of study that cuts across disciplinary boundaries. Applicants to the master's program can pursue one of two approaches — either a self-styled plan or a recognized concentration. Under a self-styled plan, students design a program to address a particular intellectual interest or study a multidisciplinary issue that combines existing courses from any graduate area of the university. Applicants should contact the Graduate School to discuss their intention to seek a self-styled plan. A recognized concentration approach involves more structure in the courses taken built around a defined interdisciplinary theme. For either approach, the degree awarded upon completion of the program is a Master of Arts or Master of Science with a major in interdisciplinary studies.

Admission requirements

Applicants for admission to the degree in interdisciplinary studies must submit the following:

1. A completed Graduate School application form.
2. Complete transcripts from all colleges attended.
3. A non-refundable application fee.
4. Scores on the Personal Potential Index or the verbal, quantitative and analytical sections of the Graduate Record Examinations (GRE) or results from another standardized test such as the GMAT.

5. A current resume.
6. Two letters of recommendation.

After students are accepted into the program, but before they can begin taking classes, they will work with an academic advisor in the Toulouse Graduate School to develop a plan of study for the interdisciplinary program that includes the following:

1. goals for the program of study;
2. anticipated learning outcomes (i.e., what the student expects to have learned by the end of the program);
3. defined assessment methods for the learning outcomes. (The learning methods and outcomes must be designed in consultation with a faculty advisor or the entire advisory committee.) and
4. a degree plan worksheet approved by the Toulouse Graduate School and the faculty representatives from each of the disciplines from which they will take classes.

Applicants seeking admission to the recognized concentrations and guided programs of study should consult with the concentration's director for concentration specific admission requirements.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include no fewer than three separate fields of study with at least 6 hours in each field. 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 disciplines of the student's program, will be formed to help the student develop the degree plan and supervise progress.

Students may choose the non-thesis option and complete at least 30 semester hours for a Master of Arts or Master of Science. The thesis option requires 24 semester hours plus 6 hours of thesis, for a total of 30 hours.

For any non-thesis degree, the student will either successfully complete a capstone seminar, submit a portfolio of work designed in concert with the degree plan committee, or develop a project in concert with the advisory committee.

University Courses (UCRS)

University courses are interdisciplinary in nature and are available to students working toward the master's degree with the interdisciplinary major.

Interdisciplinary Studies, MS

Interdisciplinary Studies master's degrees

The interdisciplinary studies program offers students a high degree of flexibility in designing a program of study that cuts across disciplinary boundaries. Applicants to the master's program can pursue one of two approaches — either a self-styled plan or a recognized concentration. Under a self-styled plan, students design a program to address a particular intellectual interest or study a multidisciplinary issue that combines existing courses from any graduate area of the university. Applicants should contact the Graduate School to discuss their intention to seek a self-styled plan. A recognized concentration approach involves more structure in the courses taken built around a defined interdisciplinary theme. For either approach, the degree awarded upon completion of the program is a Master of Arts or Master of Science with a major in interdisciplinary studies.

Admission requirements

Applicants for admission to the degree in interdisciplinary studies must submit the following:

1. A completed Graduate School application form.
2. Complete transcripts from all colleges attended.
3. A non-refundable application fee.

4. Scores on the Personal Potential Index or the verbal, quantitative and analytical sections of the Graduate Record Examinations (GRE) or results from another standardized test such as the GMAT.
5. A current resume.
6. Two letters of recommendation.

After students are accepted into the program, but before they can begin taking classes, they will work with an academic advisor in the Toulouse Graduate School to develop a plan of study for the interdisciplinary program that includes the following:

1. goals for the program of study;
2. anticipated learning outcomes (i.e., what the student expects to have learned by the end of the program);
3. defined assessment methods for the learning outcomes. (The learning methods and outcomes must be designed in consultation with a faculty advisor or the entire advisory committee.) and
4. a degree plan worksheet approved by the Toulouse Graduate School and the faculty representatives from each of the disciplines from which they will take classes.

Applicants seeking admission to the recognized concentrations and guided programs of study should consult with the concentration's director for concentration specific admission requirements.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include no fewer than three separate fields of study with at least 6 hours in each field. 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 disciplines of the student's program, will be formed to help the student develop the degree plan and supervise progress.

Students may choose the non-thesis option and complete at least 30 semester hours for a Master of Arts or Master of Science. The thesis option requires 24 semester hours plus 6 hours of thesis, for a total of 30 hours.

For any non-thesis degree, the student will either successfully complete a capstone seminar, submit a portfolio of work designed in concert with the degree plan committee, or develop a project in concert with the advisory committee.

University Courses (UCRS)

University courses are interdisciplinary in nature and are available to students working toward the master's degree with the interdisciplinary major.

College of Arts and Sciences

Main Office
General Academic Building, Room 210

Mailing address:
1155 Union Circle #305189
Denton, TX 76203-5017
940-565-2497
Web site: www.cas.unt.edu

Michael Monticino, Dean

Jean B. Schaake, Associate Dean
Floyd McDaniel, Associate Dean
Steven Cobb, Associate Dean
Kathryn Cullivan, 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.

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 Linguistics and Technical Communication and the master's degree in speech-language 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
- Geography
- History
- Linguistics and Technical Communication
- Mathematics
- Philosophy and Religion Studies
- Physics
- Political Science
- Psychology
- Radio, Television and Film
- Speech and Hearing Sciences
- World Languages, Literatures and Cultures

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 Graduate School. For specific requirements for graduate degrees, contact the appropriate department chair or graduate advisor.

Professional Science master's degree option

The Professional Science Master's (PSM) is an innovative graduate degree option designed to allow students to pursue advanced training in science while simultaneously developing workplace skills highly valued by employers. PSM degrees prepare students for science and technology careers in business, government and nonprofit organizations. PSM degrees are MS degrees in an emerging or interdisciplinary area of science, mathematics or technology and contain a set of professional skills courses selected from such areas as business, communication, policy, law and leadership. Contrary to a traditional master's degree, a thesis is not required but a 3 or 6 semester credit hour internship is included within the science requirement. The departments of biological sciences and chemistry offer three PSM degrees:

- MS with a major in chemistry (industrial chemistry)
- MS with a major in molecular biology (biotechnology)
- MS with a major in environmental science

Additional information about these degrees can be found at www.psm.unt.edu and www.sciencemasters.com.

Department of Biological Sciences

Main Departmental Office
Life Sciences Building, Room A128

Mailing address:
1155 Union Circle #305220
Denton, TX 76203-5017
940-565-3627
Fax: 940-565-3821

Web site: www.biology.unt.edu

Art J. Goven, Chair

Mission

The Department of Biological Sciences provides contemporary course work and research-based education of the highest quality to students pursuing graduate degrees in three degree programs: biology, biochemistry and 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 Life Science Complex, 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 degrees in biology, biochemistry and molecular biology, and environmental science.

Research MS degrees require 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 in environmental science the Professional Science Master's (PSM); MS in molecular biology (PSM); and MA (course work only or course work plus problems in lieu of thesis) in biology.

Professional Science master's degree option

The Professional Science Master's (PSM) is an innovative graduate degree option designed to allow students to pursue advanced training in science while simultaneously developing workplace skills highly valued by employers. PSM degrees prepare students for science and technology careers in business, government and nonprofit organizations. PSM degrees are MS degrees in an emerging or interdisciplinary area of science, mathematics or technology and contain a set of professional skills courses selected from such areas as business, communication, policy, law and leadership. Contrary to a traditional master's degree, a thesis is not required but a 3 to 6 semester credit hour internship is included within the science requirement. The Department of Biological Sciences offers two PSM type degrees:

- MS with a major in molecular biology (biotechnology)
- MS with a major in environmental science

Additional information about these degrees can be found at www.psm.unt.edu and www.sciencemasters.com.

Application and admission to the programs

Biology, Biochemistry and 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 940-565-3627, the environmental science program at 940-565-2694, or from our web site (www.biology.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 and molecular biology, and environmental science.
2. Applicants must first apply and be admitted to the Toulouse Graduate School to be considered for admission to a degree program in biology, biochemistry and 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(s) contacted as prospective major professor/advisor; professional goals and objectives; the reason for choosing UNT, the Department of Biological Sciences and the specific area of interest (biology, biochemistry and 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 or 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., advisor) are eligible for admission to a graduate program in biology, biochemistry and molecular biology, or environmental science. Students admitted to the Professional Science Master's program may select a major professor (i.e. advisor) after admission.
4. **Application deadlines:** applications are reviewed on a rolling admissions format; however, for financial support purposes completed applications must be received in the department on or before the following dates.

Fall term/semester	March 1
Spring term/semester	October 1

The environmental science graduate program application deadlines are:

Fall term/semester	January 15
Spring term/semester	September 15

The environmental science graduate program does not accept applications to begin during summer.

5. **Departmental acceptance criteria.**
 - a. **Master's degree (MA/MS):**
 - Unconditional admission to the Toulouse Graduate School.
 - Complete application.
 - A letter of intent to the department, including the specific program and degree sought (MA, MS, PSM or PhD); faculty members contacted as prospective professor/advisor; professional goals and objectives; the reason for choosing UNT, the Department of Biological Sciences and the specific area of interest (biology, biochemistry and 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 English 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 are 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, but not for 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, 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.
- International applicants needing confirmation of teaching assistantship eligibility must provide passing scores on either the Test of Spoken English (TSE) administered by the Educational Testing Service (minimum score of 50) or the Internet Based TOEFL (iBT) Speaking Section (minimum score of 26).
- Agreement by a faculty member to serve as the applicant's major professor (i.e. advisor) is required for programs in biology, biochemistry and molecular biology, and environmental science.

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. However, such students are advised to explore the Graduate School's non-degree (GNDE) program until satisfying departmental criteria. Provisionally accepted students must satisfy all admission provisions, including deficiency courses, within the time designated by the department at the time of admission or they will be dismissed 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/advisor; professional goals and objectives; the reason for choosing UNT, the Department of Biological Sciences and the specific area of interest (biology, biochemistry and 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 English 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, but not for 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.
- International applicants needing confirmation of teaching assistantship eligibility must provide passing scores on either the Test of Spoken English (TSE) administered by the Educational Testing Service (minimum score of 50) or the Internet Based TOEFL (iBT) Speaking Section (minimum score of 26).
- 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. advisor) is required for programs in biology, biochemistry and molecular biology, and environmental science.

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. advisor) are eligible for admission to a graduate program in biology, biochemistry and molecular biology, and environmental science.

Financial support

Most biological sciences graduate students are supported through teaching assistantships (TAs) or 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 \$14,000 for entering master's students and up to \$19,000 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. Funding commitments may be up to a maximum of 3 years for the master's degree and 6 years for the PhD. Contact the Graduate Secretary at 940-565-3627 for further information about assistantships. Contact Student Financial Aid and Scholarships at 940-565-2302 for student loan information.

Institute of Applied Sciences

Main Office
Environmental Education, Science and Technology Building, Room 215

Mailing address:
1155 Union Circle #310559
Denton, TX 76203-5017
940-565-2694

Web site: www.ias.unt.edu
E-mail: atkinson@unt.edu

Samuel Atkinson, 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, 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.

Center for Remote Sensing

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.

Center for Watershed and Reservoir Assessment and Management

Surface reservoirs in Texas currently provide 55 percent of drinking water for Texas citizens and serve as significant sources of water for agriculture, industry and recreation. However, maintaining these services

is becoming increasingly more difficult and complex. The center offers scientific knowledge and expertise to address the current and emerging watershed scale issues of Texas. The center's expertise is based on more than 60 years of problem-solving research and state-of-the-art 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, Room 120

Mailing address:
1155 Union Circle #305220
Denton, TX 76203-5017
940-565-3615
E-mail: gwgross@cnnn.org

Guenter W. Gross, Director

Students interested in neurobiology, electrophysiology, neuropharmacology, neurochemistry or biophysics can participate in transdisciplinary investigations directed at the self-organization of small nerve cell networks and their ability to generate and process spatio-temporal patterns. Direct applications of network dynamics to the fields of pharmacology, toxicology, drug development, tissue-based biosensors and modeling of complex systems have been demonstrated and represent ongoing research efforts.

The center uses *in vitro* preparations with primary focus on monolayer cultures of mammalian central nervous system cells growing on high density microelectrode arrays. Parallel recording with 64 or 256 amplifier systems allows long-term monitoring of network action potential production used for quantification of network responses to chemical and pharmacological compounds or to electrical stimulation. Sophisticated multichannel data processing programs support such analyses. In order to achieve high throughput, an 8-network 256-electrode platform, coupled to a liquid handling robot, is being tested for reproducibility and applications to rapid toxicity screening. The CNNS pioneered much of the microelectrode array technology and has extensive international contacts.

Center for Plant Lipid Research

Life Sciences Building, A 126B
Mailing address:
1155 Union Circle #305220
Denton, TX 76203-5017
940-565-2969
E-mail: chapman@unt.edu

Kent D. Chapman, Director

The Center for Plant Lipid Research coordinates diverse research activities focusing on basic and applied aspects of research in the regulation of plant lipid metabolism. Several cooperating laboratories constitute the center, including researchers in the biology and chemistry departments at UNT; the Health Sciences Center at the University of Missouri, Kansas City; and the Samuel Roberts Noble Foundation at Ardmore, Oklahoma. Center scientists are seeking to understand through contemporary cellular, biochemical and molecular genetic approaches how lipids influence the growth and development of plants. Efforts also contribute to the discovery of new products and uses for plant-derived lipids and their potential public benefit.

Laboratory of Forensic Anthropology and Human Identification

Life Sciences Building, Rooms A 403-405
Mailing address:
1155 Union Circle #305220
Denton, TX 76203-5017
E-mail: harrell@unt.edu

Harrell Gill-King, Director

The Laboratory of Forensic Anthropology and Human Identification is a component of the UNT System's Center for Human Identification housed at the UNT Denton campus and the UNT Health Science Center at Fort Worth. The laboratory provides human remains location and recovery assistance to law enforcement and medicolegal professionals across the U.S. and postmortem laboratory analysis. The laboratory participates in the Combined DNA Index System (CODIS) by entering samples from unknown human remains. The laboratory provides graduate academic training and accredited professional training to law enforcement and medicolegal investigators and to a number of federal agencies.

The main laboratories (osteology lab, decomposition lab and x-ray facility) are housed in the Department of Biological Sciences, as are the J.R. Lott Osteology Reference Collection and teaching labs. Cooperating entities include the Zooarchaeology Laboratory located in the Department of Geography, the Center for Remote Sensing located in the environmental science program and the electron microscopy facility located in the Center for Advanced Research and Technology at Discovery Park. Ongoing research activities include remote digital image analysis of clandestine burials, thermobaric effects on human bone, skeletal endocrinology and pathology related to drug use, isotopic analysis of human diet, taphonomy, and techniques in human identification.

Master's Degree

Biochemistry and Molecular Biology, MS

Faculty research interests in biochemistry and molecular biology (BMB) reflect the broad nature of this discipline, including biochemistry, molecular genetics, systems biology, developmental biology, cell biology, metabolism, and organism interactions with the environment in microbial, plant and animal systems. A specially tailored degree plan is determined in consultation with the student's major advisor and graduate committee members. Research laboratories are equipped with state-of-the-art growth facilities and instrumentation for in depth study of functional genomics, gene discovery, metabolomics, protein/nucleic acid structure and function, and molecular and cellular imaging. Visit www.biology.unt.edu for more information on the research interests of the BMB faculty.

Degrees in Biochemistry and Molecular Biology

Option 1

Master of Science with a major in biochemistry and molecular biology is a research program of 30 hours of graduate credit at the 5000 and 6000 course level beyond the bachelor's degree, including 6 hours of thesis.

Option 2

Master of Science with a major in biochemistry and molecular biology is a non-thesis professional science master's (PSM) degree that prepares students interested in biotechnology for careers in industry and government. The PSM degree option requires 36 hours of graduate credit at the 5000 and 6000 course level beyond the bachelor's degree, including a 4 to 6 hour internship.

Biochemistry and molecular biology graduate core courses

The MS with a major in biochemistry and molecular biology is designed to provide a graduate-level foundation followed by advanced study and research. Students are required to successfully complete a minimum of three BMB foundation courses across the disciplines of biochemistry, molecular genetics and cell biology (equivalent to 9 hours), and an additional three courses (equivalent to 9 hours) selected from foundation, advanced and supporting electives, in consultation with the student's advisory committee. Supporting electives courses may be in biology, chemistry, computer science, mathematics or physics. Contact the department for further details on qualifying foundation, advanced and supporting elective courses. Students must enroll in BIOL 5860 at least once per year for the duration of their degree.

Option 1, Master of Science requirements and procedures

During the second long term/semester, the student, in consultation with the major professor, selects an advisory committee of two other faculty members from the department faculty. A copy of the form designating the committee should be filed with the graduate advising secretary before the student's third long term/semester.

1. 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. The degree plan consists of 9 hours of foundation and 9 hours of advanced/electives courses, and 6 hours of thesis. Only 3 hours of special problems (5900-5910) may be counted toward the degree plan. The number of individual research (6940) hours counted toward the degree plan, is determined by the major professor 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. Master's degree 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 for the correction of deficiencies and are not included in the graduate degree plan hours.

2. Before registering for the third long semester, a formal research proposal, outlining objectives to complete the thesis should be submitted to the major professor and advisory committee for approval.
3. After the approved research proposal is filed the student may register for thesis. Once registered for 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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School.
4. Following approval by the major professor, a draft of the completed thesis must be submitted to the committee at least one week prior to the defense of the thesis and final examination.
5. A formal seminar based on the thesis must be presented by the student during the student's final term/semester. The student must schedule a room for and publicly advertise the seminar and defense. Directly following the seminar, the student defends the thesis in a final oral examination conducted by the major professor and advisory committee.
6. The student is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.
7. A final copy of the thesis must be submitted to the Department of Biological Sciences main office either bound or on disk in pdf format.

Option 2, Professional science master's degree requirements and procedures

Candidates are required to complete a curriculum composed of 14 hours in core biology/biochemistry/molecular biology related courses and 6 hours of elective science courses in the same disciplines, and an additional 12 hours of non-science professional development courses selected from a list of courses in business, public administration, communication, philosophy, economics and writing. The course of study is selected with the guidance of a graduate advisory committee. A 4 to 6 hour internship is also required. Satisfactory completion of a written comprehensive exit examination is required of all candidates.

Biology (Teaching in the Life Sciences), MS

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) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major 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 with a major 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, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

Degrees in biology

The **Master of Science (MS) with a major 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.

Biology, 18 hours

The degree requires 18 hours in biology:

- BIOL 5260 - Principles of Evolution
- BIOL 5830 - Advanced Genetics
- BIOL 6150 - Communication in Scientific Teaching and Research
- plus 9 elective graduate hours in biology

Secondary education, 18 hours

- EDSE 5002 - Everyone Can Learn: Applying Theory to Teaching Practice
- EDSE 5004 - Literacy for All
- EDSE 5005 - Curriculum Development for Diverse Secondary School Learners
- EDSE 5105 - Practicum I
- EDSE 5115 - Practicum II
- EDSE 5470 - Maintaining Classroom Discipline

Additional information

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's degree requirements and procedures

Biology and Environmental Science programs

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 with a major 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.

The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in 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 Toulouse Graduate School.

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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. 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 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, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/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 advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major 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.

Biology with a concentration in Computational Life Science, MS

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) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major 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 with a major 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, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

Master of Science with a major in Biology and concentration in Computational Life Science

Required courses

- BIOL 5130 - Biostatistics I
- BIOL 5810 - Biocomputing

Plus two of the following

- BIOL 5005 - Contemporary Topics in Biology 3 hours (when taught as "Bioinformatics and Comparative Genomics" or a similar topic)
- BIOL 5140 - Biostatistics II
- BIOL 5820 - Computational Epidemiology
- BIOL 5830 - Advanced Genetics
- BIOL 6810 - Advanced Topics in Computational Life Science
Note: Students in the concentration also may be recommended by their thesis committee to take additional computer science and or math courses suitable for their research projects.

Master's degree requirements and procedures

Biology and Environmental Science programs

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 with a major 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.

The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in 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 Toulouse Graduate School.

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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. 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 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, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/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 advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major 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.

Biology with a concentration in Sub-Antarctic Biocultural Conservation, MS

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) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major 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 with a major 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, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

Master of Science with a major in Biology and concentration in Sub-Antarctic Biocultural Conservation

Thirty-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.

Required

In addition to meeting all requirements for the department's MS degree, formal course work shall include

- BIOL 5053 - Subantarctic Biocultural Conservation
- PHIL 5000 - Environmental Ethics
- BIOL 5950 - Master's Thesis (6 hours)
- Research to satisfy requirements for BIOL 5950 will be performed in the Sub-Antarctic Region of South America.
- At least one of the committee members must come from the University of Magallanes, Punta Arenas, Chile.

Master's degree requirements and procedures

Biology and Environmental Science programs

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 with a major 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.

The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in 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 Toulouse Graduate School.

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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. 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 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, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/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 advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major 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.

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 with a major 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.

The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in 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 Toulouse Graduate School.

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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. 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 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, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/

Biology, MA

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) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major 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 with a major 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, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

Degree requirements

The **Master of Arts (MA) with a major in Biology** is a 36-hour non-thesis degree with 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.

Master's degree requirements and procedures

Biology and Environmental Science programs

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,

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 advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major 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.

Biology, MS

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) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major 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 with a major 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, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

Degree requirements

The **Master of Science (MS) with a major 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's degree requirements and procedures

Biology and Environmental Science programs

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 with a major 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.

The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in 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 Toulouse Graduate School.

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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. 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 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, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/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 advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major 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.

Environmental Science, MS

Environmental Science program

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 to examine major environmental issues through an interdisciplinary perspective. 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 for those students who desire an interdisciplinary perspective concerning human–environmental interactions.

Visit www.biology.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 analysis, and environmental modeling. Information on degree requirements follows the program descriptions.

Environmental Science degrees

Master of Science (MS) with a major in Environmental Science, Option 1 is 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.

Master of Science (MS) with a major in Environmental Science, Option 2 is a non-thesis degree that prepares students interested in environmental science for careers in industry and government. The Professional Science Master's (PSM) degree option requires 36 semester credit hours (SCH) of organized course work at the 5000 and 6000 levels, including a 3 to 6-hour internship. Candidates are required to complete a curriculum composed of 10 SCH in core environmental science related courses and 12 SCH of elective environmental science courses, and an additional 12 SCH of non-science professional development or "plus" courses selected from a list of courses in business, public administration, communication, philosophy, economics and writing. The course of study is selected with the guidance of a graduate advisory committee. Satisfactory completion of a written comprehensive exit exam is required of all students.

Master's degree requirements and procedures

Biology and Environmental Science programs

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 with a major 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.

The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in 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 Toulouse Graduate School.

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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. 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 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, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/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 advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major 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.

Doctorate

Biochemistry and Molecular Biology, PhD

Faculty research interests in biochemistry and molecular biology (BMB) reflect the broad nature of this discipline, including biochemistry, molecular genetics, systems biology, developmental biology, cell biology, metabolism, and organism interactions with the environment in microbial, plant and animal systems. A specially tailored degree plan is determined in consultation with the student's major advisor and graduate committee members. Research laboratories are equipped with state-of-the-art growth facilities and instrumentation for in-depth study of functional genomics, gene discovery, metabolomics, protein/nucleic acid structure and function, and molecular and cellular imaging. Visit www.biol.unt.edu for more information on the research interests of the BMB faculty. Information on degree requirements follows the program descriptions.

The Doctor of Philosophy (PhD) with a major in biochemistry and molecular biology is a research program of 90 hours of graduate credit at the 5000 and 6000 course level beyond the bachelor's degree, including a 12-hour dissertation.

Biochemistry and molecular biology graduate core

The PhD in biochemistry and molecular biology (BMB) is designed to provide a broad, graduate-level foundation, followed by advanced study and research to foster professional specialization. Students are required to successfully complete a minimum of four BMB foundation courses across the disciplines of biochemistry, molecular genetics, cell biology and BMB tools (one course in each discipline, equivalent to 12 hours) and an additional four courses (equivalent to 12 hours) selected from foundation, advanced and supporting electives, in consultation with the student's advisory committee. Supporting elective courses may be in biology, chemistry, computer science, mathematics or physics. Contact the department for further details on qualifying foundation, advanced and supporting elective courses. Students must enroll in BIOL 5860 at least once per year for the duration of their degree.

Doctoral degree requirements and procedures

- During the second long term/semester, the student, in consultation with the major professor, selects 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 members 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.
- 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 90 hours for students having only a bachelor's degree, including a minimum of 12 hours of foundation and 12 hours of advanced/electives courses, and 12 hours of dissertation. Only 6 hours of special problems (6900-6910) may be counted towards the degree plan. The number of individual research (6940) hours counted toward the degree plan is determined by the major professor 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 for the correction of deficiencies and are not included in the graduate degree plan hours.
- Doctoral students may take written and oral candidacy examinations only after completing a minimum of four (equivalent to 12 hours) of foundation courses and two (equivalent to 6 hours) advanced courses. Oral examinations may be taken only after the student has passed all written examinations. All exams must be completed within one month, and must be completed by the end of the fifth long semester. 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 examining professor sets guidelines for administration of written examinations. The student is responsible for scheduling rooms for the examinations.
- Before registering for the sixth long semester, a formal research proposal, outlining current progress and objectives to complete the dissertation should be submitted and defended to the major professor and advisory committee for approval.
- Students may not register for dissertation hours (6950) until all formal courses (excluding seminar), candidacy exams and the research proposal are complete and approved, and documentation is filed with the graduate advising secretary. PhD candidates should be actively writing their dissertations while taking dissertation hours. Once registered for dissertation, the student must maintain continuous enrollment in at least 3 hours of 6950 during each long 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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. 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.
- 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.
- 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. Directly following the seminar, the candidate defends the dissertation in a final oral examination conducted by the major professor and advisory committee.
- The candidate is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.
- 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.

Biology with a concentration in Exercise Physiology, PhD

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) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major 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 with a major 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, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

Doctor of Philosophy with a major in Biology and concentration in Exercise Physiology

The PhD with a major in biology and concentration in exercise physiology 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.

Students entering the PhD program in biology with a concentration in exercise physiology will be required to meet all biological sciences entrance requirements. Additionally, graduate doctoral committees will be required to have three members from biological sciences.

Required courses

- KINE 5190 - Neuromuscular Physiology of Exercise
- KINE 5200 - Cardiovascular Physiology of Exercise

Plus two of the following

- BIOL 5250 - Advanced Human Physiology
- BIOL 5330 - Developmental Biology
- BIOL 5505 - Comparative Animal Physiology

Doctoral degree requirements and procedures

Biology, Biochemistry and Molecular Biology, and Environmental Science programs

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 advisor 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 university 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. 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 may not register for dissertation hours (6950) until a research proposal is filed with the graduate advising secretary for programs in biology, biochemistry and molecular biology, and environmental science.

5. 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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. 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.
6. 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 and 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.
7. 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.
8. 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 and molecular biology, or environmental science.
9. Directly following the seminar, the candidate defends the dissertation in a final oral examination conducted by the major professor and advisory committee.
10. The candidate 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 dissertation must be submitted to the Department of Biological Sciences main office either bound or on disk in .pdf format.

Biology, PhD

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) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major 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 with a major 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, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

Doctor of Philosophy in Biology

The **Doctor of Philosophy (PhD) with a major 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.

Doctoral degree requirements and procedures

Biology, Biochemistry and Molecular Biology, and Environmental Science programs

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 advisor 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 university 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. 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 may not register for dissertation hours (6950) until a research proposal is filed with the graduate advising secretary for programs in biology, biochemistry and molecular biology, and environmental science.
5. 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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. 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.
6. 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 and 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.
7. 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.
8. 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 and molecular biology, or environmental science.
9. Directly following the seminar, the candidate defends the dissertation in a final oral examination conducted by the major professor and advisory committee.
10. The candidate 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 dissertation must be submitted to the Department of Biological Sciences main office either bound or on disk in .pdf format.

Environmental Science, PhD

Environmental Science program

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 to examine major environmental issues through an interdisciplinary perspective. 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 for those students who desire an interdisciplinary perspective concerning human-environmental interactions.

Visit www.biology.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 analysis, and environmental modeling. Information on degree requirements follows the program descriptions.

PhD with a major in Environmental Science

Doctor of Philosophy with a major in Environmental Science is a research degree, with a major, innovative dissertation project required for all students.

Students entering the PhD program immediately after a bachelor's degree are required to take a minimum of 90 hours of graduate-level course work (the number may be higher, depending on the individual degree plan), while students entering the program with a master's degree are required to take a minimum of 60 additional hours (the number may be higher, depending on the individual degree plan). A five- to six-member doctoral committee will help the student select courses for a degree plan.

The requirements for the PhD with a major in environmental science include the following:

- Foundation Core, 5 hours
- 12 credit hours from at least three of the core groups
- 7 organized elective courses (incoming without master's degree) or 4 organized elective courses (students with previous master's degree in a related field, such as biology, chemistry or environmental science)
- 12 hours of dissertation research

Organized electives, which do not include special problems credit hours or research credit hours, may be selected from the core groups as electives or from non-core options as agreed upon by the student's advising committee.

Doctoral degree requirements and procedures

Biology, Biochemistry and Molecular Biology, and Environmental Science programs

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 advisor 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 university 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. 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 may not register for dissertation hours (6950) until a research proposal is filed with the graduate advising secretary for programs in biology, biochemistry and molecular biology, and environmental science.
5. 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 dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. 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.

6. 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 and 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.
7. 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.
8. 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 and molecular biology, or environmental science.
9. Directly following the seminar, the candidate defends the dissertation in a final oral examination conducted by the major professor and advisory committee.
10. The candidate 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 dissertation must be submitted to the Department of Biological Sciences main office either bound or on disk in .pdf format.

Department of Chemistry

Main Departmental Office
Chemistry Building, Room 101

Mailing address:
1155 Union Circle #305070
Denton, TX 76203-5017
940-565-2713

Web site: www.chem.unt.edu
E-mail: chem@unt.edu

William Acree, Chair

Student stipends, including teaching assistantships and research fellowships, are available from a variety of sources. Stipends vary in amount, depending upon demonstrated academic and research experience. Further information may be obtained from the Department of Chemistry's Student Services Office.

Research

Research programs include analytical, computational, inorganic, organic, physical and forensic 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; computational chemistry method development; computer-aided catalyst design; computational organic chemistry; chemical vapor deposition; and reactivities of metal and oxide surfaces.

The department possesses more than \$6.3 million of capital equipment, including 400 MHz and 500 MHz multinuclear FT-NMR with CP/MAS solids capability, Auger/ESCA, FT-IR, Raman, mass spectrometers, HPLC, GCs, GCMSs, Powder XRD, single crystal XRD, AA, UV-vis, electrochemical analyzers, stopped-flow kinetic analyzer, pulsed-laser flash photolysis, laser-induced fluorescence spectrometers, thermal analysis, ICP-MS. Within the chemistry department, there are four computer server rooms, which house several state-of-the-art Linux computer clusters and super computers, entailing more than 2,000 cores available for the department's computational chemistry research endeavors.

Full-time PhD-level staff manage the x-ray diffraction laboratory, NMF facilities, high performance computing facilities and instrumentation laboratory. 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, Reata Pharmaceuticals, Pacific Northwest National Laboratory, Los Alamos National Laboratory, National Science Foundation, Oak Ridge National Laboratory, Sandia National Laboratories, the UNT Faculty Research Fund and several industrial fellowships.

Degree programs

A major in chemistry is available at both the master's and doctoral levels (see degree list at bottom of page).

Concentrations are available at the master's level in analytical, industrial, inorganic, organic or physical chemistry or chemistry education.

Concentrations at the doctoral level are available in analytical, inorganic, organic or physical chemistry or chemistry education.

Additional information regarding 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.

Admission requirements

Departmental forms for applying for teaching and research support may be obtained from the Student Services Office in the Department of Chemistry or from the department web site. Complete college transcripts, two letters of recommendation, statement of purpose, C.V. and acceptable GRE scores are required for conditional admission. Contact the department for information concerning competitive admission test scores.

New students should contact the Student Services Office 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 chair of the chemistry Graduate Affairs Committee serves as advisor to the beginning student. When a field of specialization and a major professor have been selected, a committee is then selected in consultation with his or her research advisor 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.

Professional Science master's degree option

The Professional Science Master's (PSM) is an innovative graduate degree option designed to allow students to pursue advanced training in science while simultaneously developing workplace skills highly valued by employers. PSM degrees prepare students for science and technology careers in business, government and nonprofit organizations. PSM degrees are MS degrees in an emerging or interdisciplinary area of science, mathematics or technology and contain a set of professional skills courses selected from such areas as business, communication, policy, law and leadership. Contrary to a traditional master's degree, a thesis is not required but a 3 or 6 semester credit hour internship is included within the science requirement. 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. Students must meet the normal proficiency requirements set forth by the departments. 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).

The Department of Chemistry offers one PSM degree option:

- Master of Science with a major in chemistry (industrial chemistry)

Additional information about this degree can be found at www.psm.unt.edu and www.sciencemasters.com.

Master's Degree

Chemistry, MS

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 his/her research professor and the 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. The degree requirements are determined by consultation with the graduate affairs committee.

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 advisor, the student may choose a 30-semester-hour program, including thesis, or a 36-semester-hour program without thesis. 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.

Under each option above, a minimum of 18 hours of the formal graduate courses must be in the chemistry department. Of these 18 hours, course work must include three 3-hour graduate-level (5000 or above) lecture classes in any of the four traditional areas of chemistry (analytical, inorganic, organic, physical). Students must meet the normal proficiency requirements set forth by the department. The other 9 hours may include courses in chemistry education or other approved chemistry courses. The remaining 18 hours required for the chemistry education concentration are the graduate courses required for certification, if the student is not already certified. If the student is already a certified teacher, the 18 remaining hours may be selected from graduate-level chemistry courses or other approved graduate courses. No more than 3 credits of seminar may be included in the required 30 or 36 hours.

Doctorate

Chemistry, PhD

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 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, tool-subject (course options for the tool-subject are available from the department), and CHEM 6010, the student will apply to the dean of the Toulouse Graduate School for admission to candidacy for the Doctor of Philosophy degree. This should be done at least one year before graduation.

Department of Communication Studies

Main Departmental Office
General Academic Building, Room 309

Mailing address:
1155 Union Circle #305268
Denton, TX 76203-5017
940-565-2588

Fax: 940-565-3630

Web site: www.comm.unt.edu

John M. Allison, Chair

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; 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; 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 College of Information section of this catalog for more information.

Research

Research interests of the faculty in the Department of Communication Studies include the following areas:

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 and procedures

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.

To be considered for admission to the master's program in communication studies, you must submit an online application, college transcripts, and GRE scores to the UNT Toulouse Graduate School (graduateschool.unt.edu) In addition, you must submit additional supporting materials to the Department of Communication Studies. Only complete applications will be considered for admissions decisions.

The Department of Communication Studies encourages early applications. The department has a limited number of available slots in the program and an even more limited number of assistantships to award each semester. Applications received by the deadlines indicated below receive priority consideration.

In addition to financial support through assistantships, the Toulouse Graduate School administers a competitive program that awards fellowships each fall semester. Students are ineligible to apply directly for fellowships; nominations must come from the department's Graduate Standards Committee. If you are interested in receiving a nomination for the fellowship program, submit all materials detailed below by December 15 of the year prior to the fall in which you wish to enroll.

For Fall semesters: application review for the Fall admissions begins January 15, and continue until available slots are filled.

For Spring semesters: application review for Spring admissions begin August 1, and continue until available slots are filled.

Please submit the following information for evaluation by the Toulouse Graduate School:

1. An online application through ApplyTexas (www.applytexas.org/adappc/gen/c_start.WBX). Graduate School application fee is due at the time of application.
2. Official transcripts from all colleges and universities that you have attended.
3. Verbal, quantitative and analytical writing scores for the Graduate Record Examination. (The department does not admit students who have not had GRE scores reported to the graduate school.)

These materials should be mailed to the Toulouse Graduate School via the U.S. Postal Service or via UPS/Federal Express. Please note that addresses differ depending on the method selected.

U.S. Postal Service

UNT Graduate School
1155 Union Circle #305459
Denton, TX 76203-5017

UPS/Federal Express

UNT Graduate School
1147 Union Circle, ESSC 354
Denton TX 76203-5459

In addition to the material submitted directly to the Toulouse Graduate School, please submit the following, additional supporting materials directly to the Department of Communication Studies:

1. A signed letter of application that includes a statement in which you address your purpose in undertaking graduate study in the communication studies department. In addition to indicating the semester and year you would like to enter the program, include professional plans, career goals and areas of research interest.
2. A current vita or resume in which you address each of the following areas (as applicable):
 - a. educational background;
 - b. previous work experience;
 - c. publications, performances, exhibitions or other scholarly activities;
 - d. previous research experience, including publications; and/or
 - e. involvement in community activities.
3. Two signed letters of recommendation from individuals familiar with your academic and/or professional abilities. At least one letter must be from a professor at the last academic institution attended; one letter may be submitted by a current or past employer. Academic references are preferred. The writer should submit his/her letter directly to the department.
4. An essay or writing sample from a junior- or senior-level undergraduate course or an honors thesis. The writing sample must demonstrate your proficiency at conducting and reporting research.
5. If you are interested in applying for a teaching assistantship, please fill out an application located on the important documents page of the department web site (communication.unt.edu/graduate/important-documents).

These materials should be sent directly to the Department of Communication Studies. Please note that addresses differ depending upon the method selected.

E-mail attachments

COMMStudies@unt.edu

We encourage submission of supplemental materials to the department as attachments to e-mail. Please note, however, that we *require* signed letters of recommendation. These letters may be sent as e-mail attachments if the sender prints the letter, signs it and scans it as a .pdf file before attaching it to an e-mail.

U.S. Postal Service

Director of Graduate Studies
Department of Communication Studies
University of North Texas
1155 Union Circle #305628
Denton, TX 76203-5017

UPS/Federal Express

Director of Graduate Studies
Department of Communication Studies
University of North Texas
225 Avenue B
General Academic Building, Room 309
Denton, TX 76201

The Department of Communication Studies conducts holistic reviews in making admissions decisions. In examining application materials submitted, we seek a positive indication of potential success in the program. In addition to the materials listed above, the department may consider an applicant's potential to enhance the intellectual diversity of the department and program, to enhance the diversity of the program or the university, and/or other factors that might provide evidence of potential success in the graduate program in communication studies.

Master's Degree

Communication Studies, MA

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 5930 - Research Problems in Lieu of a 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 and written and oral comprehensive examinations.

Candidates for the Master of Arts degree must meet the university foreign language requirement.

Communication Studies, MS

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 5930 - Research Problems in Lieu of a 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 and written and oral comprehensive examinations.

Department of Dance and Theatre

Main Departmental Office
Radio, TV, Film and Performing Arts Building, Room 242

Mailing address:
1155 Union Circle #310607
Denton, TX 76203-5017
940-565-2211

Dance Office
Stovall Hall, Room 180
940-565-3432

Web site: www.danceandtheatre.unt.edu

Lorenzo Garcia, Chair

The Department of Dance and Theatre is dedicated to the professions of theatre 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 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 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 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.

Department of Economics

Main Departmental Office
Hickory Hall, Room 254

Mailing address:
1155 Union Circle #311457
Denton, TX 76203-5017
940-565-2573
Web site: economics.unt.edu

Todd Jewell, Chair

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 a degree in the following program:

- Master of Science degree with a major in economic research

This degree is highly applied in nature and focuses on quantitative methods and econometrics.

Many of the research and educational efforts of the department are coordinated through its affiliated units. These units include the Center for Economic Education, the Center for International Economic Studies and Research, and the Center for Environmental Economic Studies and Research.

The department also participates in the offering of a graduate academic certificate in economic geography.

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 falls 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, non-linear and non-normal regression, 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 in 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 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, growth, convergence 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 Science with a major in economic research.

Applicants must first apply to and be admitted to the Toulouse Graduate School 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); competitive Graduate Record Examination (GRE) scores (both quantitative and analytical); a personal essay; resume; 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.

Competitive test scores must be submitted before a student can enroll for a second term/semester in the program. For information regarding acceptable GRE scores, contact the graduate advisor in the Department of Economics. Applicants whose native language is not English are required to score at least a 79 on the Internet-based TOEFL exam, or its equivalent.

Applicants must submit a personal essay of no more than 1,500 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.

Personal essay, resume and letters should be sent directly to the graduate advisor in the Department of Economics.

Prerequisites

Although no specific undergraduate major is required, an appropriate background is desirable. Applicants for the 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 ECON 1110)
- 6 hours of Intermediate Economic Theory (ECON 3550 and ECON 3560),
- Introduction to Econometrics (ECON 4870)
- 7 hours of Calculus (MATH 1710 and MATH 1720)
- and an appropriate background in probability and statistics (ECON 5630 or MATH 4610 and MATH 4650).

Degree programs

The department offers the Master of Science with a major in economic research. All students must develop a degree plan in consultation with the graduate advisor.

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 economic research 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 advisor 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.

Master's Degree

Economics Research, MS

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 advisor. 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-ECON 5930). The second option is to take 6 hours of additional graduate economics courses.

Required courses

- ECON 5330 - Advanced Macroeconomic Theory
- ECON 5340 - Advanced Microeconomic Theory
- ECON 5600 - Mathematical Economics
- ECON 5650 - Advanced Econometrics

Graduate Academic Certificate

Economic Geography certificate

The economics and geography departments offer an interdisciplinary certificate in analysis of geographic data. Eighteen (18) hours of course work are required, including four core courses and two electives (one economics and one geography). A grade of B or better is required in every course counted toward the certificate. All course prerequisites must be met.

Required core courses

- ECON 5030 - Microeconomic Analysis
or
- ECON 5340 - Advanced Microeconomic Theory
- ECON 5750 - Urban Economics
- GEOG 5220 - Applied Retail Geography

Economics elective

One of the following:

- ECON 5150 - Public Economics
- ECON 5440 - Economics of Natural Resources and Environment
- ECON 5640 - Multivariate Regression Analysis
- ECON 5645 - Empirical Linear Modeling

Geography elective

One of the following:

- GEOG 5130 - Research in Human Geography
- GEOG 5210 - Seminar in Urban Geography

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Department of English

Main Departmental Office
Auditorium Building, Room 112

Mailing address:
1155 Union Circle #311307
Denton, TX 76203-5017
940-565-2050

Web site: www.engl.unt.edu

David Holdeman, Chair

The faculty of the Department of English is a body of dynamic teachers and researchers, committed to instruction in British, American, and Anglophone literary and cultural studies, creative writing, and rhetoric and composition from the earliest periods to the present day. Courses in literary criticism and theory educate students in classical and postmodern modes of analysis, and various special topics courses offer students the opportunity to study literature and culture across the conventional boundaries of period and discipline. The department prides itself not only on the quality of its teaching but also on its international scholarly reputation. Professors publish their work in top academic journals and in monographs and editions published by university presses. The department sponsors the American Studies Colloquium, the Early British Literature Colloquium, and the Medieval and Renaissance Colloquium, as well as the quarterly journal *Studies in the Novel*.

The creative writing faculty features several nationally recognized writers whose books have been published by Farrar, Straus and Giroux; Harper Collins; University of Illinois Press; LSU Press; and Oxford University Press among others. Stories, essays, and poems by the faculty also appear in publications such as *The Paris Review*, *The Yale Review*, *Michigan Quarterly Review*, *The New York Times*, *Image*, *Ploughshares*, *Denver Quarterly*, *TriQuarterly*, *The Threepenny Review*, *Best American Poetry*, and *Best American Spiritual Writing*. One distinctive strength of graduate creative writing is that students have the opportunity to work closely with both the creative writing and literature faculties, and to explore ways in which knowledge of literary traditions develops craft. Creative writing students take workshops in fiction, poetry, and/or creative nonfiction alongside a range of literature courses. To complete the degree, students write either a creative thesis (for the MA with a major in creative writing) or a creative dissertation with a critical preface (for the PhD in English). Each year the department sponsors a Visiting Writer Series that brings distinguished writers to campus to give readings and meet with students in Q&A sessions. 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*.

Degree programs

The Department of English offers the following degrees:

- Master of Arts with a major in creative writing
- Master of Arts with a major in English
- Doctor of Philosophy with a major in English

A concentration in creative writing is available under the PhD with a major in English.

Master of Arts with a major in Creative Writing or English

Admission requirements and procedures

Applicants must first meet the qualifications for admission set by the Toulouse Graduate School. To be eligible for admission to the MA with a major in English or creative writing, applicants must have at least a 3.0 GPA on the last 60 hours of undergraduate semester credit 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). Applicants accepted into the MA program have presented verbal scores ranging from the 50th to the 98th percentile and analytical writing scores ranging from 3.0 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, and scores on the internet-based TOEFL have ranged from 87 to 108. TOEFL scores are not accepted in lieu of GRE scores.

Applicants for the MA program must also meet the departmental qualifications for admission by having completed up to 24 hours of undergraduate course work in English. Applicants with fewer than 24 hours of undergraduate course work in English may be admitted to the program, and the director of graduate studies will determine the prerequisite course work based on an applicant's educational background and area of scholarly interest.

Financial support

Full-time students in English who meet all qualifications may apply to be academic assistants or graders. Occasionally opportunities arise for those having completed 18 graduate hours to apply for a teaching fellowship. All applications are available at www.engl.unt.edu/graduate/job-opportunities.

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 knowledge, 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-ENGL 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's degree, the student is required to file a degree plan with the Graduate Studies in English office. Students should obtain an appointment with the graduate advisor as soon as possible after the registration period during their second term/semester's work.

Comprehensive examination

MA candidates must pass the master's comprehensive examination. This examination is administered by the Department of English and is given each fall and spring semester. Students must register for this examination at the appropriate time in the Graduate Studies in English office. Students should consult with the graduate advisor 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 admissions committee. No student will be permitted to take the exam a fourth time. Students must first pass the comprehensive examination in order to register for thesis hours.

Application deadline

- January 1 for admission in the fall semester

Application checklist

All applicants

All applicants for the MA program should send the following materials **directly to the Toulouse Graduate School**:

1. A completed Graduate Studies Application form with the intended major (creative writing or English) indicated in the appropriate blank.
2. Official Graduate Record Examination (GRE) scores sent from the Educational Testing Service. Applicants must take the GRE verbal and analytical writing sections.
3. Official scores from the Test of English as a Foreign Language (TOEFL) for students whose native language is not English.
4. Official transcripts for all previous undergraduate and graduate academic work.

Applicants for the MA with a major in Creative Writing

Applicants for the MA with a major in creative writing should send the following materials via e-mail attachment **directly to the Graduate Studies in English Office** at GradEnglishStudies@unt.edu:

1. a 300–500 word personal statement describing the applicant’s specific area of interest (creative nonfiction, fiction or poetry), career plans, and purpose in working toward an MA;
2. a writing sample (10 pages of poetry or 15–25 pages of fiction); and
3. two letters of recommendation that assess the candidate’s potential for pursuing graduate-level work in creative writing. Recommendation cover letters may be downloaded from the department web site at www.english.unt.edu/graduate/applying-graduate-program. Please provide referees the above e-mail address for file attachment.

Note: Paper applications to the department are no longer accepted. Send all department-bound application materials to the e-mail address above.

Applicants for the MA with a major in English

Applicants for the MA with a major in English should send the following materials via e-mail attachment **directly to the department’s Graduate Studies in English Office** at GradEnglishStudies@unt.edu:

1. a 300–500 word personal statement describing the applicant’s specific area of literary interest, career plans, and purpose in working toward an MA;
2. a sample of critical, literary analysis and interpretation (10–15 pages); and
3. two letters of recommendation that assess the candidate’s potential for pursuing graduate level work in English literature. Recommendation cover letters may be downloaded from the department web site at www.english.unt.edu/graduate/applying-graduate-program. Please provide referees the above e-mail address for file attachment.

Note: Paper applications to the department are no longer accepted. Send all department-bound application materials to the e-mail address above.

Time limitation for the master’s degree

All master’s students have six years to complete their degree requirements.

Doctor of Philosophy with a major in English

Admission requirements and procedures

Applicants must meet the qualifications for admission set by the Toulouse Graduate School as well as departmental admission requirements. Applicants may pursue a PhD in English by writing a literature dissertation or a creative dissertation. Admission to the doctoral program in English is competitive.

All applicants must meet the following minimum standards.

1. **Academic record.** The applicant must have at least a 3.5 overall GPA on all undergraduate semester credit 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.
2. **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.
3. **TOEFL.** Applicants whose native language is not English must also submit TOEFL scores. Applicants accepted have presented TOEFL computer-based test scores ranging from 233 to 293, and scores on the internet-based TOEFL have ranged from 87 to 115. TOEFL scores are not accepted in lieu of GRE scores.

Application deadlines

- January 1 for admission in the fall semester

Application checklist

Applicants should send the following materials **directly to the Toulouse Graduate School**:

1. A completed Graduate Studies Application form with the intended major (creative writing or literature) indicated in the appropriate blank.
2. Official transcripts for all previous undergraduate and graduate academic work.
3. Official Graduate Record Examination (GRE) scores sent from the Educational Testing Service. Candidates applying for the PhD program must take the GRE verbal and analytical writing sections.
4. Official scores from the Test of English as a Foreign Language (TOEFL) examination for students whose native language is not English.

Applicants should send the following materials via e-mail attachment **directly to the Graduate Studies in English Office of the Department of English** at GradEnglishStudies@unt.edu:

1. Letter of intent. The letter should describe the applicant’s scholarly or creative interests, and should explain why the applicant wants to work toward a Doctor of Philosophy with a major in English.
2. Writing Sample(s). All applicants must submit one substantial example of critical writing (12–20 pages). Those interested in pursuing a creative dissertation must also submit a sample of their creative writing (10 pages of poetry or 15–25 pages of fiction).
3. Three confidential letters of reference that assess the applicant’s potential contribution to the discipline. Recommendation cover letters may be downloaded from the department web site at www.english.unt.edu/graduate/applying-graduate-program. Please provide referees with the above e-mail address for file attachment.
4. A current curriculum vitae.

Note: Paper applications to the department are no longer accepted. Send all department-bound application materials to the e-mail address above.

If you have questions about the degree or application process, please contact the Graduate Studies in English Office at 940-565-2114.

Time limitation for the doctoral degree

Doctoral students have eight years to complete their degree requirements.

Financial assistance

All applicants who meet all qualifications for both the doctoral program and for instructional positions will be considered for employment as graders, academic assistants, or teaching fellows in the Department of English. 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.

Departmental scholarships may be awarded to incoming graduate students who show unusual promise as indicated by their application credentials.

Residence

The student must meet the doctoral residence requirement described in the Doctoral Degree Requirements section of this catalog.

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 advisor to decide what foreign language is most appropriate for his or her graduate program and scholarly interests. Some advisors may require additional foreign language work. The

student's advisor 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 World Languages, Literatures and Cultures 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 examination.

Master's Degree

Creative Writing, MA

All students must complete 36 hours of course work as follows:

Core areas

Critical theory, 3 hours

- ENGL 5810 - Survey of Critical Theory

Creative writing, 6–12 hours

- ENGL 5162 - Creative Writing: Creative Nonfiction
- ENGL 5420 - Creative Writing: Poetry
- ENGL 5820 - Creative Writing: Prose Fiction

Form and theory, 3 hours from

- 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 literature courses.

Cognate area, 0–3 hours

In any discipline demonstrated to be relevant to the student's course of study. Permission of the director of graduate studies is required.

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. No student will be allowed to register for thesis hours until the foreign language requirement has been met and the MA comprehensive examination has been passed.

English, MA

Program requirements

Required courses, 9 hours

- ENGL 5750 - Bibliography and Historical Method
- ENGL 5760 - Scholarly and Critical Writing
- ENGL 5810 - Survey of Critical Theory

Area courses

Non-thesis option, 27 hours

In addition to the required courses listed above, the student who chooses to earn an MA without writing a master's thesis or who is not given permission to write a thesis must complete 27 semester credit hours of additional course work.

Thesis option, 21 hours

In addition to the required courses listed above, the student who chooses to write a thesis will complete 21 hours of course work (including 6 hours of thesis). No student who has permission to write a thesis will be allowed to register for thesis hours until the foreign language requirement has been met and the MA comprehensive examination has been passed.

Doctorate

English, PhD

Curriculum

The majority of students entering the doctoral program do so having earned an MA (usually in English). Such students must complete 60 semester credit hours of graduate work beyond the MA. Students holding a BA must complete 90 credit hours of graduate work beyond the bachelor's degree and should consult the additional requirements below. All students must select a faculty advisor and determine a degree focus within the first 27 hours of course work.

Pending review by the Department of English, doctoral students may be approved to take additional electives if competencies have been met during the master's degree. Students must, in consultation with the graduate advisor, seek such approval during the first semester of doctoral course work.

Program requirements, 60 hours

Foundation courses, 12 hours

- ENGL 5550 - Studies in the Teaching of Composition
- ENGL 5750 - Bibliography and Historical Method
- ENGL 5760 - Scholarly and Critical Writing
- ENGL 5810 - Survey of Critical 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, 12 hours

Students take 12 hours of elective courses in English. Students are limited to two Special Problems courses, except by permission of the director of graduate studies.

Directed research, 6 hours

The student must take 6 hours of directed research. The student may not enroll in directed research until the foreign language requirement has been met.

- ENGL 6941 - Directed Research
- ENGL 6942 - Directed Research
- ENGL 6944 - Directed Research

Dissertation, 12 hours

The student must take 12 hours of dissertation. The student may not enroll in dissertation hours until the PhD examination, the foreign language requirement, and the directed research requirements have been met.

- ENGL 6950 - Doctoral Dissertation

Program requirements with a concentration in creative writing, 60 hours

Foundation courses, 12 hours

- ENGL 5550 - Studies in the Teaching of Composition
- ENGL 5760 - Scholarly and Critical Writing
- ENGL 5810 - Survey of Critical Theory

- ENGL 5140 - Form and Theory: Poetry
or
- ENGL 5145 - Form and Theory: Prose
(ENGL 5140 or ENGL 5145 must be taken in genre of focus)

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

Required creative writing courses, 12 hours

A combination of four workshops, including one outside genre of focus, chosen from the following.

- ENGL 5162 - Creative Writing: Creative Nonfiction
- ENGL 5420 - Creative Writing: Poetry
- ENGL 5820 - Creative Writing: Prose Fiction

Note

All workshops must be taken during PhD course work at UNT.

Directed research, 6 hours

The student must take 6 hours of Directed Research (ENGL 6941, ENGL 6942 and ENGL 6944). The student may not enroll in Directed Research until the foreign language requirement has been met.

Dissertation, 12 hours

The student must take 12 hours of dissertation (ENGL 6950). The student may not enroll in dissertation hours until the PhD examination, the foreign language requirement, and the directed research requirements have been met.

Additional requirements

Qualifying examination

Ideally, the student will take the PhD qualifying examination during the first term/semester after the completion of organized course work. The PhD examination will be administered by the student's dissertation committee.

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 admissions committee.

The student must pass the following:

- one four-hour written comprehensive examination in the primary area,
- one four-hour written examination in a secondary area, and
- one two-hour oral examination.

The student must pass these examinations before being permitted to register for dissertation hours.

The student's major advisor 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 that covers both areas.

After the student passes the written and oral examinations, the student must file a PhD Comprehensive Examination Form with the Graduate Studies in English Office.

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 ENGL 6942, must be turned in to the dissertation committee after successfully completing the Qualifying Examinations.

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 filed with the Office of Graduate Studies in English. 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 director of graduate studies. Students may not enroll for dissertation until the prospectus has been approved by the dissertation committee and filed with the Office of Graduate Studies in English.

Dissertation requirement

1. A dissertation is required of all candidates for the doctorate. The dissertation must be an original work of scholarly or creative writing justifying the awarding of the doctoral degree. A creative dissertation must also include a critical preface. Students can enroll for dissertation credit only when

- the dissertation prospectus has been approved by all members of the student's dissertation committee and has been filed with the Office of Graduate Studies in English, 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 the Doctoral Degree Requirements section of this catalog.

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 advisors and the director 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).

5. Instructions for submitting the approved dissertation may be obtained from the Toulouse Graduate School. Students should consult the Academic Calendar at www.unt.edu/catalog/calendar.htm for deadlines.

Additional requirements for 90-hour program

Students in the 90-hour program must take an additional 30 credit hours of electives.

Department of Geography

Main Departmental Office
Environmental Education, Science and Technology Building, Room 210

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1155 Union Circle #305279
Denton, TX 76203-5017
940-565-2091

Web site: www.geog.unt.edu

Paul Hudak, Chair

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 who 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 more than 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 in North America and New Zealand.

Admission requirements

Application for admission to the Toulouse Graduate School is made through the graduate school. Concurrently, a letter of intent should be sent directly to the Department of Geography's graduate advisor. 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. 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 Graduate School for information concerning acceptable admission test scores.

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 several teaching assistants. 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 UNT-International to help students gain scholarships, student loans and other forms of assistance.

Master's Degree

Applied Geography, MS

The Master of Science degree with a major in applied geography has a minimum requirement of 36 hours of academic credit, which includes either: (a) a 6-hour thesis or (b) a 3-hour research problems in lieu of thesis report (GEOG 5920) and an additional 3 semester credit hours from elsewhere in the curriculum.

Core courses

Students are required to take core classes for each of the first three semesters according to the following sequence:

- GEOG 5000 - Graduate Seminar and
- GEOG 5160 - Foundations of Geographic Thought
- GEOG 5190 - Advanced Quantitative Techniques
- GEOG 5800 - Research Design and Graphic Applications

Additional requirements

Students are required to complete any required preparatory work for GEOG 5190 (Advanced Quantitative Techniques) during their first semester.

Individual student's degree plans and the composition of the student's committee are defined in the beginning of the second term/semester of attendance in consultation with the student's major professor and the graduate advisor.

All students are required to take comprehensive exams during their third semester (or between 18 and 27 semester credit hours). The exam is scheduled once every semester. The exam has two components: a formal written exam and a professional presentation (see www.geog.unt.edu for more details).

No grade below a B will count toward the degree. Any grade below a B must be replaced by retaking the course the next time it is offered and earning at least a B. Students may retake no more than two such courses. A third grade below a B will result in the student being removed from the program.

Students must present (and defend) the results of their research problems in lieu of thesis report or their completed thesis. The oral presentation and defense is administered after the major professor and the thesis committee members have approved the written version of the thesis or research report. At the completion of 30 semester credit hours students will not be allowed to change their initial decision to choose either the thesis or non-thesis option. Graduate students who have not graduated one year after completion of course work must formally apply for an extension to remain in the program (see www.geog.unt.edu for details). If a student does not demonstrate satisfactory progress toward the completion of the thesis or research report within 1.5 years of successfully defending their thesis proposal, a grade of F will be automatically assigned for the thesis. Students have the right to appeal this decision to the graduate committee.

Students must complete 6 hours of work in a cognate field (minor concentration). As an option, students may elect to follow one of the specific degree tracks currently offered: applied geomorphology, environmental archaeology, urban environments management, water resources management or applied GIS.

Applied geomorphology

This track prepares geography students for careers or further education in a wide variety of areas concerned with processes that shape the surface of the earth. Applied geomorphology emphasizes geomorphological processes that are of societal significance, including hazards such as flooding, expansive soils, landslides and coastal erosion. This track under the Master of Science with a major in Applied Geography enables students to structure their degree plans around conceptual and technical aspects of applied geomorphology. The track meets all existing requirements for the degree including required courses in research design, quantitative techniques and a cognate field. Students completing this track may find employment with government research and regulatory agencies, municipalities, planning organizations, water supply districts or environmental consulting firms.

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. 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. 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 a chosen subset of the following groups: GIS technology, GIS applications, topics/cognate fields, real estate/marketing, public health administration, environmental science and applied economics.

Graduate Academic Certificate

Geographic Information Systems (GIS) certificate

This certificate 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. A grade of B or better is required in every course counted toward the certificate.

Required courses

A five-course sequence fulfills the requirements for the certificate in GIS.

- GEOG 5520 - Intermediate Geographic Information Systems
- GEOG 5550 - Advanced Geographic Information Systems
- GEOG 5560 - Introduction to GIS Programming
- GEOG 5590 - Advanced GIS Programming
- GEOG 5570 - Special Topics in GIS

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Department of History

Main Departmental Office
Wooten Hall, Room 225

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940-565-2288
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Web site: www.hist.unt.edu

Richard B. McCaslin, Chair

The Department of History offers graduate programs leading to the following degrees:

- Master of Arts with a major in history (requiring one foreign language)
- Master of Science with a major in history
- Doctor of Philosophy with a major in history (requiring one foreign language)

Fields are available at the master's level in United States history and European history.

Fields are available at the doctoral level in United States history, European history and military history.

Course offerings include a wide variety of classes on the history of the United States; ancient, medieval and modern Europe; Latin America; China; South Asia; the Middle East; Africa; modern Russia and Soviet history; women's and gender history; 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. 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, the Civil War, Native Americans, 20th-century United States, oral history, World War II, England, France, Italy, Germany, and the history of science.

Military History Center

The Department of History is home to the Military History Center, 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 Military History Center at 940-565-2288.

Admission requirements

1. All general admission requirements of the Toulouse Graduate School, as outlined elsewhere in this bulletin, must be fulfilled.
2. **MA or MS 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, or complete a project in lieu of 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 dismissed 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 dismissed from the degree program.
 - b. The student must also fulfill the residence requirement outlined in the Doctoral Degree Requirements section in this catalog.
 - c. To remain in the doctoral program, the student must satisfy existing university regulations concerning completion of the doctoral 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 February 15 of each year.

Master's Degree

History, MA

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 or complete a project in lieu of thesis.

History major (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 department chair 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.

History major (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.

History, MS

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 or complete a project in lieu of thesis.

History major (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 department chair 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.

History major (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.

Doctorate

History, PhD

Degree requirements

The Doctor of Philosophy with a major in history is offered in three fields: United States, Europe and military. All students pursuing the PhD in history will be examined for four areas of history, at least two

of which must be within their primary field, United States, Europe or military. Students pursuing the PhD in United States history will be examined in at least one non-United-States area; students pursuing the PhD in European history will be examined in at least one non-European area; and students pursuing the PhD in military history will be examined in two non-military areas. 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 terms/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 advisor 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 advisor and approved by the chair of the department and the dean of the Toulouse Graduate School.

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 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 Graduate School 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.

Department of Linguistics and Technical Communication

Main Departmental Office
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1155 Union Circle #305298
Denton, TX 76203-5017
940-565-4458

Web site: www.LingTechComm.unt.edu

Brenda Sims, Chair

The Department of Linguistics and Technical Communication offers students the opportunity to immerse themselves in the study of language—its structure, use, design and application. Students may specialize in linguistics, English as a second language or technical communication. The faculty encourages students to take courses in all the areas represented and seek new synergies between these distinct, yet interrelated fields.

The Department of Linguistics and Technical Communication has outstanding faculty from diverse backgrounds with research interests motivated by a common interest in language structure and use. The department is recognized as a pioneer program for an interdisciplinary study that integrates linguistics and technical communication and that will lead to new avenues of investigation and practical applications with local, national and international relevance.

The Department of Linguistics and Technical Communication is becoming a unique internationally recognized program for the interdisciplinary study of language. The faculty's research and teaching directly benefit the immediate community by disseminating knowledge that has relevance for diverse cultures, races and ethnicities and for professional, business and industrial communities.

The mission of the Department of Linguistics and Technical Communication is to promote interdisciplinary

- study of language and language acquisition, rhetoric and technical communication;
- analysis of techniques that clarify and enrich human communication;
- examination of structures, design and intent of discourse;
- application of research to real-world issues through local and international community outreach programs, internships and corporate partnerships; and
- independent and collaborative research and teaching.

Students graduating with a master's degree with a major in professional and technical communication have enjoyed a 100 percent job placement rate since 2000. These graduates work in a variety of industries such as computer software and hardware, airlines, construction, consulting, and telecommunications. 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 Communication Quarterly*, *Technical Communication*, *IEEE Transactions on Professional Communication*, and *Journal of Business Communication*. Our faculty and students work in partnership with regional and national companies, state and local government agencies, and non-profit organizations across the United States. The technical communication program at UNT offers students the opportunity to gain the theory and practice to work as technical communicators in any industry. Students also have the opportunity to complete internships in major companies across the U.S. Students have interned with major companies such as Microsoft, Southwest Airlines, Balfour Beatty and Sabre. Those students seeking to enter PhD programs receive the kind of personal attention that results in subsequent placement into PhD programs of the highest caliber.

The graduate program in linguistics 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 department are 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 department's MA/ESL graduates speaks for itself.

Master's Degree

English as a Second Language (ESL), MA

Admission and degree requirements

Admission requirements and procedures

Applicants for the MA with a major in professional and technical communication, linguistics or ESL complete two parts. The applicant first files an application with the Toulouse Graduate School (available on the UNT Graduate School web site). The applicant then submits the following to the Department of Linguistics and Technical Communication:

- a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MA; and
- a current vita or resume.

To be eligible for admission to the MA with a major in professional and technical communication, linguistics or ESL, applicants must have at least a 3.0 GPA on the last 60 hours of undergraduate semester credit 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). Applicants accepted into the MA with a major in professional and technical communication, linguistics or ESL have presented verbal scores ranging from the 50th to the 99th 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 professional and technical communication must have completed up to 9 hours of undergraduate course work in technical writing. The advisor will determine the prerequisite course work based on the applicant's educational background.

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 Linguistics and Technical Communication may apply for a teaching fellowship. Applications for both may be requested from the department by telephone at 940-565-4458, or the department web site at www.LingTechComm.unt.edu.

Foreign language requirement

All candidates pursuing a master's degree in the Department of Linguistics and Technical Communication 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 LING 5920-LING 5930 and LING 5950 or in TECM 5950 will not be allowed to register for these courses until the foreign language requirement has been met.

Degree plan requirement

During the second term/semester of graduate work toward the master's degree, the student is required to file a degree plan with the department office. 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 who major in professional and technical communication and candidates for the MA with majors in linguistics and ESL who choose 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 Department of Linguistics and Technical Communication and is given every February and October. Students must register for this examination at the appropriate time in the department office. Students should consult with the graduate advisor 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

Applicants should send the following materials directly to the Toulouse Graduate School:

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 Linguistics and Technical Communication must take the GRE verbal and analytical writing sections.
3. Official scores from the Test of English as a Foreign Language (TOEFL) examination for students whose native language is not English.
4. Official transcripts for all previous undergraduate and graduate academic work.

Applicants for the MA with majors in professional and technical communication, linguistics, and ESL should send the following materials directly to the Department of Linguistics and Technical Communication:

1. a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MA; and
2. a current vita or resume.

Candidates also applying for an academic assistantship or teaching fellowship should send the following directly to the Department of Linguistics and Technical Communication:

1. A teaching fellowship/academic assistantship application.
2. Three letters of recommendation that assess the candidate's potential both as scholar and as teacher.
3. Writing samples comprising two polished pieces (e.g., a research paper, manual, proposal, or other piece of technical communication).

Degree requirements

Option 1, Thesis

Requires 36 hours of course work.

- LING 5060 - Second Language Acquisition
- LING 5080 - Teaching English as a Second Language
- LING 5090 - Pedagogical English Grammar
- LING 5300 - Phonology
- LING 5310 - Syntax
- LING 5340 - Practicum in Teaching English as a Second Language

- 12 additional hours of graduate-level linguistics courses
- Written comprehensive examination
- Thesis prospectus defense
- Master's thesis (including 6 hours of ENGL 5950)
- Thesis defense

Option 2, Scholarly papers

Requires 36 hours of course work.

- LING 5060 - Second Language Acquisition
- LING 5080 - Teaching English as a Second Language
- LING 5090 - Pedagogical English Grammar
- LING 5300 - Phonology
- LING 5310 - Syntax
- LING 5340 - Practicum in Teaching English as a Second Language
- 12 additional hours of graduate-level linguistics courses
- Written comprehensive examination
- Prospectus defense
- Two original scholarly papers (6 hours of LING 5920-LING 5930)
- Defense of each scholarly paper

Option 3, Written exam

Requires 36 hours of course work.

- LING 5060 - Second Language Acquisition
- LING 5080 - Teaching English as a Second Language
- LING 5090 - Pedagogical English Grammar
- LING 5300 - Phonology
- LING 5310 - Syntax
- LING 5340 - Practicum in Teaching English as a Second Language
- 18 additional hours of graduate-level linguistics courses
- Written comprehensive examination

Option 4, Professional development project

Note: option 4 not currently accepting students.

Students approved for Option 4 must take their second year of course work at UAEM-Toluca, Mexico. Students must complete LING 5040 with a B or higher as a prerequisite to entering the joint program.

Course requirements, first year

- LING 5060 - Second Language Acquisition
- LING 5070 - Bibliography and Methods of Research in Linguistics/ESL
- LING 5090 - Pedagogical English Grammar
- LING 5300 - Phonology
- LING 5310 - Syntax
- 3 additional hours of graduate-level linguistics

Course requirements, second year

- Seminario de aplicación innovadora del conocimiento (Seminar on the Innovative Application of Knowledge [of Linguistics])
- Teoría y diseño curricular (Curriculum Theory and Design)
- Enseñanza de lenguas extranjeras (Teaching Foreign Languages)
- Evaluación (Evaluation)
- 6 horas de temas selectos (6 hours of electives)

Electives

Electives are to be chosen from the following UAEM courses:

- Semántica y pragmática (Semantics and Pragmatics)
- Métodos de la enseñanza del inglés como segunda lengua (Methods of Teaching ESL)
- Métodos de campo en lingüística (Methods of Field Work in Linguistics)
- Sociolingüística (Sociolinguistics)
- Professional Development Project

During the second year, students will begin work on their professional development project in *práctica*. The project will consist of two elements: a paper reporting the project and an oral defense. In the paper, students will identify specific teaching challenges related to ESL/EFL teaching, e.g., problems with teaching skill areas, success of classroom activities, or issues of classroom management. The paper must include the following:

- A full description of the problem to be addressed.
- A review of current research on the topic.
- Possible solutions to the teaching challenge in light of contemporary methodological paradigms.
- Evidence of the joint MA student implementing solutions in the classroom during the practicum for example, detailed lesson plans and description of classroom activities and assessments.
- Analysis of the success of the revised approach to teaching, including comparison of results of student assessments under different methods of teaching.

After students complete the paper, their committee will conduct an oral defense of the professional development project. At least three members of the committee will be faculty from UNT; it will also have at least one committee member on faculty at UAEM.

Thesis and scholarly papers requirement

A student is permitted to write a thesis or scholarly papers only with the permission of the director 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 and passed the MA comprehensive exam.

Linguistics, MA

Admission and degree requirements

Admission requirements and procedures

Applicants for the MA with a major in professional and technical communication, linguistics or ESL complete two parts. The applicant first files an application with the Toulouse Graduate School (available on the UNT Graduate School web site). The applicant then submits the following to the Department of Linguistics and Technical Communication:

- a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MA; and
- a current vita or resume.

To be eligible for admission to the MA with a major in professional and technical communication, linguistics or ESL, applicants must have at least a 3.0 GPA on the last 60 hours of undergraduate semester credit 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). Applicants accepted into the MA with a major in professional and technical communication, linguistics or ESL have presented verbal scores ranging from the 50th to the 99th 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 professional and technical communication must have completed up to 9 hours of undergraduate course work in technical writing. The advisor will determine the prerequisite course work based on the applicant's educational background.

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 Linguistics and Technical Communication may apply for

a teaching fellowship. Applications for both may be requested from the department by telephone at 940-565-4458, or the department web site at www.LingTechComm.unt.edu.

Foreign language requirement

All candidates pursuing a master's degree in the Department of Linguistics and Technical Communication 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 LING 5920-LING 5930 and LING 5950 or in TECM 5950 will not be allowed to register for these courses until the foreign language requirement has been met.

Degree plan requirement

During the second term/semester of graduate work toward the master's degree, the student is required to file a degree plan with the department office. 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 who major in professional and technical communication and candidates for the MA with majors in linguistics and ESL who choose 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 Department of Linguistics and Technical Communication and is given every February and October. Students must register for this examination at the appropriate time in the department office. Students should consult with the graduate advisor 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

Applicants should send the following materials directly to the Toulouse Graduate School:

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 Linguistics and Technical Communication must take the GRE verbal and analytical writing sections.
3. Official scores from the Test of English as a Foreign Language (TOEFL) examination for students whose native language is not English.
4. Official transcripts for all previous undergraduate and graduate academic work.

Applicants for the MA with majors in professional and technical communication, linguistics, and ESL should send the following materials directly to the Department of Linguistics and Technical Communication:

1. a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MA; and
2. a current vita or resume.

Candidates also applying for an academic assistantship or teaching fellowship should send the following directly to the Department of Linguistics and Technical Communication:

1. A teaching fellowship/academic assistantship application.
2. 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, manual, proposal, or other piece of technical communication).

Degree requirements

Option I 36-hour program with thesis

- LING 5300 - Phonology
- LING 5310 - Syntax
- 24 additional hours of graduate-level linguistics courses
- Written comprehensive examination
- Thesis prospectus defense
- Master's thesis (including 6 hours of LING 5950)
- Thesis defense

Option II 36-hour program with scholarly papers

- LING 5300 - Phonology
- LING 5310 - Syntax
- 24 additional hours of graduate-level linguistics courses
- Written comprehensive examination
- Prospectus defense
- Two original scholarly papers (including 6 hours of LING 5920-LING 5930)
- Defense of each scholarly paper

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

Professional and Technical Communication, MA

Admission and degree requirements

Admission requirements and procedures

Applicants for the MA with a major in professional and technical communication, linguistics or ESL complete two parts. The applicant first files an application with the Toulouse Graduate School (available on the UNT Graduate School web site). The applicant then submits the following to the Department of Linguistics and Technical Communication:

- a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MA; and
- a current vita or resume.

To be eligible for admission to the MA with a major in professional and technical communication, linguistics or ESL, applicants must have at least a 3.0 GPA on the last 60 hours of undergraduate semester credit 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). Applicants accepted into the MA with a major in professional and technical communication, linguistics or ESL have presented verbal scores ranging from the 50th to the 99th 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 professional and technical communication must have completed up to 9 hours of undergraduate course work in technical writing. The advisor will determine the prerequisite course work based on the applicant's educational background.

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 Linguistics and Technical Communication may apply for a teaching fellowship. Applications for both may be requested from the department by telephone at 940-565-4458, or the department web site at www.LingTechComm.unt.edu.

Foreign language requirement

All candidates pursuing a master's degree in the Department of Linguistics and Technical Communication 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 LING 5920-LING 5930 and LING 5950 or in TECM 5950 will not be allowed to register for these courses until the foreign language requirement has been met.

Degree plan requirement

During the second term/semester of graduate work toward the master's degree, the student is required to file a degree plan with the department office. 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 who major in professional and technical communication and candidates for the MA with majors in linguistics and ESL who choose 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 Department of Linguistics and Technical Communication and is given every February and October. Students must register for this examination at the appropriate time in the department office. Students should consult with the graduate advisor 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

Applicants should send the following materials directly to the Toulouse Graduate School:

- A completed graduate application form with the intended major indicated in the appropriate blank.
- Official Graduate Record Examination (GRE) scores sent from the Educational Testing Service. Candidates applying for all MA programs in Linguistics and Technical Communication must take the GRE verbal and analytical writing sections.
- Official scores from the Test of English as a Foreign Language (TOEFL) examination for students whose native language is not English.
- Official transcripts for all previous undergraduate and graduate academic work.

Applicants for the MA with majors in professional and technical communication, linguistics, and ESL should send the following materials directly to the Department of Linguistics and Technical Communication:

- a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MA; and
- a current vita or resume.

Candidates also applying for an academic assistantship or teaching fellowship should send the following directly to the Department of Linguistics and Technical Communication:

- 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, manual, proposal, or other piece of technical communication).

Degree requirements

Option I: Program with written examination, 36 hours

Core courses, 15 hours

15 hours selected from the following:

- TECM 5185 - Principles of Technical Communication
- TECM 5190 - Style and Technical Writing
- TECM 5195 - Editing Technical Documents
- TECM 5280 - Designing Technical Documents
- TECM 5285 - Technical Presentations

Topics Courses, 6 hours

6 hours selected from the following:

- TECM 5170 - Grants and Proposals
- TECM 5180 - Professional Writing
- TECM 5191 - Communication and Information Technologies
- TECM 5550 - Studies in the Teaching of Technical Communication

Practicum, 6 hours

- TECM 5640 - Practicum in Technical Communication

Cognate field, 9 hours

- 9 hours of graduate-level courses
- Before registering in these courses, students must seek the approval of the department

Comprehensive examination

Option II: Thesis program, 30 hours

Core courses, 15 hours

3–6 hours selected from the following:

- TECM 5185 - Principles of Technical Communication
- TECM 5190 - Style and Technical Writing
- TECM 5195 - Editing Technical Documents
- TECM 5280 - Designing Technical Documents
- TECM 5285 - Technical Presentations

Topics courses, 3–6 hours

3–6 hours selected from the following:

- TECM 5170 - Grants and Proposals
- TECM 5180 - Professional Writing
- TECM 5191 - Communication and Information Technologies
- TECM 5550 - Studies in the Teaching of Technical Communication

Thesis, 6 hours

See “Thesis requirement,” below.

- TECM 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 of the department

Comprehensive examinations and oral prospectus defense

Thesis requirement

The candidate for the MA degree with a major in professional and technical communication 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 and the MA comprehensive examination has been passed.

Graduate Academic Certificate

Teaching English to Speakers of Other Languages certificate

This program provides basic background and skills for teachers of English as a second or foreign language in 160 student-teacher contact hours including at least 40 contact hours of practicum.

All of the 5000-level courses may also count toward the MA with a major in English as a Second Language. Note that this program does **not** lead to teacher certification for Texas public schools.

Prerequisites for the certificate

- TOEFL is required for international students
- GRE is **not** required
- LING 4040
or
- LING 5040 - Principles of Linguistics or equivalent

Required courses

- LING 5060 - Second Language Acquisition
- LING 5080 - Teaching English as a Second Language
- LING 5090 - Pedagogical English Grammar
- LING 5340 - Practicum in Teaching English as a Second Language

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Department of Mathematics

Main Departmental Office
General Academic Building, Room 435

Mailing address:
1155 Union Circle #311430
Denton, TX 76203-5017
940-565-2155
Fax: 940-565-4805
Web site: www.math.unt.edu

Su Gao, Acting Chair

Opportunities for supervised research are available in a variety of areas involving pure and applied mathematics, and statistics.

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, statistics, 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.

Advising

All graduate students will consult with the graduate advisor regarding a program of study. Graduate students are evaluated annually regarding progress toward graduation. Those not making satisfactory progress will be dismissed from the mathematics program. Appeals for reinstatement may be made to the department's graduate affairs committee.

Admission requirements

Application for admission to the Toulouse Graduate School is made through the office of the dean of the Graduate School. The applicant should have the equivalent of an undergraduate major in mathematics at UNT. Deficiencies in this respect will be evaluated and must be remedied as a condition of final admission. A GRE or GMAT score is required. Contact the department or the Toulouse Graduate School concerning information about standardized admission test requirements.

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 a teaching assistant, math lab tutor or grader. The department has funds available for research assistants.

Contact the graduate advisor for complete details and for information about financial support.

Master's Degree

Mathematics, MA

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 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 Master's Degree Requirements section of this catalog for further details.

Required courses

A student in this program normally will take five of these six courses:

- MATH 5310 - Functions of a Real Variable
- MATH 5320 - Functions of a Real Variable
- MATH 5520 - Modern Algebra
- MATH 5530 - Selected Topics in Modern Algebra
- MATH 5610 - Topology
- MATH 5620 - Topology

Mathematics, MS

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.

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.

Required courses

The student normally will take five of these six courses:

- MATH 5310 - Functions of a Real Variable
- MATH 5320 - Functions of a Real Variable
- MATH 5520 - Modern Algebra
- MATH 5530 - Selected Topics in Modern Algebra
- MATH 5610 - Topology
- MATH 5620 - Topology

Doctorate

Mathematics, PhD

The changes in number of hours required for the degree from 90 hours to 72 hours for students entering with a bachelor's degree and from 60 hours to 54 hours for students entering with a master's degree are pending approval by the Texas Higher Education Coordinating Board.

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 advisor 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 at least 72 hours of graduate work in mathematics beyond the bachelor's degree, of which about half should be in courses numbered above 6000. Those students admitted with a master's degree in pure and/or applied mathematics will be expected to complete at least 54 hours of graduate work in mathematics beyond the master's degree.

Included in this work, the student will be expected to take (or previously have taken the equivalent of) the following core sequences:

- MATH 5310 - Functions of a Real Variable
- MATH 5320 - Functions of a Real Variable
- MATH 5410 - Functions of a Complex Variable

- MATH 5420 - Functions of a Complex Variable
- MATH 5520 - Modern Algebra
- MATH 5530 - Selected Topics in Modern Algebra
- MATH 5610 - Topology
- MATH 5620 - Topology

In addition

The student is required to take at least two 6000-level courses in each of the areas of algebra, analysis and topology.

Qualifying examinations

Before enrolling in the dissertation seminar, the student must pass qualifying examinations over two areas chosen from algebra, topology, real analysis, complex analysis, probability and statistics, and applied mathematics. 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.

Department of Philosophy and Religion Studies

Main Departmental Office
Environmental Education, Science and Technology Building, Room 225

Mailing address:
1155 Union Circle #310920
Denton, TX 76203-5017
940-565-2266

Web site: www.phil.unt.edu
E-mail: philosophy@unt.edu

Patricia Glazebrook, Chair

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 Master of Arts with a major in philosophy and the 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, policy, environmental science, public and private sector environmental firms, and non-governmental organizations. A non-thesis option is available for students pursuing non-academic and academic career opportunities.

The Department of Philosophy and Religion Studies oversees one of the world's leading doctoral programs in environmental philosophy and ethics. Foundational training in the history of western philosophy and religion provides the basis for specializations such as environmental policy, environmental justice, philosophy of ecology, eco-phenomenology, eco-feminism and environmental education while fostering interdisciplinary experiences.

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 Graduate School. This program permits students, in close consultation with a faculty advisor, 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.

Career opportunities for students who successfully complete the UNT PhD in philosophy and religion 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 religion arena may enhance their skills and education.

For detailed information about the graduate program, visit www.phil.unt.edu/programs/graduate.

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 Graduate School section for more information about this faculty and its research and instructional activities.

Research

Research in the department includes methods and philosophical implications of the social and natural sciences, phenomenology, literature, philosophy of science and technology, aesthetics, feminist philosophy, philosophy of religion and biblical studies, philosophy of mind and philosophical psychology, philosophy of education, philosophy of water, environmental justice, philosophy of ecology, philosophy of law and political philosophy, philosophy of food and history of philosophy. The primary specialization of the department is environmental ethics and environmental philosophy.

Scholarships and financial aid

Graduate teaching assistantships and fellowships and research assistantships are available from the department. Students interested in teaching assistantships and fellowships must mention their interest in their statements of purpose. All teaching assistants, teaching fellows, and research assistants 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 Graduate School is made through the graduate school. At the same time, a statement of purpose should be sent directly to the Department of Philosophy and Religion Studies along with a writing sample and three letters of recommendation. The statement of purpose should indicate the degree program being applied for and briefly summarize the applicant's background and specific interests as these relate to future career plans. The department offers admission to its graduate programs for fall term/semester only. Complete application materials must be received by January 1 each year for admission to the following fall term/semester.

Master's applicants normally should have a bachelor's degree from an accredited institution, while PhD applicants should have a master's degree in philosophy or a related field. Exceptions 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 or LSAT). For standardized admission test and additional admission requirements, contact the academic program or the Toulouse Graduate School.

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 fourth decade 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.

Master's Degree

Philosophy, MA

Two options exist for completing the Master of Arts with a major in philosophy: thesis and non-thesis.

Required courses, 18 hours

Environmental philosophy, 6 hours

- PHIL 5000 - Environmental Ethics
- PHIL 5010 - Seminar in the Philosophy of Ecology
- PHIL 6710 - Ecofeminism: Women's Studies and Environmental Ethics
- PHIL 6720 - Religion and Ecology
- PHIL 6730 - Christianity and the Environment
- PHIL 6740 - Environmental Ethics, Science and Public Policy
- PHIL 6750 - Environmental Justice
- PHIL 6760 - Topics in Environmental Philosophy

Philosophical topic specialization, 3 hours

- PHIL 5300 - Social and Political Philosophy
- PHIL 5400 - Seminar in Ethical Theory
- PHIL 5500 - Philosophy of Science and Technology
- PHIL 5600 - Philosophy of Religion
- PHIL 6110 - Epistemology
- PHIL 6150 - Metaphysics
- PHIL 6250 - Aesthetics

Philosophical history sequence, 6 hours

- PHIL 5100 - Ancient Philosophy
- PHIL 5200 - Modern Philosophy

Environmental science course, 3 hours

At least one graduate course in environmental sciences or related field determined in consultation with Graduate Advisor.

Thesis option

The student takes a total of 24 semester credit hours of approved course work and a thesis carrying 6 hours of credit (for a total of 30 credit hours). The student will normally take a minimum of six courses (18 credit hours) in philosophy. Up to 6 semester credit hours in supporting fields may be selected by the student with the consent of the department. An oral examination is scheduled after the completion of the thesis.

Non-thesis option

The student takes a total of 36 semester credit hours. At least seven courses (21 credit hours) are to be in the Department of Philosophy and Religion Studies. An additional three courses (9 credit hours) are to be in a minor field outside of the department. An additional two courses (6 credit hours) may be used satisfy further philosophical specialization, further study in supporting fields, and/or internship opportunities that enhance the practice of philosophy. An oral comprehensive examination is conducted during the final semester of the student's course work toward the non-thesis option. Effectively satisfying the student's degree plan will be part of the evaluation for the exit interview, which may involve more than one faculty from the department or the student's minor field.

Doctorate

Philosophy, PhD

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 and outstanding bachelor's degree applicants are welcome to apply. As appropriate, such students may be required to take up to 12 hours of graduate work in philosophy as foundational background for acceptance in the program.) Exceptions will be evaluated on an individual basis.
- 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 Graduate School at UNT.

In addition to meeting all of the requirements above, students applying for admission to the doctoral program in philosophy must submit three letters of recommendation, a writing sample representative of their best academic work in the field, 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), and a curriculum vitae.

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.

Departmental graduate course distribution requirement

In order to achieve its specific goal of offering its students a foundational training in environmental philosophy, the history of Western philosophy, agility in several topic areas of philosophy, and interdisciplinary experiences, students in the PhD program in philosophy must pass, with a grade of B or better, the course work listed to satisfy the course distribution requirements specific to the student category. Categories for students are determined according to the degree achieved upon admission to the program and upon department recommendation.

Category 1 students, 72 hours

Category 1 students: accepted to the PhD program with bachelor's degree in any discipline/field

- Required courses, 21 hours
- Elective courses, 39 hours
- Dissertation, 12 hours

Category 2 students, 42 hours

Category 2 students: accepted to the PhD program with master's degree in a discipline/field other than philosophy

- Required courses, 15 hours
- Elective courses, 15
- Dissertation, 12 hours

Category 3 students, 42 hours

Category 3 students: accepted to the PhD program with master's degree in philosophy

- Required courses, 12 hours
- Elective courses, 18 hours
- Dissertation, 12 hours

Environmental philosophy sequence, 6 hours

Required of all students (at least two courses)

- PHIL 5000 - Environmental Ethics
- PHIL 5010 - Seminar in the Philosophy of Ecology
- PHIL 6710 - Ecofeminism: Women's Studies and Environmental Ethics
- PHIL 6720 - Religion and Ecology
- PHIL 6730 - Christianity and the Environment
- PHIL 6740 - Environmental Ethics, Science and Public Policy
- PHIL 6750 - Environmental Justice
- PHIL 6760 - Topics in Environmental Philosophy

Philosophical topic specialization, 3 hours

Required of student categories 1 and 2

- PHIL 5300 - Social and Political Philosophy
- PHIL 5400 - Seminar in Ethical Theory
- PHIL 5500 - Philosophy of Science and Technology
- PHIL 5600 - Philosophy of Religion
- PHIL 6110 - Epistemology
- PHIL 6150 - Metaphysics
- PHIL 6250 - Aesthetics

Philosophical history sequence, 6 hours

Required of student categories 1 and 2

- PHIL 5100 - Ancient Philosophy
- PHIL 5200 - Modern Philosophy

Interdisciplinary study, 6 hours

Required of student categories 1 and 3

At least two courses outside of philosophy, determined in consultation with graduate advisor and major professor.

Dissertation, 12 hours

After completing all other course requirements and the qualifying exam requirement, students will enroll in 12 semester credit hours of dissertation writing over the remainder of the degree program.

Department of Physics

Main Departmental Office
Physics Building, Room 110

Mailing address:
1155 Union Circle #311427
Denton, TX 76203-5017
940-565-2626

Web site: www.phys.unt.edu

David Schultz, Chair

Students in the Department of Physics have the opportunity to obtain training with 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.

Housed in the Physics Building, the General Academic Building, the Science Research Building and Discovery Park, the laboratories associated with these programs include ultrahigh vacuum scanning tunneling microscopy, atomic force microscopy, near field optical microscopy, micro Raman, photoluminescence spectroscopy, static and dynamic laser light scattering, rheological characterization, UV-visible spectroscopy, and ultrafast optical spectroscopy facilities. These state-of-the-art facilities are used to investigate carbon nanotubes; carbon and diamond films; polymer gels and related biomaterials; self-assembly and phase behaviors of hydrogel nanoparticles; the crystallization, glass transition and gelation of colloidal dispersions; smart gels for sensors and device applications; nitride optoelectronics; quantum dots; plasmonic nanomaterials; intersubband QW optical devices; III-V semiconductor heterostructures; layered organic-inorganic perovskites; and biophotonics.

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 Graaff 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 sub parts-per-billion 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, elastic recoil detection, 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 Department of Energy, 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.

Degree programs

The Department of Physics offers graduate programs leading to the Master of Science and the Doctor of Philosophy, both with a major in physics

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 Graduate School. These requirements are described in this catalog and on the Toulouse Graduate School 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 advisor, 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.

Master's Degree

Physics, MS

Thesis option

The graduate credit requirements for the Master of Science degree is 36 semester hours chosen in the following manner:

- PHYS 5500 - Quantum Mechanics I
- PHYS 5510 - Quantum Mechanics II
- PHYS 5710 - Advanced Classical Mechanics I
- PHYS 5720 - Electromagnetic Theory I
- PHYS 5950 - Master's Thesis (6 hours) The thesis must be submitted in the manuscript form prescribed by the American Institute of Physics. An oral presentation of the master's thesis is required. The thesis is accepted by the student's advisory committee after an oral examination is successfully completed and the thesis is filed in the graduate dean's office.
- 12 semester hours chosen from organized courses in physics. Organized courses from related fields may be substituted with permission of the academic advisor and major professor.
- 6 semester hours of PHYS 5900 or PHYS 5910

Research problems option

The graduate credit requirement for the Master of Science degree is 36 semester hours chosen in the following manner:

- PHYS 5500 - Quantum Mechanics I
- PHYS 5510 - Quantum Mechanics II
- PHYS 5710 - Advanced Classical Mechanics I
- PHYS 5720 - Electromagnetic Theory I
- PHYS 5920 - Research Problems in Lieu of Thesis
- PHYS 5930 - Research Problems in Lieu of Thesis
- 15 semester hours chosen from organized courses in physics. Organized courses from related fields may be substituted with permission from the academic advisor and major professor.
- 3 semester hours of PHYS 5900 or PHYS 5910

Note

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. Reports for PHYS 5920 and PHYS 5930 must be submitted in the manuscript form prescribed by the American Institute of Physics (see *AIP Style Manual*, current edition). Problems in lieu of thesis (PHYS 5920 and PHYS 5930) must be accepted by the student's advisory committee, oral presentation is optional.

Course work option

The graduate credit requirement for the Master of Science degree is 36 semester hours chosen in the following manner:

- PHYS 5500 - Quantum Mechanics I
- PHYS 5510 - Quantum Mechanics II
- PHYS 5710 - Advanced Classical Mechanics I
- PHYS 5720 - Electromagnetic Theory I
- PHYS 6030 - Electromagnetic Theory II
- PHYS 6110 - Statistical Mechanics I
- 6 semester hours of PHYS 5900 or PHYS 5910. To satisfy a requirement to show evidence of independent study, a student must submit a written report upon completion of PHYS 5900 or PHYS 5910 to the major professor.
- 12 semester hours chosen from organized courses in physics. Organized courses from related fields may be substituted with permission from the academic advisor and major professor.

Other requirements

- The candidate for the master's degree under the course work option who has not otherwise demonstrated competency is nominally required to pass an oral comprehensive final examination.
 - A candidate for the master's degree under the course work option may demonstrate competency by earning at least a grade of B in PHYS 5500, PHYS 5510, PHYS 5710, PHYS 5720, PHYS 6030 and PHYS 6110.
- The oral comprehensive final examination usually takes less than 1 and 1/2 hours to complete. The departmental examination committee administers the exam.
- The candidate for the master's degree under the course work option is expected to demonstrate physics problem solving skills and a mastery of conceptual understanding of the topics covered. The scope of the examination is on the topics of classical mechanics, quantum mechanics, electrodynamics and statistical mechanics. The questions can range from undergraduate to graduate level.

Additional requirements

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 and the thesis is filed in the graduate dean's office. Problems in lieu of thesis (PHYS 5920 and PHYS 5930) must be accepted by the student's advisory committee; oral presentation is optional.

Doctorate

Physics, PhD

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

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.

Physics core courses

Students who take the following six core 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:

- PHYS 5500 - Quantum Mechanics I
- PHYS 5510 - Quantum Mechanics II
- PHYS 5710 - Advanced Classical Mechanics I
- PHYS 5720 - Electromagnetic Theory I
- PHYS 6030 - Electromagnetic Theory II
- PHYS 6110 - Statistical Mechanics I

Alternative requirements for students with a master's degree

A student who enrolls at UNT with a master's degree in physics from another institution may meet this requirement by completing the courses below, and attaining a grade of A in at least two of the courses and a minimum grade of B in the remainder.

- PHYS 5510 - Quantum Mechanics II
- PHYS 5710 - Advanced Classical Mechanics I
- PHYS 6030 - Electromagnetic Theory II
- PHYS 6110 - Statistical Mechanics I

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. Course duplications are allowed, as described elsewhere in this catalog. If a course is repeated, the last grade recorded will be considered by the department in determining whether the student has passed this part of the qualification process.

To be considered for departmental assistantships, a student must 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.

Preparation for 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 advisor. 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. At least 7 days 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 Graduate School.

To be considered for departmental assistantships, a student must pass this part of the qualification process after no more than four years of full-time graduate study if entering the program with a bachelor's degree in physics, and after no more than three years of full-time study if entering the program with a master's degree in physics.

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 independent research under the overall supervision of the major professor 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 known 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 must 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.

To be considered for departmental assistantships, a student must not exceed six years of full-time graduate study if entering the program with only a bachelor's degree in physics, and five years of full-time study if entering the program with a master's degree in physics.

Additional requirements

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 and the thesis is filed in the graduate dean's office. Problems in lieu of thesis (PHYS 5920 and PHYS 5930) must be accepted by the student's advisory committee; oral presentation is optional.

Department of Political Science

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Web site: www.psci.unt.edu

Richard Ruderman, Chair

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.

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 microcomputer resources and have full, free access to the extensive data resources of the ICPSR for use in their areas of research interest. The professional development of graduate students is encouraged through regular student and faculty colloquia.

Degree programs

The Department of Political Science offers programs leading to the Master of Arts, the Master of Science and the Doctor of Philosophy, all with a major in political science.

Concentrations at the doctoral level are available in political theory and methodology.

Admission requirements

All general admission requirements to the Toulouse Graduate School, 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.

Master's Degree

Political Science, MA

Admission

To be admitted to the Master of Arts program, 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 Graduate School;
4. three letters of recommendation, preferably from professors;
5. a 500-word statement of purpose; and
6. an academic writing sample.

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 Scope 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, comparative politics, international relations, 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. Language competency is typically defined as two years of language study or the equivalent.

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 under the link "Degree Program Requirements" posted on the department's graduate program web site (www.psci.unt.edu). The student is responsible for knowing the program requirements.

Political Science, MS

Admission

To be admitted to the Master of Science program, 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 Graduate School;
4. three letters of recommendation, preferably from professors;
5. a 500-word statement of purpose; and
6. an academic writing sample.

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 Scope 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, comparative politics, international relations, political theory, and research methodology.

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 "Political Science Tool Requirement." This document is posted on the department's web site (www.psci.unt.edu/Graduate/TOOLCLAS.html).

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 under the link "Degree Program Requirements" posted on the department's graduate program web site (www.psci.unt.edu). The student is responsible for knowing the program requirements.

Doctorate

Political Science, PhD

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 Graduate School;
4. three letters of recommendation, preferably from professors;
5. a 500-word statement of purpose; and
6. an academic writing sample.

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:

- PSCI 5340 - Seminar in Political Science Scope and Methods
- PSCI 6320 - Quantitative Political Research Methods
- completion of a dissertation with a maximum credit of 12 hours

Additional requirements

A student must elect three areas of study for the Doctor of Philosophy degree, at least two of which must be in political science. Additional course work will be taken in other areas of political science or a related field. The student must pass qualifying examinations in two political science areas.

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, and one departmental representative. The departmental

representative is appointed by the political science graduate advisor. 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
- American government and public law
- research methodology
- comparative government and politics
- international relations

Additional program information is contained under the link "Degree Program Requirements" posted on the department's graduate program web site (www.psci.unt.edu). The student is responsible for knowing the program requirements.

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 by the time the qualifying examinations are completed. 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 the major and one other area 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 Graduate School 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 oral 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.

Department of Psychology

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Vicki Campbell, Chair

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 and specific laboratories for statistics, psychophysiology, psychosocial health research, 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, 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, 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 Research. 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.

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.

Degree programs

The department offers graduate programs leading to the Doctor of Philosophy with a majors in clinical psychology, counseling psychology, experimental psychology, and health psychology and behavioral medicine.

The doctoral programs in counseling psychology, clinical psychology, and health psychology and behavioral medicine have been accredited 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 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.

Admission requirements

1. Before being admitted to the doctoral program, the applicant must meet the requirements for admission to the Toulouse Graduate School 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 must complete the department application process through the department submission portal at www.psychology.unt.edu. The application deadline for graduate programs in clinical psychology, counseling psychology, and health psychology and behavioral medicine (HPBM) is the first university work day of December 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 at www.unt.edu/catalog/calendar.htm for admissions deadlines.) All academic prerequisites for the clinical, counseling and health psychology/behavioral medicine 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 competitive scores on the verbal and quantitative sections of the Graduate Record Examination (GRE) prior to admission. For standardized admission test requirements, contact the department or the Toulouse Graduate School. 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 program in psychology. Applicants are required to provide contact information for three satisfactory recommendations via the department submission portal at www.psychology.unt.edu. Instructions on how to submit a recommendation will be emailed to the address you provide for each recommender. Applicants must include one recommendation 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.

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.

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 for each program. Applications are submitted electronically. Each applicant 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 are submitted electronically; however, they may be submitted under separate cover directly from the recommender. If they are not submitted electronically, these letters must be sealed and signed across the back flap by the referee. Materials submitted to the Graduate School do **not** need to be duplicated for each program to which the student applies.

Please refer to the department web site at www.psyc.unt.edu for questions regarding department application deadlines, etc.

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. It is the applicant's responsibility to make sure the department receives a copy of these scores.

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 Academic Calendar at www.unt.edu/catalog/calendar.htm) for applications to experimental programs for the application to be considered for the following fall term/semester.

Graduate programs in psychology admit students only to fall terms/semesters.

Applicants who have not already taken these courses should make note on the application form of when they will be taken.

- Experimental Psychology or Research Methods/Design, and
- Statistics

The requirement for Experimental Psychology or 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** include 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. Applicants must meet one of these requirements based on the degrees held.

1. 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.
2. 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.

Continuation in the degree program

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 dismissed from their program.

Licensing and certification

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.

Doctorate

Clinical Psychology, PhD

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, 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. No more than 30 hours from a master's degree can be applied toward deficiencies for the doctoral degree.

A student entering with a master's degree or equivalent may, with consent of the program director and/or department chair, transfer a maximum of 12 appropriate semester hours beyond the master's degree. 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.

Additional requirements

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 two 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 of this catalog 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 Doctoral degree requirements 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 advisor 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. Each dissertation committee in the Department of Psychology is to have, as its basic structure, the following:

1. Three persons employed as faculty members by the Department of Psychology or as regular members of a Department of Psychology program committee.
2. Each committee may, but is not required to, have additional members from outside the Department of Psychology. An additional member may be (a) a UNT faculty member from another department; (b) a community professional especially appointed to the committee through the Department of Psychology; or (c) a faculty member from another university especially appointed to the committee through the Department of Psychology. Additional members may not replace the three departmental members.
3. Programs may place other restrictions on dissertation committee composition, but cannot authorize deviation from the basic structure (e.g., the three departmental faculty) described above.

Counseling Psychology, PhD

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, 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. No more than 30 hours from a master's degree can be applied toward deficiencies for the doctoral degree.

A student entering with a master's degree or equivalent may, with consent of the program director and/or department chair, transfer a maximum of 12 appropriate semester hours beyond the master's degree. 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.

Counseling Psychology

This program requires a minimum of 104 semester hours plus a one-year internship and includes 20 hours in general core psychology: advanced social psychology, advanced statistics, theories of cognition and affect, advanced history and systems, and advanced physiological psychology.

The counseling core consists of 40 hours that includes course work in the following areas: human development, assessment, individual and group techniques, theories of counseling and psychotherapy, legal and ethical issues, psychopathology, vocational psychology, supervision and consultation, and multicultural counseling. A research core composed of a minimum of 15 hours and practicum training consisting of 17 hours also are required. The elective cluster is composed of a minimum of 12 hours selected to represent an organized and integrated sequence in the student's area of interest.

Additional requirements

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 two 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 of this catalog 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 Doctoral degree requirements 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 advisor 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. Each dissertation committee in the Department of Psychology is to have, as its basic structure, the following:

1. Three persons employed as faculty members by the Department of Psychology or as regular members of a Department of Psychology program committee.
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3. Programs may place other restrictions on dissertation committee composition, but cannot authorize deviation from the basic structure (e.g., the three departmental faculty) described above.

Experimental Psychology, PhD

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, 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. No more than 30 hours from a master's degree can be applied toward deficiencies for the doctoral degree.

A student entering with a master's degree or equivalent may, with consent of the program director and/or department chair, transfer a maximum of 12 appropriate semester hours beyond the master's degree. 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.

Experimental Psychology

This program requires a minimum of 90 semester hours and includes 38 hours in experimental general core psychology, including social psychology, statistics (Quantitative Methods I and II), cognitive and affective bases of behavior, history and systems, and advanced physiological psychology.

In addition, 22 hours of course work are selected in consultation with the major professor and committee to reflect an emphasis either on the developmental aspects of psychology or on the cognitive and physiological aspects of psychology. These additional 22 hours are required in order to satisfy the student's specialty area and allow the student to customize the specialty area using a unique combination of courses.

The student is expected to be involved in research throughout the program.

A minor field consisting of 12 hours is required. Each student must also complete a 6-hour integrated elective area in psychology that is consistent with individual interests.

Additional requirements

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 two 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 of this catalog 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 Doctoral degree requirements section of this catalog.

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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

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3. Programs may place other restrictions on dissertation committee composition, but cannot authorize deviation from the basic structure (e.g., the three departmental faculty) described above.

Health Psychology and Behavioral Medicine, PhD

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, 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. No more than 30 hours from a master's degree can be applied toward deficiencies for the doctoral degree.

A student entering with a master's degree or equivalent may, with consent of the program director and/or department chair, transfer a maximum of 12 appropriate semester hours beyond the master's degree. 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.

Health Psychology and Behavioral Medicine

This program is offered in collaboration with our sister department at the UNT Health Science 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 psychoneuroimmunology). Students are continually involved in clinical and research experiences before culminating professional preparation with a one-year, full-time clinical internship.

Additional requirements

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 two 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

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Advisory committee

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3. Programs may place other restrictions on dissertation committee composition, but cannot authorize deviation from the basic structure (e.g., the three departmental faculty) described above.

Department of Radio, Television and Film

Main Departmental Office
Radio, TV, Film and Performing Arts Building, Room 262

Mailing Address:
1155 Union Circle #310589
Denton, TX 76203-5017
940-565-2537

Web site: www.rtvf.unt.edu

Alan Albaran, Chair
Samuel J. Sauls, Director of Graduate Studies

The Master of Arts program is 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:

- 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 pursue documentary production and studies, culminating in the creation of a major thesis production. The program emphasizes the following areas:

- Documentary pre-production, production and post production; and
- Documentary history and theory and contemporary documentary.

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

Applicants must meet the requirements of both the Toulouse Graduate School 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 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 Graduate School**.

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, non-native speakers must submit TOEFL scores.

After the first 12 semester hours of graduate study are completed, the student and the director of graduate studies should 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 graduate dean. In order to graduate, a student must have an approved degree plan on file with the Graduate School.

The RTVF department curriculum for the MA degree 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 Graduate School, 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 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.

The Center for Spanish Language Media

The Center for Spanish Language Media is housed within the RTVF department and has a three-fold mission: education, research and professional development. In terms of education, interdisciplinary courses are offered at the undergraduate and graduate levels on different

aspects of Spanish language media and Latino history and culture. In regards to research, the center sponsors and disseminates research on Spanish language media companies, trends and issues, through conferences, workshops and seminars. The center also offers workshops and seminars for existing Spanish language media professionals interested in improving their knowledge and skills.

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 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.

Master's Degree

Radio/Television/Film, MA

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. In addition, students must maintain a minimum GPA of 3.25 while in the program. Any student whose GPA drops below this level will be placed on probation for one semester. If at the end of the probationary semester the student's GPA has not been raised to a 3.25 or better, the student will be subject to program dismissal.

The MA requires completion of the equivalent of at least the undergraduate sophomore year in a single foreign language, provided the grade on the last course is a C or higher.

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).

Required course

Required of all students:

- RTVF 5100 - Introduction to Graduate Study in RTVF (required during the first fall term/semester of enrollment as an RTVF graduate student)

Critical, cultural and historical emphasis

Critical, cultural and historical students must take:

- RTVF 5120 - Critical-Cultural Media Theory
- RTVF 5121 - New Media Theory

Media industry studies emphasis

Media industry studies students must take:

- RTVF 5130 - Media Theory and Society
- RTVF 5131 - Research Methods in RTVF

Radio/Television/Film, MFA

The primary educational objective of the Master of Fine Arts degree with a major in radio, television and film 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. In addition, students must maintain a minimum GPA of 3.25 while in the program. Any student whose GPA drops below this level will be placed on probation for one semester. If at the end of the probationary semester, the student's GPA has not been raised to a 3.25 or better, the student will be subject to program dismissal.

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 Graduate School are followed when awarding transfer credit. Subject to approval of the graduate dean and the RTVF department, a student who holds a bachelor's degree and has been admitted to the Toulouse Graduate School and to the RTVF MFA program at UNT, may apply up to 12 semester hours of graduate credit toward the degree. MA students may transfer up to 9 semester hours of graduate credit toward the degree.

Department of Speech and Hearing Sciences

Main Departmental Office
Speech and Hearing Center, Room 260
Mailing Address:
1155 Union Circle #305010
Denton, TX 76203-5017
940-565-2481

Web site: www.speechandhearing.unt.edu

Ernest Moore, Chair

The primary goal of the Department of Speech and Hearing Sciences is to prepare students to work professionally with communicatively disabled individuals, as well as to serve as faculty members in academic programs. 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 by the American Speech-Language-Hearing Association 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 maintains research laboratory space and state-of-the-art equipment to conduct a wide range of investigations of the auditory system and on the normal and abnormal production, perception, recognition and understanding of speech and language. Research includes studies of auditory evoked potentials, speech perception, articulation, language, motor speech disorders, vocal pathologies and swallowing disorders. Other ongoing research projects investigate communication assessment and rehabilitation techniques including hearing aids, cochlear implants, and auditory processing in children and adults; hearing loss in musicians in conjunction with the Center for Music and Medicine of the College of Music; the investigation of auditory cortical neuron pattern processing studies with the Center for Network Neuroscience in the Department of Biological Sciences; cochlear implant technology with the Department of Electrical Engineering and the study of vocal inharmonicity analysis in conjunction with the Department of Physics.

Degree programs

The department offers graduate programs leading to the Master of Arts with a major in speech-language pathology and the Doctor of Audiology.

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 professional 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 programs 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 Graduate School.

Speech-language pathology students are admitted only in the fall semester; likewise, audiology students are admitted only in the fall semester. For admission in the following fall semester, all required materials should be postmarked and filed by February 15 for the speech-language pathology program and by March 1 for the audiology program.

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 Graduate School.
4. Three satisfactory letters of recommendation, including at least two from the last academic institution attended.
5. A personal statement discussing one's life, experiences, strengths and weaknesses, and professional goals.

Letters of recommendation and the personal statement should be addressed to: Director of Graduate Studies, Department of Speech and Hearing Sciences, University of North Texas, 1155 Union Circle #305010, Denton, TX 76203-5017.

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 admission 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 course work in normal speech, language, speech disorders, and language disorders will be required to complete courses in these subjects. These courses may be taken concurrently with graduate-level courses in audiology. Depending upon undergraduate preparation, additional undergraduate course work may be necessary to meet requirements for professional certification and licensing.

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 Graduate School as non-degree students are restricted from enrollment in the following:

- a. graduate-level courses in speech pathology and audiology; and
- b. SPHS 5060, SPHS 5065, SPHS 6010, or SPHS 6020 (clinical practicum) courses for graduate 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.

Master's Degree

Speech-Language Pathology, MA

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, swallowing and hearing, rather than upon specific courses that may constitute an individual degree plan.

Speech-Language Pathology, MS

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, swallowing and hearing, rather than upon specific courses that may constitute an individual degree plan.

Doctorate

Audiology, AuD

The department offers the Doctor of Audiology (AuD) degree. This is a post-baccalaureate four-year degree and includes:

- 70–78 semester hours of academic courses, plus
- 44 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 or its equivalent and pass comprehensive, formative, and summative examinations.

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. Students may repeat two courses in which they received a grade of C. They may repeat any given course only once.
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/SPHS 5065 for a minimum of 6 semester credit hours. All audiology doctoral students must enroll in SPHS 6010 through SPHS 6090 for a minimum of 44 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 the audiology or speech and language pathology program in this department when failure to make satisfactory progress has been documented. Unsatisfactory progress shall be defined as:
- a grade of C or below in 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;
 - a grade of NP in two or more enrollments of clinical practicum, SPHS 5060/SPHS 5065, or a grade of C in two or more enrollments of SPHS 6010 through SPHS 6090;
 - a grade of C in an academic course and a grade of NP in clinical practicum, SPHS 5060/SPHS 5065, or a grade of C in SPHS 6010 through SPHS 6090;
 - unsatisfactory defense of a thesis; and
 - failure to pass the comprehensive examination after three attempts within a 12-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.

Department of World Languages, Literatures and Cultures

Main Departmental Office
Language Building, Room 101

Mailing address:
1155 Union Circle #311127
Denton, TX 76203-5017
940-565-2404

Fax: 940-565-2581
Web site: www.worldlanguages.unt.edu

Marie-Christine Koop, Chair

The Department of World Languages, Literatures and Cultures offers graduate programs 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 Tours. Summer study programs are also available at the University of Strasbourg for French, and in Valencia for Spanish.

Research

Research conducted by departmental faculty members in Spanish includes second-language acquisition, cultural studies, Spanish and Latin American poetry, contemporary Spanish-American literature, Spanish literature of the Golden Age, Latino and Latin American theatre, Mexican literature and culture, 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; Medieval literature; literature of the 16th, 18th, 19th and 20th centuries; literary theory; women's studies; and Québec. Research in German includes applied linguistics and German literature of the 18th, 19th and 20th centuries.

French, German and Spanish summer institutes

(summer MA program in French and Spanish; graduate courses in German)

Following the immersion principle, every June the French, German 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, German or Spanish Summer Institute. Advanced undergraduate students may register for the French or Spanish Summer Institute and receive credits at the 4000 level.

Master's Degree

French, MA

Admission 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 French, a one-page curriculum vitae and completion of 12 hours of advanced undergraduate course work in French. Undergraduate students anticipating entrance into graduate work in French 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.

Degree requirements

The applicant has the choice of the following programs:

1. 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
2. 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 must take a written comprehensive examination in the major field or select the thesis option.

With the approval of the chair of the department, the master's thesis may be written in French.

Spanish, MA

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 Spanish, a one-page curriculum vitae and completion of 12 hours of advanced undergraduate course work in Spanish. Undergraduate students anticipating entrance into graduate work in 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 has the choice of the following programs:

1. 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
2. 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 Spanish must take a written comprehensive examination in the major field or select the thesis option.

With the approval of the chair of the department, the master's thesis may be written in Spanish.

College of Business

Graduate Programs Office
Business Leadership Building, Room 201

Mailing address:
1155 Union Circle #311160
Denton, TX 76203-5017
940-369-8977

E-mail: mbacob@unt.edu
Web site: www.cob.unt.edu/programs/masters

O. Finley Graves, Dean

Marilyn Wiley, Senior Associate Dean
Cengiz Capan, Associate Dean

Mission

To prepare tomorrow's business leaders in an intellectually stimulating and collegial community through high-quality teaching, research and service.

Vision

To be a premier comprehensive undergraduate business school with a national and international reputation for excellence in research and graduate education.

The College of Business offers graduate programs leading to the Master of Business Administration with a major in business administration and the Doctor of Philosophy with a major in business.

Departments in the college offer graduate programs leading to the Master of Science with majors in accounting, finance, information technology and decision sciences, and taxation.

Concentrations at the master's level are available in business studies (flex-MBA), strategic management, health services management, organizational behavior and human resource management, marketing, operations and supply chain management, logistics and supply chain management, finance, decision sciences and information technology.

Concentrations at the doctoral level are available in accounting, business computer information systems, finance, management, marketing and management science.

The college cooperates with departments outside the college to offer dual programs (MS/MBA) in engineering systems, hospitality management and merchandising.

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 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 (CoB) Graduate Programs Office or the dean of the Toulouse Graduate School.

Admission requirements

Admission deadlines

Before being admitted to either a master's or a doctoral program in the College of Business, the applicant must meet the requirements for admission to the Toulouse Graduate School.

All MBA/MS students seeking on-time registration must submit application materials according to the dates specified below. PhD candidates must submit application materials by April 1 to be considered for the following fall. Students submitting applications after the dates specified by the Toulouse Graduate School, if accepted, will have to register during the late registration period and pay a late registration fee.

- Fall – July 15
- Spring – November 15
- Summer (all sessions) – April 15

Criteria for admission to master's degree programs

In the determination of an applicant's eligibility for admission to the College of Business 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 Graduate School.)
2. A satisfactory score on the Graduate Management Admission Test (GMAT). Scores more than five years old 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) or 80 (Internet version) on the Test of English as a Foreign Language or be a graduate of a college or university in the United States.
4. Additional admission materials as specified in the next section and on our web site at www.cob.unt.edu/programs/masters/admission.

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 Graduate School by filing the following items with the Toulouse Graduate School:
 - a. complete official transcripts of college and university credits;
 - b. online application for admission to the Toulouse Graduate School; and
 - c. results of the Graduate Management Admission Test (three to four weeks for the test to be received by the Graduate School).

Information about the GMAT may be obtained from the Toulouse Graduate School or the CoB Graduate Programs Office. Undergraduate students who intend to enter a master's degree program in the College of Business 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 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 CoB 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. two letters of recommendation (professional, not personal); and
- c. resume (work/academic experience).

Applications forwarded by the Toulouse Graduate School cannot be considered until the above information is submitted.

Applications and supporting documentation will be reviewed using a holistic approach by the CoB 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 advisor for further information.

Comprehensive examination

Candidates in all business MBA degree programs 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 and the Toulouse Graduate School.

The CoB 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 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 will recommend dismissal of a student from the master's program if the student receives two course grades below C (for purposes of this rule, the lowest 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 CoB Graduate Programs Office that they have been placed on academic probation. Probationary students will be blocked for registration purposes and must meet with a Graduate Programs Office advisor 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 CoB Graduate Programs Office that they have been placed on academic suspension for one 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 CoB 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 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. See www.cob.unt.edu for additional policies and procedures.

Changing major or concentration

College of Business MBA/MS students are restricted to changing majors/concentrations no more than two times within the College of Business. This excludes changing from graduate non-degree seeking status, a graduate academic certificate, or from a major outside the CoB to a CoB major/concentration.

Graduate academic certificates

The College of Business also offers five graduate academic certificates (9 to 12 hours) in the following areas.

- Accounting information systems (ACCT)
- Human resource management (MGMT)
- Internal audit (ACCT)
- Leadership and supervisory management (MGMT)
- Logistics and supply chain management (MKTG)

Admission requirements

U.S. citizens and permanent residents submit the application, application fee and official transcripts to the Toulouse Graduate School. International applicants submit materials to the International Admissions Office.

GMAT scores are not required for the graduate academic certificate programs. Students who wish to enter the MBA/MS program will be required to take the GMAT, submit supporting documents and meet CoB entrance requirements before proceeding with courses beyond those required for a certificate program.

Additional information

Individuals interested in obtaining specific information on the above certificate programs may contact the Department of Accounting; Department of Information Technology and Decision Sciences; Department of Marketing and Logistics; and Department of Management.

Dual programs

The College of Business offers two dual programs in collaboration with the College of Merchandising, Hospitality and Tourism, and one program with the College of Engineering:

- MBA (any concentration)/MS with a major in hospitality management
- MBA (any concentration)/MS with a major in merchandising
- MBA (operations and Supply Chain Management)/MS with a major in engineering systems

Teaching fellowships

Departmental chairpersons assign teaching assistantships and fellowships based on departmental needs.

College of Business Computing Center

College of Business Information and Learning Technologies Center

Cengiz Capan, Associate Dean

The Information and Learning Technologies Center of the College of Business is housed in the newly opened Business Leadership Building and comprises the Associate Dean for Technology and Operations, an IT manager, a lab manager, four IT specialists and an administrative coordinator. A technical support team of part-time student assistants aids the full-time staff in installations, troubleshooting, web development, and working with faculty and staff when problems or questions arise concerning software and/or hardware. More than 300 Dell Core 2 Quad desktop systems in the Business Leadership Building are networked together with a multi-node, high-availability cluster using multi-core dual Xeon blade servers. Each node has at least 4 gigabytes of memory

and 4.5 terabytes of available storage in an external storage area network (SAN) disk array. Each of the desktop systems is configured with 2.66 GHz Core 2 Quad CPU, 250 gigabyte hard drive, 4 gigabyte memory, 22-inch widescreen flat-panel LCD monitor, DVD-RW drive, USB 2.0 connections, and gigabit network interfaces.

The College of Business provides half of the above systems in student computer labs conveniently located on Level 1 of the Business Leadership Building. They are open over 100 hours per week and staffed by 24 student lab monitors. These labs are divided into two major areas. The General Access Lab consists of more than 60 computers and is designed for the general business student who is required to use computers but may also be used by all UNT students. As an extension of the General Access Lab, a number of public access kiosks are provided on Level 0 of the Business Leadership Building for walk-up e-mail access and general web browsing. The Business Lab consists of more than 68 desktop computers and is designed for and limited to students taking College of Business courses. This lab includes course-related software for such courses as Introduction to Database Applications; Distributed Systems and Teleprocessing; Data Communications and Networking; Information Resource Management; Decision Support Systems; Visual Display; and Fundamentals of Information Technology Security. For team and group work, students can use their own notebook computers or check-out mobile thin clients to take to the Biz Café adjacent to the labs, 15 study rooms available by reservation or informal seating areas around the Business Leadership Building to access the college's "Virtual Lab." This virtual desktop environment provides remote access to all major College of Business applications. There are also several "Virtual Classrooms" utilizing this same virtual desktop environment for hands-on instruction when needed.

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

Harvey Zimmerman, 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.

Master's Degree

Business Administration, MBA

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 Graduate School 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. 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 CoB Graduate Programs Office for any current changes in these courses. These graduate courses in the College of Business, plus the background courses in economics and mathematics follow.

- DSCI 5010 - Statistical Analysis
- ACCT 5020 - Accumulation and Analysis of Accounting Data
- FINA 5040 - Introduction to Finance and Financial Mathematics
- BLAW 5050 - Legal, Regulatory and Ethical Environment of Business
- MGMT 5070 - Management Issues
- MKTG 5000 - Marketing Concepts
- BCIS 5090 - Introduction to Business Computer Information Systems
- ECON 5000 - Economic Concepts
- MATH 1190 - Business Calculus

Additional requirements

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 advisors will recommend courses for students not possessing these 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.

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 advisor 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 the Business Decision Process
- BUSI 5190 - Administrative Strategy

Areas of concentration

The remaining 18 hours of graduate course work may be used to pursue specialized interests in the following areas of concentration.

- Business studies (flex-MBA)
- Strategic management
- Health services management
- Organizational behavior and human resource management
- Marketing
- Operations and supply chain management
- Logistics and supply chain management
- Decision sciences
- Information technology
- Finance

Additional information

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 advisor. The degree plan must be approved by the associate dean of the CoB Graduate Programs Office and by the Toulouse Graduate School. 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 advisor.

To enroll in graduate courses, the student must be counseled by a departmental advisor. Any degree plan change must have prior consent. Specific information about degree plan changes may be obtained from the departmental advisor or the CoB Graduate Programs Office.

Admission to candidacy is granted by the dean of the Toulouse Graduate School only after the degree plan has been approved.

Concentrations for the MBA

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.

Doctorate

Business, PhD

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 PhD Program and Research Office. The complete PhD application packet can be found at www.cob.unt.edu/programs/phd/ or may be requested by e-mail from PhDCOB@unt.edu.

In the determination of an applicant's eligibility for admission to the College of Business for the PhD degree, the following items are required:

1. Processed application for admission forwarded by the Toulouse Graduate School.
2. Provide the Toulouse Graduate School 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 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.
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.cob.unt.edu/programs/phd/ or by request from the PhD Program and Research Office in the College of Business.

For further information concerning the doctoral program in business administration and specific admission requirements, contact: the PhD Program and Research Office, College of Business. Contact information and destination of documents are as follows:

Both U.S. and international applicants

PhD Program and Research Office
College of Business
University of North Texas
Mailing address:
1155 Union Circle #311160
Denton, TX 76203-5017

PhDCOB@unt.edu
www.cob.unt.edu/programs/phd

Phone: 940-369-8488
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 Graduate School
Graduate Admissions Office
Eagle Student Services Center, Room 354

Mailing address:
1155 Union Circle #305459
Denton, TX 76203-5017

graduateschool@unt.edu
graduateschool.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 scores.

International applicants only

International Admissions Office
University of North Texas
Information Sciences Building, 2nd Floor

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
international@unt.edu
Phone: 940-565-2442

Submit an International Application, fee, official transcripts, official TOEFL, financial statement, and official GRE or GMAT scores. (Please note that all official GRE and GMAT scores are received by the Toulouse Graduate School, 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.

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 concentration in one of the following program areas: accounting, business computer information systems, finance, management, marketing, or management science. With the approval of an academic advisor, 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 27–33 hours in concentration and 12–18 hours of research track courses, 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):

- Research track, 12–18 hours
- Concentration and minor areas, 27–33 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 two research tracks consist of 12–18 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 required courses for each track are described below:

Research track 1, 15 hours

- BUSI 6220 - Applied Regression Analysis
- BUSI 6450 - Business Research Methods
- BUSI 6480 - Advanced Issues in Research Design
- BUSI 6240 - Applied Multivariate Statistics
- BUSI 6280 - Applications in Causal and Covariance Structure Modeling

Research track 2, 12 hours

- ECON 5600 - Mathematical Economics
- ECON 5650 - Advanced Econometrics
- methodological tool elective (3 hours)
- MSCI 6000 - Theory and Application of Nonparametric Statistics

Additional requirements

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 CoB PhD Programs and Research 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 Graduate School 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 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 CoB PhD Programs and Research Office and the Toulouse Graduate School.

Department of Accounting

Main Departmental Office
Business Leadership Building, Room 215

Mailing address:
1155 Union Circle #305219
Denton, TX 76203-5017
940-565-3080

Web site: www.cob.unt.edu/acct

Don W. Finn, Chair

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.

The mission of the doctoral program in accounting at the University of North Texas is to prepare students to conduct discipline-based research, appreciate a variety of research methods and 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, archival, 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 technology in accounting instruction, and several faculty members continue to pioneer research in this area.

The accounting faculty contribute 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, Organizations, and Society*; *The Accounting Review*; *Advances in Accounting*; *Advances in Taxation*; *Auditing: A Journal of Practice and Theory*; *Bank Accounting & Finance*; *Behavioral Research in Accounting*; *Contemporary Accounting Research*; *CPA Journal*; *European Journal of Operational Research*; *International Business and Economic Journal*; *International Journal of Accounting Information Systems*; *Issues in Accounting Education*; *Journal of Accountancy*; *Journal of Accounting and Public Policy*; *Journal of Accounting, Auditing and Finance*; *Journal of Accounting Research*; *Journal of Business Ethics*; *Journal of Information Systems*; *Journal of International Accounting Research*; *Journal of Taxation of Investments*; *Journal of the American Taxation Association*; *Managerial Auditing Journal*; *Petroleum Accounting and Financial Management Journal*; *Review of Quantitative Finance and Accounting*; *Strategic Finance*; and *Today's CPA Journal*. 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 Master of Science with majors in accounting and in taxation.

The college offers a Master of Business Administration with a major in business administration and concentrations in audit and financial accounting information systems, entrepreneurial perspectives and managerial accounting systems.

For additional program descriptions, see "Programs" below and in the College of Business section.

Master's Degree

Accounting, MS

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 CoB 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 Graduate School as specified previously in this section; and
2. The following additional admission materials are submitted to the CoB Graduate Programs Office:
 - a. essay – The applicant is asked to share with the admissions committee any unique events, life experiences, and qualifications that distinguish the applicant's candidacy and will add value to the class;
 - b. two letters of recommendation (professional, not personal); and
 - c. resume (work/academic experience).

Applications forwarded by the Toulouse Graduate School cannot be considered until the above information is submitted.

The applications and supporting documentation will be reviewed by the CoB 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 background courses in accounting 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 accounting courses (excluding ACCT 5800) 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 30 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 3110 - Intermediate Accounting I
- ACCT 3120 - Intermediate Accounting II
- ACCT 3270 - Cost Accounting
- ACCT 4100 - Accounting Systems
- ACCT 4300 - Federal Income Taxation
- ACCT 4400 - Auditing – Professional Responsibilities
- BCIS 5090 - Introduction to Business Computer Information Systems
- BLAW 5050 - Legal, Regulatory and Ethical Environment of Business
- FINA 5040 - Introduction to Finance and Financial Mathematics
- MGMT 5070 - Management Issues
- MKTG 5000 - Marketing Concepts
- DSCI 5010 - Statistical Analysis
- ECON 5000 - Economic Concepts

Accounting, MS

The 36-hour program for the MS in accounting varies with the concentration chosen. However, a minimum of 30 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
- Accounting concentration (9–12 semester hours) (see below)

Other requirements

- ACCT 5760 - Accounting, Business Analysis and Valuation (must be taken the final term/semester)
- Approved electives (18 hours)

Concentrations

- Audit and financial accounting
- Managerial accounting systems
- Entrepreneurial perspectives
- Accounting information systems

Detailed information on requirements of each concentration is available from the CoB Graduate Programs Office.

Students with areas of interest not represented above are invited to consult with an accounting advisor.

Taxation, MS

Degree requirements

The student earning the MS with a major in taxation must meet the following requirements:

1. completion of background courses in accounting 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 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 30 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 taxation, 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 3110 - Intermediate Accounting I
- ACCT 3120 - Intermediate Accounting II
- ACCT 3270 - Cost Accounting
- ACCT 4100 - Accounting Systems
- ACCT 4300 - Federal Income Taxation
- ACCT 4400 - Auditing – Professional Responsibilities
- BCIS 5090 - Introduction to Business Computer Information Systems
- BLAW 5050 - Legal, Regulatory and Ethical Environment of Business
- FINA 5040 - Introduction to Finance and Financial Mathematics
- MGMT 5070 - Management Issues
- MKTG 5000 - Marketing Concepts
- DSCI 5010 - Statistical Analysis
- ECON 5000 - Economic Concepts

Accounting requirements

- ACCT 5120 - Using Information Systems in Accounting
- ACCT 5310 - Tax Research and Administrative Procedure (should be taken as early in the program as possible)

Accounting concentration, 24 hours

Other requirements

- ACCT 5360 - Advanced Topics in Federal Taxation
- Approved elective, 3 hours

Department of Finance, Insurance, Real Estate and Law

Main Departmental Office
Business Leadership Building, Room 212

Mailing address:
1155 Union Circle #305339
Denton, TX 76203-5017
940-565-3050
Fax 940-565-4234

Web site: www.cob.unt.edu/firel

Advising Office
Graduate Programs Office
Business Leadership Building, Room 229
940-369-8977

Marcia J. Staff, Chair

Research

The Department of Finance, Insurance, Real Estate and Law (FIREL) faculty have a distinguished record of scholarship in discipline-based, instructional development 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 Management*; *Financial Review*; *Journal of Applied Corporate Finance*; *Journal of Applied Finance*; *Journal of Banking and Finance*; *Journal of Business Finance and Accounting*; *Journal of Financial and Quantitative Analysis*; *Journal of Financial Economics*; *Journal of Financial Engineering*; *Journal of Financial Research*; *Journal of Financial Services Research*; *Journal of Financial Transformations*; *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*; *Managerial and Decision Economics*; *Managerial Finance*; *Organizações Em Contexto*; *Quarterly Journal of Economics and Finance*; *Real Estate Economics*; *Real Estate Probate and Trust Law Reporter*; *Research in Finance*; *Review of Quantitative Finance and Accounting*; and *South Carolina Law Review*.

Degree programs

The Department of Finance, Insurance, Real Estate and Law offers a graduate program leading to the Master of Science with a major in finance.

The college offers a Master of Business Administration with a major in business administration and a Doctor of Philosophy with a major in business, both with a concentration in finance.

The program admission and degree requirements are the same as those listed for the College of Business unless stated otherwise by the department.

Scholarships

Scholarships are awarded each year in the FIREL department for students majoring in finance. Please contact the department chair for current information.

Master's Degree

Finance, MS

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.

Background requirements

A bachelor's degree from an accredited institution and admission to the Toulouse Graduate School 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
- DSCI 5010 - Statistical Analysis
- DSCI 5180 - Introduction to the Business Decision Process
- ECON 5000 - Economic Concepts
- FINA 5040 - Introduction to Finance and Financial Mathematics
- FINA 5170 - Financial Management
- MATH 1190 - Business Calculus
- BCIS 5090 - Introduction to Business Computer Information Systems

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 - 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 advisor.

- DSCI 5210 - Model-Based Business Intelligence
- DSCI 5240 - Data Mining
- FINA 5230 - Portfolio Management and Security Analysis in Investments
- FINA 5410 - Advanced Management of Financial Institutions
- FINA 5510 - Theory of Finance

Capstone course, 3 hours

Prerequisites for the capstone course

- FINA 5210 - Investment Analysis and Management
- FINA 5310 - Advanced Topics in Financial Management
- FINA 5400 - Financial Markets and Institutions
- FINA 5500 - International Financial Management

Capstone course

This course must be taken the final term/semester.

- FINA 5700 - Integrative Capstone Course in Finance

Department of Information Technology and Decision Sciences

Main Departmental Office
Business Leadership Building, Room 215

Mailing address:
1155 Union Circle #305249
Denton, TX 76203-5017
940-565-3110

Web site: www.cob.unt.edu/itds

Mary C. Jones, Chair

Research

Faculty in the Department of Information Technology and Decision Sciences (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, decision-support systems, evaluation of psychometric factors in systems design, business intelligence, and end-user computing.

Faculty in decision sciences are engaged in research in the areas of statistics, quality control operations research and operations management. 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 topics also include quantitative models in operations supply chain management.

Research efforts by Business Computer Information Systems and Decision Science faculty are supported by the Center for Decision and Information Technologies.

Degree programs

The Department of Information Technology and Decision Sciences offers graduate programs leading to the Master of Science with a major in information technology and decision sciences.

The department also supports an interdisciplinary doctorate with a major in information science. See the College of Information section of this catalog for more information.

The college offers a Master of Business Administration with a major in business administration and concentrations in information technology and decision science.

The college also offers a Doctor of Philosophy with a major in business and concentrations in business computer information systems and management science.

Admission to program

For admission into the Master of Science program with a major in information technology and decision sciences, a student must first meet the admission requirements of the College of Business.

Master's Degree

Information Technology and Decision Sciences, MS

The Master of Science with a major in information technology and decision sciences is designed to provide an appropriate base of knowledge for entry into the management information systems or decision sciences profession. The program is intended for those students who desire a strong, specialist degree in the management of information technology or decision sciences. Because of its specialization and focus,

the Master of Science with a major in information technology and decision sciences 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 technology and decision sciences must satisfy the admission requirements of the College of Business.

Degree requirements

The student earning the MS with a major in information technology and decision sciences must meet the following requirements:

1. completion of background courses in 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 and DSCI 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 Graduate School are needed for graduate standing.

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.

The Master of Science with a major in information technology and decision sciences degree requires the following business courses:

- ACCT 5020 - Accumulation and Analysis of Accounting Data
- BCIS 5090 - Introduction to Business Computer Information Systems
- BLAW 5050 - Legal, Regulatory and Ethical Environment of Business
- DSCI 5010 - Statistical Analysis
- FINA 5040 - Introduction to Finance and Financial Mathematics
- MGMT 5070 - Management Issues
- MKTG 5000 - Marketing Concepts
- MATH 1190 - Business Calculus

Preprofessional program

The 36-hour program for the MS with major in information technology and decision sciences varies with the focus chosen. However, a minimum of 30 semester hours of 5000-level courses must be taken from courses offered in the ITDS department. General requirements include the following:

Foundation requirements, 15 hours

- BCIS 5120 - Information Systems Development
or
- DSCI 5180 - Introduction to the Business Decision Process
- BCIS 5130 - Fundamentals of Presentation Design
- DSCI 5240 - Data Mining
- DSCI 5330 - Enterprise Applications of Business Intelligence
- BCIS 5700 - Strategic Use of Information Technology
or
- BUSI 5190 - Administrative Strategy (either must be taken in final semester or final 12 hours)

Elective courses, 21 hours

Students will select at least five elective courses from the ITDS department to complete at least 30 hours of the minimum 36-hour requirement for the degree. Six hours may be taken outside of the ITDS department so long as they are related to the program of study and approved by the ITDS department. Students must obtain approval from the ITDS department for all electives.

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.

Department of Management

Main Departmental Office
Business Leadership Building, Room 215

Mailing address:
1155 Union Circle #305429
Denton, TX 76203-5017
940-565-3140

Web site: www.cob.unt.edu/mgmt

Vicki Goodwin, Chair

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 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 strategic 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 resource management, operations and supply chain management, or strategic management. 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 management, cross-national research, manufacturing strategy, mathematical modeling of business systems, organizational form, organizational capabilities, leadership, goal setting, work teams, diversity and team performance, operations and management of health services organizations, stress in the workplace, and the relationships between both cognitive processes and structures and individual organizational behaviors. Research in the department is supported by funds from external organizations, as well as by institutional funds.

Library holdings provide exceptional support for research. There are several databases available online including ABI Inform, Business Source Complete, Emerald Full Text, Human Resource Abstracts, Science Direct, PsycInfo and Hoover's Online.

Degree programs

The college offers a Master of Business Administration 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.

The college offers a Doctor of Philosophy with a major in business and concentrations in strategic management, human resources management, organizational behavior, organizational theory, and operations and supply chain management.

Master's degree

Program admission requirements are the same as for the College of Business.

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 standards and specific criteria appropriate for the Department of Management.

Contact the Department of Management for specific course requirements.

The support field must be approved by the department's Graduate Programs Committee.

Department of Marketing and Logistics

Main Departmental Office
Business Leadership Building, Room 215

Mailing address:
1155 Union Circle #311396
Denton, TX 76203-5017
940-565-3120

Web site: www.cob.unt.edu/mktg

Jeffrey Sager, Chair

Research

Research interests of the faculty include transportation, supply chain mapping, project management, supply chain metrics, logistics costing and pricing, 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 Aeronautics Company, Texas Logistics Education Foundation, Texas Motor Transportation Association, DHL, IBM, and Edventure Partners/General Motors Marketing Internship Program.

Degree program

The college offers a Master of Business Administration with a major in business administration and concentrations in marketing and in logistics and supply chain management.

The college offers a Doctor of Philosophy with a major in business 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.

College of Education

Main Office
Matthews Hall, Room 214
940-565-2235
Fax: 940-565-4415

Web site: www.coe.unt.edu

Student Advising Office
Matthews Hall, Room 105
940-565-2736

Mailing Address:
1155 Union Circle #311337
Denton, TX 76203-5017

Web site: www.coe.unt.edu

Jerry R. Thomas, Dean

Micheal F. Saylor, Associate Dean
Lisbeth Dixon-Krauss, Associate Dean

Mission

The College of Education prepares professionals and scholars who contribute to the advancement of education, health and human development.

Vision

We aspire to be leaders known regionally, nationally and internationally for our expertise and excellence in research, teaching, outreach, and solutions for education and human well being. Through our efforts we improve the lives of the citizens of Texas, the nation and the world.

Functions

We generate research, disseminate knowledge and prepare a diverse body of scholars. Our graduates become leaders in their fields while enhancing the development and effective functioning of individuals, schools and families.

We improve professional teaching and learning for K–12 schools. Helping teachers teach and students learn is central to our mission. We work with schools and school systems to prepare effective teachers and other professionals who help all students learn; and prepare principals, superintendents, and other school leaders to help in achieving this goal.

We develop leaders for community colleges and universities. We provide education and professional development for individuals who serve as administrators, faculty, and scholars in higher education institutions, governmental agencies, policy or research centers, and professional associations that conduct post-secondary education in the United States and globally.

We improve the functioning of individuals in their physical, health, and leisure behaviors. We accomplish this through the academic preparation of professionals, contributions to the professional body of knowledge, and provision of service to the university and community at large and through programs which facilitate an enhanced quality of life.

We prepare counselors who serve the public and humanity at large. We prepare highly competent counseling professionals for work in schools, communities, colleges, business, and industry. Our research seeks to use counseling for developing holistic wellness with at-risk and diverse populations. We provide humanitarian assistance to academic, professional and public communities.

We prepare family and child development experts who serve the community and society. We help families interact effectively with schools and other community agencies to improve life and promote well being.

The college offers 12 master's and 7 doctoral degree majors in four academic departments. These departments are Counseling and Higher Education; Educational Psychology; Kinesiology, Health Promotion and Recreation; and Teacher Education and Administration. 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 Graduate School, 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; 703-823-4800, 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

Doctor of Education

- Educational Administration
- Higher Education

Doctor of Philosophy

- Counseling
- Curriculum and Instruction
- Educational Research
- Educational Administration
- Higher Education
- Special Education

Master of Education

- Counseling
- Curriculum and Instruction
- Educational Administration
- Higher Education
- Secondary Education
- Special Education

Master of Science

- Counseling
- Early Childhood Studies
- Educational Psychology
- Higher Education
- Kinesiology
- Recreation and Leisure Studies

Time-to-degree completion

Graduate students in the College of Education are expected to complete their degrees in a timely manner. In the following table, part-time students are those who, for most semesters, take fewer than 9 hours each long semester; full-time students take 9 or more hours each long semester. Note that this is not the definition of full-time students used for financial aid qualifications.) Students are not required to take courses in the summer semesters, but should still finish in the expected time period for their degree.

Hours on degree plan	Expected years to completion	
	Part-time student	Full-time student
36–44	4 years	2.5 years
45–59	5 years	3 years
60–71	6 years	4 years
72+	7 years	5 years

All degrees are expected to be completed in the time frames outlined in these procedures. Failure to complete the degree in the designated time limit may result in dismissal from the program.

Occasionally, students have legitimate reasons for needing more time to complete their degrees. Students who exceed the COE Expected Time-to-Completion may request an extension of up to one year. The student submits this request in writing to one's major professor or program advisor. The recipient of the request, in consultation with the student's advisory or dissertation committee or, if no committee is designated, with one other faculty member, decides whether or not to endorse the request. If the request is endorsed, the request is forwarded to the chair of the department for endorsement and on to the COE Dean for Academic Affairs for approval. Students for whom exigent circumstances arise during their degree programs are expected to take a leave of absence rather than just discontinuing course work. Both the COE and the Graduate School time-to-degree limits begin with the student's first semester of enrollment; no student may exceed the Graduate School degree limit including time on leaves of absence.

Filing a degree plan

Each graduate degree student must file a degree plan no later than completion of the 21st semester credit hour for doctoral students and the 15th hour for master's degree students. All hours taken after admission to the degree count toward this requirement. A continuing student who does not submit a degree plan within the hours required will be blocked from enrollment the following semester. A student who has not filed a degree plan after their one blocked semester will be dismissed from the program.

Continuous enrollment

Continuous enrollment refers to enrollment in at least 1 semester credit hour of course work each long (fall and spring) semester.

Doctoral students

A continuing doctoral student must be in continuous enrollment in the long semesters between the semester of the first course applicable to the degree and the completion of the degree. A continuing student who does not maintain continuous enrollment will be warned in writing of the need for continuous enrollment and, if circumstances warrant, recommended they apply for a leave of absence. If the same student continues with this pattern of non-enrollment and has a second long semester in which one is neither on a leave of absence nor taking classes, the student will be dismissed from the program.

Master's students

A continuing master's degree student is encouraged, but not required to maintain continuous enrollment from the point of admission.

Leave of absence

A continuing student who is experiencing exigent circumstances that temporarily prevent progress on the degree may request a leave of absence for up to one year. The student must make the request for a leave in writing to the major professor or advisor. If no major professor has been assigned, the student submits the request to the program coordinator.

If a leave is granted, the major professor/advisor notifies the program coordinator who notifies the Graduate School. Doctoral candidates—those who have passed the qualifying exam and who are required to enroll continuously in dissertation during each subsequent long semester—must also request directly from the Graduate School a waiver of continuous enrollment in dissertation. During an approved leave, the COE continuous enrollment requirements are suspended, and the duration of the leave is added to the COE time limit for degree completion.

A student who needs more time may request one or more additional leaves from the college. Approved college leave does not extend the Graduate School's limit for total time to degree completion.

Graduate advising

At least once a year, the graduate student's advisor/major professor reviews the student's progress toward degree with regard to submitting the degree plan, best course selections for the next semesters, continuous enrollment, time to degree completion, thesis, capstone, dissertation work, etc.

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 support 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 and some 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 a graduate advisor 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, government, or 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 (see individual degrees for exact number). A minor outside the major is required. All hours must be taken at the master's level or higher (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 or a project in lieu of thesis 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 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 (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 Toulouse Graduate School. This course of study is unrelated to the undergraduate major in interdisciplinary studies leading to initial teacher certification in grades EC–6 or 4–8. For further information about the degree, consult the Toulouse Graduate School 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 (see individual degrees for exact number). 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 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 at the departmental web sites.
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 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 graduate studies.

Residency

See “Residence requirement” in the Doctoral degree requirements section.

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 EPSY 6010 and EPSY 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 Toulouse Graduate School after satisfactory completion of all the above listed requirements.

Dissertation proposal and defense

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 defense 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 of the dissertation 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 6, grades 4–8, grades 8–12, or all level. 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 post-baccalaureate advisor for more details.

Initial certification: elementary

- EC–6 Generalist English as a Second Language
- EC–6 Generalist Bilingual

Initial certification: middle

- Mathematics Education 4–8 (initial certification without an advanced degree)
- Science Education 4–8 (initial teacher certification without an advanced degree)

Initial certification: all level

- Dance
- French
- German
- Latin
- Physical Education
- Spanish
- Technology Applications (all level)
- Theatre Arts

Initial certification: secondary (6–12)

- Business Education
- Family and Consumer Science
- Hospitality, Nutrition and Food Sciences
- Human Development and Family Studies
- Physical Sciences

Initial certification: secondary (7–12)

- Speech

Initial certification: secondary (8–12)

- Chemistry
- English, Language Arts and Reading
- History
- Journalism
- Life Sciences
- Mathematics
- Physical Sciences
- Science
- Social Studies
- Technology Applications (8–12)

Initial career and technology certificates

- Health Science Technology Education
- Marketing Education
- Trade and Industrial

Advanced or supplemental certification

- Master Technology Teacher
- Educational Diagnostician
- Gifted and Talented (All-Level) Supplemental Certification
- Administration Certification, Principal
- Administration Certification, Superintendent
- Reading Specialist
- School Librarian
- Probationary Assistant Principal
- Probationary Principal
- Probationary Superintendent
- Technology Applications (8–12)
- Technology Applications (all level)

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

Educational Psychology

- EDSP – Special Education

Teacher Education and Administration

- Generalist Elementary Education EC–6, Bilingual Generalist EC–6, ESL Generalist EC–6
- Generalist Elementary Education 4–8, Bilingual Generalist 4–8, ESL Generalist 4–8
- Secondary Education: all areas offered at UNT except music and art—these are offered in these colleges, not through Teacher Education and Administration

Advanced or supplemental certification

Counseling and Higher Education

- School Counseling

Educational Psychology

- Educational Diagnostician
- Gifted and Talented
- Special Education

Teacher Education and Administration

- Administration – Principal, Superintendent
- Reading – Reading Specialist, Master Reading Teacher

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 (check with program or SAO for current fees):

- Application for Admission to the Toulouse Graduate School
- One-time fingerprinting and criminal background check for initial certification
- Certification Deficiency Plan (if applicable)
- TExES state certification examinations
- TOPT (for students teaching Spanish or French foreign languages)
- Probationary Teacher Certificate (if applicable)
- Alternative Teacher Certification Mentorship Fee
- Standard Teacher Certificate
- IMPACT Mentoring Fee

Graduate academic certificates

In cooperation with the Toulouse Graduate School, 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 Graduate School by calling 940-565-2383 or visiting the Eagle Student Services Center, Room 354, on the Denton campus. Additional information may be obtained by visiting graduateschool.unt.edu and navigating to “Graduate Academic Certificates” or visiting www.coe.unt.edu/about-coe/certificates.

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
- alternative certification in special education
- autism intervention
- behavioral specialist
- bilingual education
- child counseling/play therapy
- clinical mental health counseling
- college/university counseling
- community college leadership
- couple and family counseling
- English as a second language education
- family, school and community involvement
- gifted and talented education
- group counseling
- master reading teacher
- master writing teacher
- parent education
- recreational management
- secondary teacher certification
- 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

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.

Master’s Degree

All-Level Special Education (Project IMPACT) certification

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 Graduate School 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. Successfully completing an admission interview.
5. 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 TExES examinations.
3. Making application, fulfilling all state requirements, 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 advisor for details.

All-level special education (Project IMPACT)

- Bachelor’s degree.
- Successfully complete a pre-admission interview with IMPACT faculty and written agreement to abide by IMPACT policies and procedures.

Special education, 18 hours

- EDSP 5240 - Collaboration with Parents, Paraeducators and Professionals
- EDSP 5510 - Educational Appraisal of Exceptional Learners
- EDSP 5710 - Special Education Programs and Practices
- EDSP 5730 - Educational Aspects of Students with Mild to Moderate Disabilities
- EDSP 5740 - Learning Strategies for Promoting Proficiency in Reading and Language Arts for Exceptional Learners
- EDSP 5750 - Learning Strategies for Promoting Proficiency in Math and Content Area Subjects for Exceptional Learners

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).

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Teacher Certification

Administration certification, Principal

Routes to certification for graduate students

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, fulfilling all state requirements, 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.

Administration certification, principal

- A master's degree.
- Current Texas teacher certificate.
- Two or more years of creditable classroom teaching experience.

Administration, 36 hours

- EDAD 5300 - Introduction to Educational Administration
- EDAD 5330 - Instructional Leadership
- EDAD 5390 - Campus-Level School Law
- EDAD 5400 - Management of School Resources
- EDAD 5500 - Internship in Educational Administration
- EDAD 5600 - Race, Class and Gender Issues in Education
- EDAD 5610 - School Communications and Public Relations
- EDAD 5620 - Administration and Leadership for Student Educational Services
- EDAD 5630 - Organizational Change and School Improvement
- EDAD 5650 - Professional Development and Supervision
- EDAD 5680 - Administration of the K-12 Curriculum
- EDAD 5700 - Practicum in Educational Administration

Related academic area, 3 hours

- EDAD 5550 - Computer Applications for Educational Administrators or any approved course from EDCl, EDEE, EDRE, EDSE, CECS, EPSY, EDSP, ATTD.

Administration certification, Superintendent

Routes to certification for graduate students

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, fulfilling all state requirements, 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.

Superintendent administration certification

- The principal or mid-management certificate.

Educational administration:

- EDAD 6033 - Practicum, Field Problem or Internship
- EDAD 6110 - Advanced Theory and Research in Administration
- EDAD 6510 - Seminar in Advanced Education Law
- EDAD 6570 - Seminar in Advanced Educational Finance
- EDAD 6590 - The Superintendency

EC-6 Generalist Bilingual teacher certification

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 Graduate School 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. Successfully completing an admission interview.
5. 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 TExES examinations.

3. Making application, fulfilling all state requirements, 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 advisor for details.

EC-6 Generalist Bilingual

- Bachelor's degree.
- Admission to teacher education is required before beginning EC-6 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).
- Students in this route are required to enroll in courses each long term/semester (fall and spring) until they complete their program, although they have the option of summer enrollment. Not maintaining enrollment in the long terms/semesters requires permission of the program graduate advisor. 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.

Bilingual education, 18 hours

- EDEE 5840 - Engaging Students in Learning
- EDBE 5560 - Fundamentals of Bilingual and English as a Second Language Education in EC-12 Settings
- EDBE 5570 - Assessing Language and Content Learning in EC-12 Bilingual and English as a Second Language Education
- EDBE 5580 - Curriculum for EC-8 Bilingual Education
- EDBE 5590 - Pedagogy of English as a Second Language for EC-12 Classrooms
- EDRE 5070 - Literacy Development for English Learners

Practicum or student teaching, 6 hours

EDEE 5105 and EDEE 5115—practicum for students hired as teachers of record on Probationary Teacher's Certificate, or EDEE 5101 and EDEE 5102—student teaching.

EC-6 Generalist English as a Second Language teacher certification

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 Graduate School 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. Successfully completing an admission interview.
5. 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) subset of the TExES examinations.
3. Making application, fulfilling all state requirements, 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 advisor for details.

EC-6 Generalist English as a second language

- Bachelor's degree.
- Admission to teacher education is required before beginning EC-6 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).
- Students in this route are required to enroll in courses each long term/semester (fall and spring) until they complete their program, although they have the option of summer enrollment. Not maintaining enrollment in the long terms/semesters requires permission of the program graduate advisor. 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.

English as a second language (ESL) education, 18 hours

- EDEE 5840 - Engaging Students in Learning
- EDBE 5560 - Fundamentals of Bilingual and English as a Second Language Education in EC-12 Settings
- EDBE 5570 - Assessing Language and Content Learning in EC-12 Bilingual and English as a Second Language Education
- EDBE 5590 - Pedagogy of English as a Second Language for EC-12 Classrooms
- EDRE 5070 - Literacy Development for English Learners
- EDEE 5860 - Instructional Methodologies in Mathematics and Science
or
- EDBE 5582 - Curriculum for EC-8 ESL Education

Student teaching, 6 hours

EDEE 5101 and EDEE 5102 for students hired as teachers of record on Probationary Teacher's Certificates, EDEE 5105 and EDEE 5115 (one in each of two consecutive long terms/semesters).

Educational Diagnostician (all-level) administration certification

Routes to certification for graduate students

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, fulfilling all state requirements, 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.

Educational Diagnostician (all-level)

- Current Texas special education teaching certification earned through university course work.
- A master's degree.
- 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.
- Three years of appropriate teaching experience in special education by time of program completion.

Gifted and Talented (all-level) supplemental certification

Routes to certification for graduate students

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, fulfilling all state requirements, 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.

Requirements

- Bachelor's degree.
- Current Texas teacher certificate.

Required courses

- EPSY 5105 - Nature and Needs of the Gifted and Talented Student
- EPSY 5110 - Social and Emotional Components of Giftedness
- EPSY 5120 - Program Planning for the Education of Gifted and Talented Students
- EPSY 5130 - Methods and Curriculum for Teaching Gifted and Talented Students

Master Reading Teacher Certificate

Routes to certification for graduate students

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, fulfilling all state requirements, 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.

Master reading teacher

- Bachelor's degree.
- Current Texas teacher certificate.
- Three years of successful classroom teaching experience in an accredited school.

Reading education

- EDRE 5180 - Advanced Assessment and Evaluation in Reading
- EDRE 5200 - Development and Supervision of Reading Programs
- EDRE 5370 - Advanced Reading Theory/Practice
- EDEC 5653 - Making the Literacy Connection: Language to Reading

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Mathematics Education 4–8 (initial certification without an advanced degree)

Admission requirements

1. 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. (GPA based on a 4.0 scale.)
2. Passing scores on the 4–8 Mathematics Pre-admission Content Test (PACT)

Program requirements

Teacher education courses, 12 hours

- EDSE 5002 - Everyone Can Learn: Applying Theory to Teaching Practice
- EDSE 5004 - Literacy for All

- EDSE 5470 - Maintaining Classroom Discipline
- EDEE 5860 - Instructional Methodologies in Mathematics and Science

Student teaching or practicum, 6 hours

either student teaching EDEE 5103 and EDEE 5104 (taken concurrently) or practicum for students hired as teachers of record on probationary teacher certificate, EDSE 5105 and EDSE 5115 (one in each of two consecutive long terms/semesters).

Probationary Assistant Principal certification

Routes to certification for graduate students

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, fulfilling all state requirements, 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.

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

- Bachelor's degree.
- Current Texas teacher certificate.
- Two years of creditable classroom teaching experience.

Administration

- EDAD 5300 - Introduction to Educational Administration
- EDAD 5330 - Instructional Leadership
- EDAD 5390 - Campus-Level School Law
- EDAD 5400 - Management of School Resources

Probationary Principal certification

Routes to certification for graduate students

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, fulfilling all state requirements, 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.

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 principal

- Master's degree.
- Current Texas teacher certificate.
- Two years of creditable classroom teaching experience.

Administration

- EDAD 5300 - Introduction to Educational Administration
- EDAD 5330 - Instructional Leadership
- EDAD 5390 - Campus-Level School Law
- EDAD 5400 - Management of School Resources

Probationary Superintendent certification

Routes to certification for graduate students

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, fulfilling all state requirements, 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.

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 superintendent

Hold a professional mid-management or principal certificate.

School Counseling (elementary or secondary) teacher certification

School counseling (elementary or secondary)

- A master's degree.
- Current Texas teacher certificate.
- Two years of teaching experience in a TEA-accredited school.
- Admission to counseling program.

Elementary school counseling

- COUN 5460 - Program Development, Leadership and Ethics in School Counseling
- COUN 5470 - Career Development and Information Resources
- COUN 5660 - Advanced Counseling Skills
- COUN 5680 - Basic Counseling Skills
- COUN 5690 - Practicum in Counseling
- COUN 5700 - Introduction to Play Therapy
- COUN 5710 - Counseling Theories
- COUN 5720 - Internship in Counseling I
- COUN 5721 - Internship in Counseling II
- COUN 5740 - Group Counseling Theories and Procedures
- COUN 5760 - Appraisal in Child and Adolescent Counseling
- COUN 5770 - Counseling in the Elementary School
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5123 - Human Development Across the Life Span or
- COUN 5670 - Developmental Processes and Strategies
- EPSY 5210 - Educational Statistics
- one 3-hour elective chosen with advisor's consent

Secondary school counseling

- COUN 5200 - Counseling Adolescents
- COUN 5460 - Program Development, Leadership and Ethics in School Counseling
- COUN 5470 - Career Development and Information Resources
- COUN 5600 - Counseling in Secondary Schools
- COUN 5660 - Advanced Counseling Skills
- COUN 5680 - Basic Counseling Skills
- COUN 5690 - Practicum in Counseling
- COUN 5710 - Counseling Theories
- COUN 5720 - Internship in Counseling I
- COUN 5721 - Internship in Counseling II
- COUN 5740 - Group Counseling Theories and Procedures
- COUN 5760 - Appraisal in Child and Adolescent Counseling
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5123 - Human Development Across the Life Span
- EPSY 5210 - Educational Statistics
- one 3-hour elective chosen with advisor's consent

Routes to certification for graduate students

Advanced certification with 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 program specific requirements (see below).
2. Passing score on the TExES counselor examination.
3. Making application, fulfilling all state requirements, and paying fees to SBEC for the advanced certification.

Program specific requirements

Candidates must meet the program requirements for counselor certification. 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.

Science Education 4–8 (initial teacher certification without an advanced degree)

Admission requirements

1. 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. (GPA based on a 4.0 scale.)
2. Passing score on the 4–8 Science Pre-admission Content Test (PACT).

Program requirements

Teacher education courses, 12 hours

- EDSE 5002 - Everyone Can Learn: Applying Theory to Teaching Practice
- EDSE 5004 - Literacy for All
- EDSE 5470 - Maintaining Classroom Discipline
- EDEE 5860 - Instructional Methodologies in Mathematics and Science

Secondary teaching or practicum, 6 hours

either student teaching EDEE 5103 and EDEE 5104 (taken concurrently) or practicum for students hired as teachers of record on probationary teacher certificate, EDSE 5105 and EDSE 5115 (one in each of two consecutive long terms/semesters).

Secondary Education teacher certification

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 Graduate School 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. Successfully completing an admission interview.
5. 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 TExES examinations.
3. Making application, fulfilling all state requirements, 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 advisor for details.

Secondary Education

- 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.

- Teaching field: No additional courses if student passes the TExES content exam for the area in which certification is sought. This test is taken in the first term/semester of course work. If the student does not pass this exam, additional course work is required.

Teacher education (online courses)

- EDSE 5002 - Everyone Can Learn: Applying Theory to Teaching Practice
- EDSE 5004 - Literacy for All
- EDSE 5005 - Curriculum Development for Diverse Secondary School Learners
- EDSE 5470 - Maintaining Classroom Discipline

Student teaching or practicum, 6 hours

student teaching EDSE 5108 and EDSE 5118 (taken concurrently) or practicum for students hired as teachers of record on Probationary Teaching Certificates, EDSE 5105 and EDSE 5115 (one in each of two consecutive long terms/semesters).

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tgs.unt.edu/certificatedisclosure.

Department of Counseling and Higher Education

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The Department of Counseling and Higher Education provides programs designed to prepare professionals for leadership positions in schools, colleges, universities and the public sector.

Counseling offers graduate programs leading to the Master of Education, the Master of Science and the Doctor of Philosophy, all with a major in counseling.

These programs are designed for people who wish to become professional counselors and/or counselor educators and supervisors in schools, colleges, universities and community agencies or to become student services professionals.

The Council for Accreditation of Counseling and Related Educational Programs (CACREP) (1001 North Fairfax Street, Suite 510, Alexandria, VA 22314; 703-535-5990), 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.

Higher education offers graduate degree programs leading to the Master of Science, the Master of Education, the Doctor of Education and the Doctor of Philosophy, all with a major in higher education.

The program's faculty believe that higher education 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 education, learning theory, student affairs, business affairs, human development, resource development and others; and that study in higher education is strengthened 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 advancing 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 adolescent maturity, employability skills, group counseling, human relations training, human resources development 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 and animal assisted therapy.

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; transfer issues in state policies and college procedures; access and equity issues in higher education; 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 Higher Education program has been represented on the editorial boards of six 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 higher education program's 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 **Center for Higher Education** was established in 1972 with foci to provide professional development activities to graduate students and to disseminate research findings through books, journals and monographs. The center expanded its goals to include support of the UNT Law Conference, the National Institute for the Study of Transfer Students and comparative international studies.

The counseling program's **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 counseling program's **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 **Counseling and Human Development Center (CHDC)** and the **Child and Family Resource Clinic (CFRC)** are instructional facilities in which master's and doctoral level counselors-in-training provide counseling under faculty supervision. The CHDC and CFRC 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.

School certification non-degree program

Individuals with a master's degree from a CACREP-accredited program 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.

Master's Degree

Counseling, MEd

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 Graduate School. 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 Graduate School 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 March 15 preceding the fall term/semester or October 15 preceding the spring 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 COUN 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.

Program requirements

The MEd degree requires a minimum of 48 semester hours, including successful completion of internship, COUN 5720/COUN 5721, and a final exit interview. All degree programs must be planned in consultation with the student's advisor. 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/COUN 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.

The college and university counseling program area (Denton campus only) and the community counseling program area (Dallas campus only) 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 pursue licensure as a professional counselor in Texas should enroll in COUN 5480 prior to graduation in addition to degree requirements. 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 5460 - Program Development, Leadership and Ethics in School Counseling
- COUN 5470 - Career Development and Information Resources
- COUN 5660 - Advanced Counseling Skills
- COUN 5680 - Basic Counseling Skills
- COUN 5690 - Practicum in Counseling
- COUN 5710 - Counseling Theories
- COUN 5720 - Internship in Counseling I
- COUN 5721 - Internship in Counseling II
- COUN 5740 - Group Counseling Theories and Procedures
- COUN 5760 - Appraisal in Child and Adolescent Counseling
- COUN 5770 - Counseling in the Elementary School
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology
- COUN 5670 - Developmental Processes and Strategies

Elective

one course (3 hours) selected in consultation with the student's advisor.

Secondary school counseling track

Required courses

- COUN 5200 - Counseling Adolescents
- COUN 5460 - Program Development, Leadership and Ethics in School Counseling
- COUN 5470 - Career Development and Information Resources
- COUN 5600 - Counseling in Secondary Schools
- COUN 5660 - Advanced Counseling Skills
- COUN 5680 - Basic Counseling Skills
- COUN 5690 - Practicum in Counseling
- COUN 5710 - Counseling Theories
- COUN 5720 - Internship in Counseling I
- COUN 5721 - Internship in Counseling II
- COUN 5740 - Group Counseling Theories and Procedures
- COUN 5760 - Appraisal in Child and Adolescent Counseling
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology
- COUN 5670 - Developmental Processes and Strategies

Elective

- one course (3 hours) selected in consultation with the student's advisor.

College and university counseling track (Denton campus only)

Required courses

- COUN 5470 - Career Development and Information Resources
- COUN 5480 - Biopsychosocial Assessment and Wellness in Counseling
- COUN 5610 - Drug and Addiction Education for Counselors
- COUN 5660 - Advanced Counseling Skills
- COUN 5680 - Basic Counseling Skills
- COUN 5690 - Practicum in Counseling

- COUN 5710 - Counseling Theories
- COUN 5720 - Internship in Counseling I
- COUN 5721 - Internship in Counseling II
- COUN 5730 - Appraisal in Adult Counseling
- COUN 5740 - Group Counseling Theories and Procedures
- COUN 5750 - Professional Orientation, Ethics and College Student Development Theories
- COUN 5780 - The Student in Higher Education
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology
- COUN 5670 - Developmental Processes and Strategies

Community counseling track (Dallas campus only)

Required courses

- COUN 5300 - Systems, Leadership and Program Development in Clinical Mental Health Counseling
- COUN 5470 - Career Development and Information Resources
- COUN 5480 - Biopsychosocial Assessment and Wellness in Counseling
- COUN 5660 - Advanced Counseling Skills
- COUN 5680 - Basic Counseling Skills
- COUN 5690 - Practicum in Counseling
- COUN 5710 - Counseling Theories
- COUN 5720 - Internship in Counseling I
- COUN 5721 - Internship in Counseling II

- COUN 5730 - Appraisal in Adult Counseling
or
- COUN 5760 - Appraisal in Child and Adolescent Counseling

- COUN 5740 - Group Counseling Theories and Procedures
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology

- EPSY 5123 - Human Development Across the Life Span
or
- COUN 5670 - Developmental Processes and Strategies

Electives

- two courses (6 hours) from the student's area of emphasis selected in consultation with the student's advisor.

Counseling, MS

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 Graduate School. 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 Graduate School 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 March 15 preceding the fall term/semester or October 15 preceding the spring 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 COUN 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.

Program requirements

The MS degree requires a minimum of 60 semester hours, including completion of all MEd requirements 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 advisor. Students are required to file a degree plan during their first term/semester of graduate study. The master's degree program requires an internship, COUN 5720/COUN 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 5460 - Program Development, Leadership and Ethics in School Counseling
- COUN 5470 - Career Development and Information Resources
- COUN 5480 - Biopsychosocial Assessment and Wellness in Counseling
- COUN 5660 - Advanced Counseling Skills
- COUN 5680 - Basic Counseling Skills
- COUN 5690 - Practicum in Counseling
- COUN 5700 - Introduction to Play Therapy
- COUN 5710 - Counseling Theories
- COUN 5720 - Internship in Counseling I
- COUN 5721 - Internship in Counseling II
- COUN 5740 - Group Counseling Theories and Procedures
- COUN 5760 - Appraisal in Child and Adolescent Counseling
- COUN 5770 - Counseling in the Elementary School
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology
- COUN 5670 - Developmental Processes and Strategies

Electives, 12 hours

Four courses (12 hours) selected in consultation with the student's advisor.

Secondary school counseling track

Required courses

- COUN 5200 - Counseling Adolescents
- COUN 5460 - Program Development, Leadership and Ethics in School Counseling
- COUN 5470 - Career Development and Information Resources
- COUN 5480 - Biopsychosocial Assessment and Wellness in Counseling
- COUN 5600 - Counseling in Secondary Schools
- COUN 5660 - Advanced Counseling Skills
- COUN 5680 - Basic Counseling Skills
- COUN 5690 - Practicum in Counseling
- COUN 5710 - Counseling Theories
- COUN 5720 - Internship in Counseling I
- COUN 5721 - Internship in Counseling II
- COUN 5740 - Group Counseling Theories and Procedures
- COUN 5760 - Appraisal in Child and Adolescent Counseling
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology
- COUN 5670 - Developmental Processes and Strategies

Electives, 12 hours

Four courses (12 hours) selected in consultation with the student's advisor.

College and university counseling track

Required courses

- COUN 5470 - Career Development and Information Resources
- COUN 5480 - Biopsychosocial Assessment and Wellness in Counseling
- COUN 5610 - Drug and Addiction Education for Counselors
- COUN 5660 - Advanced Counseling Skills
- COUN 5680 - Basic Counseling Skills
- COUN 5690 - Practicum in Counseling
- COUN 5710 - Counseling Theories
- COUN 5720 - Internship in Counseling I
- COUN 5721 - Internship in Counseling II
- COUN 5730 - Appraisal in Adult Counseling
- COUN 5740 - Group Counseling Theories and Procedures
- COUN 5750 - Professional Orientation, Ethics and College Student Development Theories
- COUN 5780 - The Student in Higher Education
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology
- COUN 5670 - Developmental Processes and Strategies

Electives, 12 hours

Four courses (12 hours) selected in consultation with the student's advisor.

Clinical mental health counseling track

Required courses

- COUN 5290 - Ethical, Legal and Professional Issues in Clinical Mental Health Counseling
- COUN 5300 - Systems, Leadership and Program Development in Clinical Mental Health Counseling
- COUN 5470 - Career Development and Information Resources
- COUN 5480 - Biopsychosocial Assessment and Wellness in Counseling
- COUN 5490 - Crisis Intervention Counseling
- COUN 5610 - Drug and Addiction Education for Counselors
- COUN 5660 - Advanced Counseling Skills
- COUN 5680 - Basic Counseling Skills
- COUN 5690 - Practicum in Counseling

- COUN 5710 - Counseling Theories
- COUN 5720 - Internship in Counseling I
- COUN 5721 - Internship in Counseling II
- COUN 5730 - Appraisal in Adult Counseling
or
- COUN 5760 - Appraisal in Child and Adolescent Counseling
- COUN 5740 - Group Counseling Theories and Procedures
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology
- COUN 5670 - Developmental Processes and Strategies

Electives, 9 hours

- Three courses (9 hours) from the student's area of emphasis selected in consultation with the student's advisor.

Higher Education, MEd

Higher Education degrees

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 Graduate School, 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.

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).

Additional information

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 Barbara.Bush@unt.edu.

Higher Education, MS

Higher Education degrees

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 Graduate School, 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.

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.

Additional information

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 Barbara.Bush@unt.edu.

Doctorate

Counseling, PhD

Admission requirements

Applicants to the doctoral program must meet requirements for admission to the Toulouse Graduate School. 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. Applicants are expected to meet requirements of a CACREP-accredited master's degree in counseling. Applicants who do not meet this criterion must complete deficiency course work to meet CACREP-equivalent standards. Applicants must submit GRE scores and any program-specific admission materials. Contact the academic program for information concerning holistic admissions process including possible deficiency course work.

The admission examination and interview process for the counseling program are administered once each year early in the spring term/semester for acceptance to the doctoral program cohort for the following academic year. All required admission materials must be filed in the department office by November 1. All academic prerequisites must be completed prior to enrolling in the first semester of required doctoral course work. Contact program for specific requirements, deadlines and academic schedules.

Upon successful completion of the admission examination and interview process, admission to the counseling doctoral program is provisional until the student's progress is evaluated by the counseling faculty upon completion of COUN 6090, COUN 6210, COUN 6220, COUN 6230, COUN 6651, and COUN 6680. The student's progress is evaluated on the basis of the demonstration of adequate course knowledge and personal, interpersonal and counseling skills required for effective counselors/counselor educators. 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 and Higher Education. The degree requires a minimum of 75 semester hours beyond the master's degree. Courses listed below are 3 semester credit hours unless otherwise specified.

Counseling core courses for the doctoral program are:

- COUN 6090 - Counselor Supervision
- COUN 6140 - Advanced Multicultural Counseling (2 hours)
- COUN 6150 - Advanced Crisis Counseling (1 hour)
- COUN 6210 - Counseling Principles and Process I
- COUN 6220 - Counseling Principles and Process II: Consultation Emphasis
- COUN 6230 - Counseling Principles and Process III: Systems Emphasis
- COUN 6240 - Counseling Principles and Process IV: Career Emphasis
- COUN 6250 - Counseling Principles and Process V: Group Emphasis
- COUN 6260 - Counseling Principles and Process VI: Program Evaluation Emphasis
- COUN 6651 - Advanced Theories of Counseling
- COUN 6652 - Teaching Counselor Education
- COUN 6653 - Counselor Identity: Integration of Theory and Practice
- COUN 6680 - Ethical, Legal and Professional Issues in Counseling
- COUN 6950 - Doctoral Dissertation (12 hours minimum)

Research core

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education

Additional requirements

Students also choose a 9-hour counseling specialty from a list of specified course work, and must complete a minor of at least 12 semester hours outside the academic program or, with approval of student's doctoral advisory committee, may choose the elective option in lieu of minor. Students may not be enrolled in any COUN core course until they have been fully admitted to the doctoral program in counseling. Students are required to meet the UNT doctoral residence requirement during the fall and spring semester of their first year of doctoral study.

In addition to the degree requirements for a PhD in counseling, UNT requires that all doctoral students satisfy a 9-hour tool requirement. The tool subject area is determined by program areas. For students pursuing a PhD in counseling, the required tool subject is research and includes COUN 6130 and two additional 3-hour courses in research. The *Counseling Doctoral Program Handbook* provides specific details regarding course work requirements, mandatory clinical experiences, and additional professional experiences required in fulfillment of the counseling doctoral portfolio. Students are expected to pursue Texas counselor licensure while enrolled in the doctoral program.

Higher Education, EdD

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 Graduate School 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. The 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. The submission of three professional references.
5. The quality of the application essay.
6. An interview by program faculty.

Each semester has an application deadline. Contact the program for application deadlines.

After review of the application packet, eligible applicants will be invited to be interviewed by the faculty.

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 learning resource centers, 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

The minimum total number of hours required for the EdD is 60–66 hours beyond the master's degree or 90–96 hours beyond the bachelor's degree.

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 - Teaching and Learning in Higher Education
- EDHE 6510 - History and Philosophy of Higher Education
- EDHE 6520 - Students in Higher Education
- EDHE 6700 - Role of Higher Education in a Democracy
- EDHE 6710 - Organization and Administration of Higher Education

EdD base course requirements, 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 - The Professoriate in Higher Education
- EDHE 6720 - Academic Administration in Higher Education
- EDHE 6730 - Organization and Administration of Student Development Services
- EDHE 6740 - Planning and Analytical Systems in Higher Education
- EDHE 6760 - Higher Education Finance
- EDHE 6780 - Educational Resource Development in Higher Education
- EDHE 6790 - Legal Aspects of Higher Education

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.

Minor or cognate area, 12–15 hours

The student completes a minor of at least 12 semester hours from courses outside the department, or a cognate of 15 hours in an area of specialization in higher education.

College of Education research core, 6 hours

The College of Education requires that each student complete

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education

Research course requirement, 3 hours

- EDHE 6530 - Research on Higher Education

Dissertation research requirement, 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. A minimum of 12 hours is required.

Additional requirements

To meet the residency requirement for the EdD, students must enroll in a minimum of 18 semester hours during a calendar year.

Higher Education, PhD

The changes in number of hours required for the degree from 102–108 hours to 96–102 hours for students entering with a bachelor's degree and from 72–78 hours to 66–72 hours for students entering with a master's degree are pending approval by the Texas Higher Education Coordinating Board.

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 Graduate School 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. The 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. The submission of three professional references.
5. The quality of the application essay.
6. An interview by program faculty.

Each semester has an application deadline. Contact the program for application deadlines.

After review of the application packet, eligible applicants will be invited to be interviewed by the faculty.

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 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

The minimum number of hours required for the degree is 66–72 hours beyond the master's degree or 96–102 hours beyond the bachelor's degree.

Higher education doctoral core, 18 hours

Provides the student with a broad overview and integrated perspective of higher education as a field of study and academic enterprise:

- EDHE 6850 - Studies in Higher/Adult Education (this course must be completed in the first year of doctoral course work)
- EDHE 6510 - History and Philosophy of Higher Education
- EDHE 6520 - Students in Higher Education
- EDHE 6550 - Policy Studies in Higher Education
- EDHE 6710 - Organization and Administration of Higher Education
- EDHE 6790 - Legal Aspects of Higher Education

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. The student must work with his or her advisor to select the minor or cognate area.

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.

Internship, 6 hours

An administrative and/or research internship of 6 semester hours is required of all doctoral students. Internship may be waived for students who have 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 admission to the program. 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.

College of Education research core, 6 hours

The College of Education requires that each student complete

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education

Higher Education research requirement, 15 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 6 hours of higher education program research core and 9 hours of advanced quantitative or qualitative research methodology beyond EPSY 6010 and EPSY 6020.

Higher Education program research core, 6 hours

The higher education program research core consists of a series of two courses that must be taken in sequence and in consecutive semesters. This series is designed to help students strengthen their skills in conducting higher education research and in preparing for doctoral dissertation research. Prerequisites include College of Education research core (EPSY 6010 and EPSY 6020) and 30 hours completed in the higher education program.

- EDHE 6120 - Seminar in Higher Education Research I
- EDHE 6540 - Seminar in Higher Education Research II

Advanced research methodology, 9 hours

PhD students are required to take at least 9 hours of advanced quantitative or qualitative research course work beyond EPSY 6010 and EPSY 6020. Students must work with their major professor to select courses that will equip them for dissertation research.

Dissertation research requirement, 9 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. A minimum of 9 hours is required.

Residency requirement

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.

Department of Educational Psychology

Main Office
Matthews Hall, 316

Mailing address:
1155 Union Circle #311335
Denton, TX 76203-5017
940-565-2093

Web site: www.coe.unt.edu/educational-psychology

Abbas Tashakkori, Chair

The Department of Educational Psychology offers course work in research design and measurement; applied statistics program evaluation; the education of special populations and gifted learners; human development; family studies; and school psychology.

Certification and degree programs in the department focus on such areas as non-traditional education, research and evaluation design, special education, gifted education, human development and family studies.

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 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; cognitive development and information processing of traditional and special populations; statistical modeling; program evaluation; strategies for working with adult populations; and the study of developmental norms and family relationships.

Grants

Grants from the U.S. Department of Education, Texas Education Agency 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, and transition and correctional special education.

For students in the autism intervention program, funds are available only for students who currently teach in rural areas and are not able to come to the Denton or Dallas campus for instruction on a regular basis, thus requiring online courses.

Center for Parent Education

The Center for Parent Education meets the needs of students, professionals and families through training, resources and research. Research and projects are carried out by faculty and students in the Department of Educational Psychology in collaboration with other university faculty who have an interest and expertise in parent education and family support.

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 Science with a major in educational psychology
- Master of Education with a major in special education
- Doctor of Philosophy with a major in educational research
- Doctor of Philosophy with a major in special education

Specializations in special education include autism spectrum disorders, educational diagnostician, emotional and behavioral disorders, and mild/moderate disabilities. Specializations in educational psychology include family studies; gifted and talented; human development; learning and cognition; research, measurement and evaluation; and school psychology.

Depending on the degree attained, graduates of these programs normally seek employment in business and education as teachers, program administrators, supervisory personnel, assessment specialists, curriculum development specialists, research and evaluation specialists, and community college and university faculty members. Graduates may also be prepared to seek careers in parent education and/or family life, child life and life span development.

Applicants must meet requirements for admission to the Toulouse Graduate School 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 with the department. Please contact the EPSY graduate advisor (Laura.Musgrove@unt.edu) for details.

Alternative Teacher Certification

See the College of Education section of this catalog for information about UNT's Alternative Teacher Certification option in special education.

Master's Degree

Educational Psychology, MS

The Department of Educational Psychology (EPSY) addresses themes of cognition, behavior, and emotion within our society by generating research, disseminating knowledge, and preparing a diverse body of scholars who take leadership in their fields while enhancing the development and effective functioning of individuals, schools and families. We aspire to be regionally, nationally and internationally recognized for excellence in producing knowledge, providing service, and preparing scholars and professionals who will be leaders within educational and community settings.

Degree programs in educational psychology focus on physical, cognitive and social-emotional growth and change across the lifespan with regard to developmental norms; investigation of interpersonal relationships both inside and outside the family unit; application of knowledge regarding human development and exceptionalities in the educational environment; research, measurement, statistics and program evaluation; assessment of individuals in educational settings; and the needs of special populations with regard to education and intervention.

Admission process/requirements for master's degrees

The Department of Educational Psychology application includes a two-step process: the graduate school application and the departmental application.

Step 1, Toulouse Graduate School application

Apply through the Toulouse Graduate School at www.applytexas.org. Submit application fee and official transcripts from all schools attended to their office. If the minimum GPA requirements are met, the packet will be forwarded to the department for review. You must meet the admission requirements of the Toulouse Graduate School, including a minimum 3.4 GPA on a master's degree work (if applying with a master's degree), 2.8 on bachelor's (if applying without a master's degree), or (alternatively) GPA of 3.0 on the last 60 credit hours you took if applying with a bachelor's degree.

Step 2, Departmental admissions process/requirements

1. Submission of official GRE scores is required: verbal, quantitative and analytical writing. The department views high GRE scores as positive indicators of potential success in the programs; however, low GRE scores do not exclude a candidate who shows positive indicators in other areas. GRE scores must be sent electronically from ETS, institutional code 6481.
2. At least two written letters of recommendation from individuals who can give evidence of the candidate's reading, critical thinking, writing and mathematical skills. These letters can be sent from the reference, signed and on letterhead.
3. Resume or vita that includes the candidate's previous work and/or educational experiences.
4. A personal statement (1–3 pages) is required, stating your goals and rationale for applying to the desired degree concentration. In this statement, please make sure to include a brief description of your job experiences. For example, if you have teaching experience, or if you have experience working with special populations, please summarize these experiences, and explain how they are linked to your educational aspirations. Also, if you have any research and/or evaluation experiences, please summarize them and link to your current degree application.
5. All program application materials, including official GRE scores, must be received within two months of the submitted application.

Note: Educational Diagnostician Concentration also requires a copy of your teaching certificate and two years experience as a fully licensed teacher.

Degree requirements

The Master of Science with a major in educational psychology requires 36 hours of graduate course work.

Educational psychology core, 9 hours

- EPSY 5000 - Introduction to Educational Psychology
- EPSY 5050 - Foundations of Educational Research Methodology
- EPSY 5350 - Foundations of Psychoeducational Measurement

Required concentration courses, 18 hours

Select one of the following concentrations.

Family studies

- EPSY 5113 - Developmental and Family Theory
- EPSY 5313 - Parent-Child Interaction
- EPSY 5323 - Parent and Family Education
- EPSY 5413 - Family Relationships
- EPSY 5433 - Partnerships: Family, School and Community
- EPSY 5443 - Family Economics and Management

Gifted and talented

- EPSY 5105 - Nature and Needs of the Gifted and Talented Student
- EPSY 5110 - Social and Emotional Components of Giftedness

- EPSY 5120 - Program Planning for the Education of Gifted and Talented Students
- EPSY 5123 - Human Development Across the Life Span
- EPSY 5130 - Methods and Curriculum for Teaching Gifted and Talented Students
- EPSY 5210 - Educational Statistics

Human development

- EPSY 5113 - Developmental and Family Theory
- EPSY 5123 - Human Development Across the Life Span
- EPSY 5133 - Infant and Child Development
or
- EPSY 6103 - Cognitive and Language Development
- EPSY 6163 - Diversity in Individuals, Families and Schools
- EPSY 6153 - Social-Emotional Development
- One elective course in human development with advisor's approval

Research, measurement and evaluation

- EPSY 5210 - Educational Statistics
- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education
- EPSY 6120 - Foundations of Program Evaluation
- EPSY 6220 - Classical and Modern Educational Measurement Theory
- EPSY 5240 - Survey Research Methods in Education
or
- EPSY 5250 - Grant Proposal Writing Techniques

Learning and cognition

- EPSY 5010 - Human Learning
- EPSY 5123 - Human Development Across the Life Span
- EPSY 5210 - Educational Statistics
- EPSY 5550 - Learning Theories
- EPSY 6101 - Human Perception
- EPSY 6102 - Human Motivation

School psychology

- EPSY 5700 - Professional Issues in School Psychology
- EPSY 6165 - Cognitive and Academic Assessment
- EPSY 6166 - Social-Emotional and Behavioral Assessment
- EPSY 6167 - Behavioral Problems in Children and Adolescents
- EPSY 6168 - Collaboration and Consultation
- 3 hours of bilingual school psychology selected in consultation with advisor

Electives, 6 hours

Selected in consultation with advisor

Capstone course, 3 hours

- EPSY 5990 - Supervised Research, Evaluation or Clinical Intervention

Special Education, MEd

Admission process/requirements

The Department of Educational Psychology application includes a two-step process: the graduate school application and the departmental requirements.

Step 1: Toulouse Graduate School application

Apply through the Toulouse Graduate School at www.applytexas.org. Submit application fee and official transcripts from all schools attended to their office. If the minimum GPA requirements are met, the packet will be forwarded to the department for review. You must meet the admission requirements of the Toulouse Graduate School, including a minimum 3.4 GPA on a master's degree work (if applying with a master's degree), 2.8

on bachelor's (if applying without a master's degree), or (alternatively) GPA of 3.0 on the last 60 credit hours you took if applying with a bachelor's degree.

Step 2: Departmental admissions process/requirements

1. Submission of official GRE scores is required: verbal, quantitative and analytical writing. The department views high GRE scores as positive indicators of potential success in the programs; however, low GRE scores do not exclude a candidate who shows positive indicators in other areas. GRE scores must be sent electronically from ETS, institutional code 6481.
2. At least two written letters of recommendation from individuals who can give evidence of the candidate's reading, critical thinking, writing and mathematical skills. These letters can be sent from the reference, signed and on letterhead.
3. Resume or vita that includes the candidate's previous career and/or educational experiences.
4. A personal statement (1–3 pages) is required, stating your goals and rationale for applying to the desired degree concentration. In this statement, please make sure to include a brief description of your job experiences. For example, if you have teaching experience, or if you have experience working with special populations, please summarize these experiences, and explain how they are linked to your educational aspirations. Also, if you have any research and/or evaluation experiences, please summarize them and link to your current degree application.
5. All program application materials, including official GRE scores, must be received within two months of the submitted application.

Note: Educational Diagnostician Concentration also requires a copy of your teaching certificate and two years experience as a fully licensed teacher.

Degree requirements

All students completing the Master of Education with a major in special education degree are required to complete a minimum of 36 hours as follows. (See department for alternative course requirements)

Departmental core, 9 hours

- EPSY 5000 - Introduction to Educational Psychology
- EPSY 5050 - Foundations of Educational Research Methodology
- EPSY 5350 - Foundations of Psychoeducational Measurement

Common courses in special education, 9 hours

Course selection made with advisor's approval.

- EDSP 5240 - Collaboration with Parents, Paraeducators and Professionals
- EDSP 5710 - Special Education Programs and Practices
or
- EDSP 5520 - Special Education Law
- EDSP 5330 - Classroom and Behavior Management Strategies for Exceptional Learners
or
- EDSP 5320 - Introduction to Functional Assessment

Concentration area, minimum 18 hours

Autism

- EDSP 5310 - Introduction to Autism Spectrum Disorders
- EDSP 5340 - Teaching Students with High Functioning Autism
- EDSP 5350 - Educational Programming for Students with Autism Spectrum Disorders

- EDSP 5360 - Assessment of Autism Spectrum Disorders
- EDSP 5370 - Autism Across the Life Span
- EDSP 5640 - Field Experience with Children/Youth with Emotional and Behavioral Disorders II

Emotional and behavioral disorders

- EDSP 5320 - Introduction to Functional Assessment
- EDSP 5600 - Characteristics of Children/Youth with Emotional and Behavioral Disorders
- EDSP 5615 - Positive Behavioral Interventions in Educational and Related Settings
- EDSP 5620 - Educational Programming for Children/Youth with Emotional and Behavioral Disorders
- EDSP 5660 - Transition of Youth with Emotional and Behavioral Disorders
- EDSP 5630 - Field Experience with Children/Youth with Emotional and Behavioral Disorders I (consultation with advisor)
(and, if needed in consultation with advisor: EDSP 5640 - Field Experience with Children/Youth with Emotional and Behavioral Disorders II)

Educational diagnostician

- EDSP 5510 - Educational Appraisal of Exceptional Learners
- EDSP 5520 - Special Education Law
- EDSP 5530 - Individualized Diagnostic Assessment I: Practicum
- EDSP 5540 - Individualized Diagnostic Assessment II: Practicum
- EDSP 5560 - Assistive Technology
- EPSY 5210 - Educational Statistics

Mild/moderate disabilities

(IMPACT: Instructional Model to Prepare Adept Certified Teachers in Special Education)

- EDSP 5200 - Characteristics of Individuals with Learning Disabilities
(For IMPACT students: EDSP 5730 - Educational Aspects of Students with Mild to Moderate Disabilities)
- EDSP 5230 - Advanced Seminar in Learning Disabilities: Educational Theories and Practices
(For IMPACT students: EDSP 5740 - Learning Strategies for Promoting Proficiency in Reading and Language Arts for Exceptional Learners)
- EDSP 5670 - Teaching Social Skills to Children and Youth with Disabilities
- EDSP 5755 - Adapting Curriculum to Meet Special Learning Needs
(For IMPACT students: EDSP 5750 - Learning Strategies for Promoting Proficiency in Math and Content Area Subjects for Exceptional Learners)
- Two specialization elective courses with advisor's approval

Completion of master's comprehensive exam

Doctorate

Educational Research, PhD

Admission is selective and restricted. Applicants are considered throughout the year.

Applicants must meet requirements for admission to the Toulouse Graduate School.

Admission process/requirements

The Department of Educational Psychology application includes a two-step process: the graduate school application and the departmental application.

Step 1, Toulouse Graduate School application

Apply through the Toulouse Graduate School at www.applytexas.org. Submit application fee and official transcripts from all schools attended to their office. If the minimum GPA requirements are met, the packet will be forwarded to the department for review. You must meet the admission requirements of the Toulouse Graduate School, including a minimum 3.4 GPA on a master's degree work (if applying with a master's degree), 2.8 on bachelor's (if applying without a master's degree), or (alternatively) GPA of 3.0 on the last 60 credit hours you took if applying with a bachelor's degree.

Step 2, Departmental admissions process

1. Submission of official GRE scores is required: verbal, quantitative and analytical writing. The department views high GRE scores as positive indicators of potential success in the programs; however, low GRE scores do not exclude a candidate who shows positive indicators in other areas. GRE scores must be sent electronically from ETS, institutional code 6481. GRE scores must be less than 5 years old.
2. Three (written) letters of recommendation from academic or professionally applicable sources.
3. Professional resume that delineates the applicant's previous work, educational experiences, membership and involvement in professional organizations or scholarly activities.
4. A personal statement of career objectives including how this doctorate will advance those objectives.

Degree requirements

Educational psychology requirement, 9 hours

- EPSY 5550 - Learning Theories
- EPSY 6040 - Foundations of Educational Psychology
- EPSY 5123 - Human Development Across the Life Span

Major requirements, 18 hours

- EPSY 6020 - Research Methods in Education
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6220 - Classical and Modern Educational Measurement Theory
- EPSY 6230 - Theory and Application of Hierarchical Linear Modeling
- EPSY 6280 - Qualitative Research in Education
- EPSY 6290 - Multivariate Statistics in Education

Concentration, 21 hours

Select one of the following:

Research, measurement and statistics

- EPSY 6005 - Statistical Theory and Simulations
- EPSY 6240 - Technology in Research
- EPSY 6250 - Item Response Theory
- EPSY 6270 - Structural Equation Modeling
- plus 9 hours to fit student needs [may include EPSY 6030 (3 or 6 hours) and 3–6 hours of 5000-level courses in the major area].

Human development and family studies

- EPSY 6113 - Application of Developmental Theories in Research
- EPSY 6103 - Cognitive and Language Development
- EPSY 6153 - Social-Emotional Development
- EPSY 6313 - Application of Family Theory in Research
- EPSY 6323 - Critical Issues in Families
- EPSY 6333 - The Changing Family

Plus 3 hours from

- EPSY 5133 - Infant and Child Development
- EPSY 6013 - Professional Development in Human Development and Family Studies
- EPSY 5250 - Grant Proposal Writing Techniques
- EPSY 6270 - Structural Equation Modeling

Capstone/proposal preparation, 3 hours

- EPSY 6260 - Advanced Seminar in Educational Psychology and Special Education

Dissertation, 12 hours minimum

- EPSY 6950 - Doctoral Dissertation (3, 6 or 9 hours)

Tool requirement, 6 hours

- EPSY 5210 - Educational Statistics
- EPSY 6010 - Statistics for Educational Research

Further information

Additional information is available on the program web site (www.coe.unt.edu/educational-psychology).

Special Education, PhD

Applicants must meet requirements for admission to the Toulouse Graduate School. The general requirements are described in the College of Education section.

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.

PhD admission process/requirements

The Department of Educational Psychology application includes a two-step process: the graduate school application and the departmental application.

Step 1: Toulouse Graduate School application

Apply through the Toulouse Graduate School at www.applytexas.org. Submit application fee and official transcripts from all schools attended to their office. If the minimum GPA requirements are met, the packet will be forwarded to the department for review. You must meet the admission requirements of the Toulouse Graduate School, including a minimum 3.4 GPA on a master's degree work (if applying with a master's degree), 2.8 on bachelor's (if applying without a master's degree), or (alternatively) GPA of 3.0 on the last 60 credit hours you took if applying with a bachelor's degree.

Step 2: Departmental admissions process

1. Submission of official GRE scores is required: verbal, quantitative and analytical writing. The department views high GRE scores as positive indicators of potential success in the programs; however, low GRE scores do not exclude a candidate who shows positive indicators in other areas. GRE scores must be sent electronically from ETS, institutional code 6481. GRE scores must be less than 5 years old.
2. Three (written) letters of recommendation from academic or professionally applicable sources.
3. Professional resume that delineates the applicant's previous work, educational experiences, membership and involvement in professional organizations or scholarly activities.
4. A personal statement of career objectives including how this doctorate will advance those objectives.

5. Critical response to "What is 'good' education research?" (2 pages maximum, double spaced; contact department for more information), considering issues within your anticipated field of study.
6. Writing sample from previous research project(s) or course work.

Degree requirements

Educational psychology PhD core, 9 hours

- EPSY 5550 - Learning Theories
- EPSY 6040 - Foundations of Educational Psychology
- EPSY 5123 - Human Development Across the Life Span

Research cognate, 15 hours

- EPSY 5250 - Grant Proposal Writing Techniques
- EPSY 6020 - Research Methods in Education
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6240 - Technology in Research

Select any two from the following

- EPSY 6005 - Statistical Theory and Simulations
- EPSY 6220 - Classical and Modern Educational Measurement Theory
- EPSY 6230 - Theory and Application of Hierarchical Linear Modeling
- EPSY 6250 - Item Response Theory
- EPSY 6280 - Qualitative Research in Education
- EPSY 6290 - Multivariate Statistics in Education
- EPSY 6270 - Structural Equation Modeling
- EPSY 6800 - Selected Topics (when taught as "Hierarchical Linear Modeling")
- CECS 6800 - Special Topics in Educational Computing (when taught as "Multidimensional Scaling")

Special education requirements, 9–12 hours

- a. Each student must complete a 9–12 hour core chosen from the following courses listed below. The courses are chosen based on the student's specialization area.
 - EDSP 6290 - Special Education and Public Policy (UNT)
 - EDSP 6440 - Research Issues in Special Education (UNT)
 - EDUC 6103 - Social, Psychological and Educational Aspects of Mental Retardation and Developmental Disabilities (3 hours) (TWU) and/or
 - An approved EDUC course from TWU (3 hours) (TWU)

In addition to the above 9–12 hour requirement, students must complete a sequence of specialization courses at their respective degree-granting institutions. In general, the following courses apply to each institution, but variations in requirements may occur based on the academic background and the terminal goals of the student.

- b. Each student must complete a minor area. The number of hours in the minor area is determined by the respective program areas.
- c. All entering students may complete 9 semester hours of introductory research and statistics and 9 additional credit hours in either advanced research and statistics or computer education.

Specialization courses

- 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
- EPSY 6800 - Selected Topics (when taught as “Special Education Research and Writing”)
- EPSY 6800 - Selected Topics (when taught as “Educational Programming for Students with Autism Spectrum Disorders”)
- EPSY 6800 - Selected Topics (when taught as “Theoretical Issues: Medical Aspects of Autism”)

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

Dissertation, 12 hours

Tool subject requirements

- EPSY 5210 - Educational Statistics (if not taken during the master’s degree)
- EPSY 6010 - Statistics for Educational Research

Additional requirements

The student must complete successfully the written and oral qualifying examination.

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. Journal-formatted dissertations are encouraged.

Department of Kinesiology, Health Promotion and Recreation

Main Office
Physical Education Building, Room 209

Mailing address:
1155 Union Circle #310769
Denton, TX 76203-5017
940-565-2651

Web site: www.coe.unt.edu/khpr

Allen Jackson, Chair

The Department of Kinesiology, Health Promotion and Recreation offers graduate programs leading to the Master of Science with majors in kinesiology and in recreation and leisure studies.

The Department of Biology, in conjunction with the Department of Kinesiology, Health Promotion and Recreation, offers a PhD with a major in biology and concentration in exercise psychology.

The degrees offered and the career opportunities afforded by the degree programs are outlined in the program descriptions below.

Kinesiology, MS

Admission requirements

Applicants for admission into the department’s graduate program 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 Graduate School.
3. Minimum undergraduate grade point average (GPA) of 3.0 overall or a 3.25 for the last 60 hours or a minimum 3.4 master’s GPA.
4. Submission of competitive GRE scores are required. 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. The program does not provisionally admit students for one semester prior to submission of standardized test scores.
5. A typed candidate 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.

Recreation and Leisure Studies, MS

Admission requirements

Applicants for admission into the department’s graduate program 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 Graduate School.
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.

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.

Master's Degree

Kinesiology, MS

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 develop an interest area in exercise physiology or sport and exercise psychology.

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

Examples of current research projects include the study of physical activity; social and psychological factors associated with physical fitness and body composition; effective coaching behavior; mental skills related to performance success; physiology of resistance exercise related to hormones, nutrition, health and performance; measurement and evaluation of physical fitness; and concurrent feedback and practice organization on the learning of motor skills.

Financial support for the research programs comes from internal faculty research grants and instructional grants, as well as external funding agencies.

Degree requirements, 36 hours

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 exercise physiology or sport and exercise psychology.

Kinesiology core, 15 hours

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

Electives

The remaining 15–21 hours will be electives approved by the major professor with no more than 6 hours outside of KINE.

Thesis option

Thesis students will complete 6 hours of

- KINE 5950 - Master's Thesis

Non-thesis option

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 5910). 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, MS

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 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, state or federal agencies, parks, outdoor education centers, camps, YMCAs, intramural and campus recreation programs, corporations and fitness clubs.

Research

In their research, recreation and leisure studies faculty employ various methods and techniques also used in professional practice. Specific research examples include administration of leisure services, community and economic aspects of recreation, and recreation opportunities for persons with disabilities.

Financial support for research programs is generated by the faculty from internal university resources and external grants and contracts.

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.

Additional admission requirements

Applicants for admission into the recreation and leisure studies graduate program must submit a letter of application, current resume, one page statement of career interest and two letters of reference pertaining to the applicant's aptitude for graduate work. 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.

Degree requirements

Core courses, 15 hours

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

Program management career interest, 9 hours

Students with a career interest in program management take the following 9 hours of elective courses

- RECR 5060 - Areas and Facilities for Recreation and Sport
- RECR 5080 - Recreation Program Design
- RECR 5850 - Proseminar in Leisure Services Management

Therapeutic recreation career interest, 9 hours (not currently accepting students)

Students with a career interest in therapeutic recreation take the following 9 hours:

- RECR 5130 - Principles of Therapeutic Recreation
- RECR 5760 - Techniques in Therapeutic Recreation
- RECR 5870 - Trends and Issues in Therapeutic Recreation

Options under the degree

Thesis option

Students selecting the thesis option will register for 6 hours of thesis credit and will complete a 6-hour minor.

- RECR 5950 - Master's Thesis

Non-thesis option

Students selecting the non-thesis option will register for the course listed below and will complete a 9-hour minor. Non-thesis students will complete a written comprehensive examination appropriate to the selected interest area.

- RECR 5110 - Critical Analysis of Professional Literature

Additional course requirements

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 the course listed below as a deficiency (does not count on the degree plan).

- RECR 5860 - Practicum in Leisure Services

Area of emphasis, 6–9 hours

An area of emphasis (6–9 hours) to complete the 36-hour program is selected in consultation with the graduate advisor. Recommended areas of emphasis include public administration, sociology, computer science, education, business, psychology, rehabilitation studies, gerontology, kinesiology and health promotion.

Department of Teacher Education and Administration

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Matthews Hall, Room 206

Mailing address:
1155 Union Circle #310740
Denton, TX 76203-5017
940-565-2920
Web site: www.coe.unt.edu/tea

Nancy Nelson, Chair

Program Offices and Advising:

Curriculum and Instruction
Matthews Hall, Room 218
940-565-2922

Early Childhood Studies
Matthews Hall, Room 218
940-565-2922

Educational Administration
Matthews Hall, Room 218
940-565-2175

Elementary Education, Initial Certification (EC–6, 4–8)
Matthews Hall, Room 204
940-565-2826

Language, Literacy, and Bilingual Education
Matthews Hall, Room 218
940-565-2922

Bilingual/ESL Certification Programs
Matthews Hall, Room 206
940-565-2931

Secondary Education, Initial Certification (8–12) Matthews Hall, Room 207
940-565-2826

Field Experience (PDS, Student Teaching)
Matthews Hall, Room 204
940-565-4226

The Department of Teacher Education and Administration seeks to improve educational practice through the generation of knowledge and to prepare education professionals who serve all students in an effective, inclusive and equitable manner. Its focus is on the preparation of highly competent educators, researchers and administrators who employ current theory and research as they fill these important roles. The department also provides service to educational institutions, governmental agencies and practitioners at all levels.

Master's degrees in curriculum and instruction, early childhood studies, secondary education and educational administration.

Doctoral programs in curriculum and instruction and educational administration. The degree in curriculum and instruction includes concentrations in curriculum studies, language and literacy studies, and early childhood studies. Both degrees provide preparation for academic positions in universities and for advanced positions of educational leadership in 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: research articles and scholarly books, textbooks in wide use throughout Texas and the United States and 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, Center for the Study of Educational Reform and Professional Development Schools are also sites for interdisciplinary efforts.

Child Development Laboratory

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.

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

Faculty 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. The application is available online.

A limited number of doctoral fellowships are available through the Toulouse Graduate School. Applications may be obtained through that office.

Degree programs

The Department of Teacher Education and Administration offers graduate programs in early childhood studies, curriculum and instruction, educational leadership, and secondary education.

Certification options

The department offers several options at the graduate level leading to educator certification, including:

- MEd program in secondary education, which includes initial certification
- Post-baccalaureate, non-degree programs in
 - EC-6 Generalist ESL
 - EC-6 Generalist Bilingual Education

- Grades 4-8 Mathematics or Science
- Grades 6-12 Secondary in various content areas
- Principal Certification Program, offered in conjunction with the MEd in educational administration
- Superintendent Certification Program, which may be pursued along with a doctoral program in educational administration or may be taken as certification-only

Master's Degree

Curriculum and Instruction, MEd

The Master of Education degree with a major in curriculum and instruction was designed to enhance the knowledge and expertise of educators, combining theoretical perspectives and research-based practice.

Admission requirements

1. A valid Texas teaching certificate or equivalent.
2. Admission to the Toulouse Graduate School as a degree-seeking candidate with a major in curriculum and instruction.
3. Submission of GRE scores, essay, letter of intent and resume. Contact the academic program for information concerning additional admission requirements.

Degree requirements

- EDCI 5130 - Philosophy and Principles of Multicultural Education
- EDCI 5320 - Curriculum Development
- EDCI 5360 - Effective Teaching and Learning
- EDCI 5710 - Curriculum and Instruction Inquiry I
- EDCI 5720 - Curriculum and Instruction Inquiry II
- EDSP 5755 - Adapting Curriculum to Meet Special Learning Needs
- 18 additional hours in one or more academic resource areas, as approved by the department.

Note

A portfolio presentation is required within the culminating course, EDCI 5720.

Early Childhood Studies, MS

Admission to the master's program in early childhood studies is a two-step process. Each applicant must first apply to and meet the general admission requirements of the Toulouse Graduate School at UNT.

Then, applications for students who meet initial admission standards are forwarded to the Early Childhood Studies Admissions Committee for review and final decision. Final acceptance into the master's program is contingent upon the following:

1. GRE or GMAT scores submitted to the Toulouse Graduate School. Standardized test results will be considered in combination with other indicators and need not exclude a candidate who otherwise demonstrates strengths that would facilitate master's study.
2. Three satisfactory letters of reference from professionals who address the applicant's ability to successfully pursue graduate study.
3. An application letter explaining the purpose for undertaking graduate study at UNT, including professional plans or career goals and a discussion of professional interests.
4. A resume detailing professional experience.

Degree requirements

All MS students in early childhood studies are required to complete the following.

Early childhood studies master's core, 18 hours

- EPSY 5133 - Infant and Child Development
- EPSY 5433 - Partnerships: Family, School and Community
- EPSY 6163 - Diversity in Individuals, Families and Schools
- EDEC 5513 - Advanced Studies in Early Childhood Education
- EDEC 5633 - Assessment in Early Childhood Education
- EDEC 5643 - Leadership and Supervision of Programs

Research requirement, 6 hours

- EPSY 5210 - Educational Statistics
- EDEC 5013 - Research Strategies in Early Childhood Studies

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 early childhood studies master's core and the research requirement cited above, students selecting the 36-hour thesis option must also complete 6 hours of EDEC 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 early childhood education (EDEC) courses.

Non-thesis Option: In addition to the early childhood studies master's core and the research requirement cited above and consultation with their committee (see below), students selecting the 39-hour non-thesis option must also complete 3 additional hours of EDEC 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 EDEC 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).

Educational Administration, MEd

A Master of Education degree program in educational leadership is available. This program leads to certification as a principal. Individuals applying to the educational leadership program must have all application materials in the program office by the following dates:

- For Summer term/semester – April 15
- For Fall term/semester – July 15
- For Spring term/semester – November 15

Admission requirements

Admission to graduate study is described in the College of Education and the Toulouse Graduate School sections. To complete admission requirements for the educational leadership program, the student must request an admissions application packet from the educational leadership program office. The requirements 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. GRE scores: 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 leadership, critical thinking and writing skills.
5. An essay describing why the applicant is seeking a master's degree in educational leadership, identifying relevant educational experiences and strengths, and providing

evidence that he or she will be a successful educational leader in an increasingly multicultural environment. Applicant documentation should show evidence of experience with diverse learners and populations.

6. Resume or curriculum vitae that includes the candidate's previous work and educational experiences. The applicant will have two (2) full years of teaching experience.
7. A program application form.

Degree requirements

Required courses

- EDAD 5300 - Introduction to Educational Administration
- EDAD 5330 - Instructional Leadership
- EDAD 5390 - Campus-Level School Law
- EDAD 5400 - Management of School Resources
- EDAD 5600 - Race, Class and Gender Issues in Education
- EDAD 5610 - School Communications and Public Relations
- EDAD 5620 - Administration and Leadership for Student Educational Services
- EDAD 5630 - Organizational Change and School Improvement
- EDAD 5650 - Professional Development and Supervision
- EDAD 5680 - Administration of the K-12 Curriculum
- EDAD 5700 - Practicum in Educational Administration

Elective

The student must select one elective course from the following: EDCl, EDEE, EDSE, EPSY, EDSP, EDRE, ATTD, CECS, EDAD or as approved by advisor.

Additional requirements

- Provisional teaching certificate
- Two years of teaching experience in an accredited school.
- EDAD 5500 - Internship in Educational Administration (required for principal certification)

Note

See Principal Administration certificate.

Secondary Education, MEd

Initial teacher certification with a Master of Education in Secondary Education

The Department of Teacher Education and Administration offers the Master of Education with a major in secondary education along with 8-12 certification at the post-baccalaureate level in all content areas available to undergraduate students. The master's degree in secondary education requires 36 semester credit hours, at least 12 of which are completed as part of the initial post-baccalaureate secondary program.

Students must meet the admissions requirements for the Master of Education in secondary education, which are different from those of the initial certification program. Acceptable Graduate Record Examination (GRE) scores, a one-page resume, and an admissions interview. Students must apply and be admitted to the post-baccalaureate initial certification program to be eligible to pursue the master's in secondary education. Program advisors can provide details.

Doctorate

Curriculum and Instruction, PhD

The PhD with a major in curriculum and instruction is a research-intensive degree intended primarily for individuals who will have careers as scholars, researchers and teacher educators in higher education or will hold other research-oriented leadership positions. The overall objectives are for students (1) to gain an integrative perspective on education, (2)

to have a firm grounding in educational theory, pedagogical practice and research methodology, (3) to engage in educational efforts focused on social justice and equity, (4) to develop research agendas to pursue in their own professional careers and (5) to be prepared to be leaders in research and pedagogy.

This 60 credit hour doctoral program has three concentration areas: curriculum studies, early childhood studies, and language and literacy studies.

Admission requirements

All students accepted into this doctoral program must meet admission requirements established by the Toulouse Graduate School including application form, official transcripts and test scores. Also, for admission into this program, students are expected to have competitive scores on the Graduate Record Exam (verbal, quantitative, and analytical writing); and, for applicants whose native language is not English, a score of at least 550 on the Test of English as a Foreign Language (TOEFL) is required. Applicants must provide the following to the department:

1. three letters of recommendation from individuals who can address the applicant's ability to pursue doctoral-level studies and potential for contributing to a field of study related to the degree;
2. a detailed statement of purpose describing research interests and plans and purpose for pursuing the PhD in curriculum and instruction; and
3. a curriculum vitae demonstrating prior educational and professional experience.

Decisions about admission are based on a holistic review of the information from all these sources.

Residency requirement

The doctoral degree must be completed within the time frame, guidelines and residency requirements established by the Graduate School and /or the UNT College of Education.

Curriculum and instruction core courses, 12 hours

Required of all students.

- EDUC 6040 - Traditions of Inquiry
- EDUC 6050 - Culture, Identity and Education
- EDUC 6120 - Theoretical Foundations for Educational Studies
- EDUC 6220 - Issues of Educational Law and Policy

Research courses, 15 hours

The required research courses (9 hours) provide a foundation in research approaches that are considered quantitative and those considered qualitative.

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education
- EDCI 6280 - Qualitative Research in Education
- or
- EPSY 6280 - Qualitative Research in Education

Two additional courses

Within the research area, the student experiences some flexibility and has some choice for the additional two courses (6 hours) that are most relevant to the research that he or she intends to do.

Concentration courses, 18 hours

In each concentration area there are four mandatory courses (12 hours) in that concentration plus two courses (6 hours) relevant to the student's interests and goals that will be selected by the student and advisor.

Curriculum studies

- EDCI 6220 - Conceptual Models of Curriculum Development
- EDCI 6230 - Implementation and Evaluation of Curriculum
- EDCI 6340 - Conceptual Models of Learning and Instruction
- EDCI 6360 - Critical Issues in Curriculum Studies
- Two additional courses selected by the student and advisor

Early childhood studies

- EDEC 6533 - Current Readings and Research in Early Childhood Studies
- EDEC 6543 - Contemporary Critical Issues in Early Childhood Studies
- EDEC 6623 - Advocacy/Activism in Early Childhood Studies
- EDEC 6800 - Special Topics in Early Childhood Studies
- Two additional courses selected by the student and advisor

Language and literacy studies

- EDLL 6060 - Research Design in Literacy and the Language Arts
- EDLL 6070 - Politics of Literacy
- EDLL 6080 - Survey of Literacy Research
- EDLL 6100 - Seminar in Language, Literacy and Culture
- Two additional courses selected by the student and advisor

Note

Additional course work may be required of students who do not have a master's degree in the relevant concentration.

Elective, 6 hours

For the electives included in the course plan, students are encouraged to take courses that complement their program. Electives may come from other departments and colleges outside teacher education and administration.

Dissertation, 9 hours

After advancing to candidacy, students are required to take a total of 9 semester credit hours for the dissertation, EDUC 6950.

Transfer courses

With consent of the advisor, relevant transfer courses can be included in the degree plan in accordance with the policy of the UNT Graduate School.

Educational Administration, EdD

The Doctor of Education degree with a major in educational leadership is designed for students who plan careers as district-level school administrators. This degree emphasizes the application of educational research and accepted management practice to educational leadership. Minor fields may be selected from any other discipline at the university.

Certification as a superintendent can be part of this program. Five courses are required for this certification, four of which also apply toward the EdD. The fifth course is a superintendent internship. (See Administration Certification, Superintendent.)

Students who plan careers as university professors or educational researchers may consider the PhD program in educational administration. In contrast to the EdD, the PhD program includes more preparation for conducting research.

Admission requirements

Applicants must submit documentation to the educational leadership program office by October for the spring semester or March for the fall semester. 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 Graduate School, 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 the 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.

Applicants must submit official scores for the verbal, quantitative and analytical writing sections of the GRE for admission.

Each EdD applicant must submit an admissions portfolio, including:

1. Letters of recommendation 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 the individual's professional work.
2. A detailed resume.
3. Documentation of having experience as a public or private school teacher at the elementary or secondary school level.
4. Documentation of having experience in administrative, managerial or other leadership positions.
5. A three-page personal statement. (Contact program for details.)
6. A sample of his or her best written work in the form of a published article or book chapter, a research term paper, or a district or agency report.
7. A three-page discussion of the two or three most important books that he or she has read recently.

Applicants must also complete a written admissions exam. The admissions exam is given twice each year, in November and April.

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. It is up to the student to make sure that all requested items have been submitted.

Residency requirement

See residency requirements in the "Doctoral degree requirements" section of this catalog.

Doctor of Education degree requirements

The following are minimum degree requirements for students in the EdD program.

Core courses, 12 hours

- EDAD 6100 - Theories of Organizational Development and Reform
- EDAD 6160 - Professional Learning Communities: Research and Practice
- EDAD 6570 - Seminar in Advanced Educational Finance
- EDAD 6580 - Administration and Supervision of the Instructional Program

Research and statistics, 12 hours

Select from

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6285 - Qualitative Data Analysis in Education

- EPSY 6290 - Multivariate Statistics in Education
- EDCI 6280 - Qualitative Research in Education or
- EPSY 6280 - Qualitative Research in Education

Focus area, 24 hours

12 hours each from two of the following groups

Superintendent certification

- EDAD 6110 - Advanced Theory and Research in Administration
- EDAD 6450 - Public School Finance, Business Management, and Facilities
- EDAD 6510 - Seminar in Advanced Education Law
- EDAD 6590 - The Superintendency

Educational administration electives

- EDAD 6200 - Current Issues in Educational Administration
- EDAD 6400 - Politics of Educational Administration
- EDAD 6520 - Personnel Administration in the Public Schools
- EDAD 6530 - Educational Facilities
- EDAD 6550 - Business Administration of the Public Schools

Special areas

Curriculum studies, language and literacy studies, special education, counseling, technology, bilingual education, public administration, learning technologies, business, or management, or other area as approved by advisor/major professor.

Dissertation, 12 hours minimum

Educational Administration, PhD

The PhD program prepares individuals to conduct and evaluate research that will expand knowledge in educational leadership. Typically, the PhD student plans a career as a university professor, a policy analyst, or a research director in a state or local education agency.

Admission requirements

Applicants must submit documentation to the educational leadership program office by October 15 for the spring semester or March for the fall semester. Applicants must apply for admission to the PhD program in educational leadership. 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.

Applicants must meet requirements for admission to the Toulouse Graduate School, 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 the doctoral program must have complete 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 leadership. 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.

Applicants must submit official scores for the verbal, quantitative and analytical writing sections of the GRE for admission.

Each PhD applicant must submit an admissions portfolio, including:

1. Letters of recommendation 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 the individual's professional work.
2. A detailed resume.
3. Documentation of having experience as a public or private school teacher at the elementary or secondary school level.

4. Documentation of having experience in administrative, managerial or other leadership positions.
5. A three-page personal statement. (Contact program for details.)
6. A sample of his or her best written work in the form of a published article or book chapter, a research term paper, or a district or agency report.
7. A three-page discussion of the two or three most important books that he or she has read recently.

Applicants may be required to complete a written admissions exam. The admissions exam is given twice each year, in November and April.

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. It is up to the student to make sure that all requested items have been submitted.

Residency requirement

See Residency requirement in the “Doctoral degree requirements” section of this catalog.

Degree requirements

The following are minimum degree requirements for students in the PhD program.

Core courses, 18 hours

- EDAD 6100 - Theories of Organizational Development and Reform
- EDAD 6400 - Politics of Educational Administration
- EDAD 6510 - Seminar in Advanced Education Law
- EDAD 6570 - Seminar in Advanced Educational Finance

Plus two courses selected from

- EDAD 6110 - Advanced Theory and Research in Administration
- EDAD 6310 - Research Practicum
- EDAD 6900 - Special Problems

Research and statistics, 9 hours

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education

Plus one course selected from

- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6220 - Classical and Modern Educational Measurement Theory
- EPSY 6230 - Theory and Application of Hierarchical Linear Modeling
- EPSY 6280 - Qualitative Research in Education

Educational administration electives, 12 hours

Selected from

- EDAD 6110 - Advanced Theory and Research in Administration
- EDAD 6200 - Current Issues in Educational Administration
- EDAD 6310 - Research Practicum
- EDAD 6520 - Personnel Administration in the Public Schools
- EDAD 6540 - Education and Public Relations
- EDAD 6580 - Administration and Supervision of the Instructional Program
- EDAD 6590 - The Superintendency
- EDAD 6900 - Special Problems

Minor field, 15 hours

Preferably taken outside the program in a field related to the student’s area of research interest.

Dissertation, 12 hours

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 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 12 hours of foreign language.

College of Engineering

Dean's Office
Discovery Park, Room A140

Mailing address:
1155 Union Circle #310440
Denton, TX 76203-5017
940-565-4300

Web site: engineering.unt.edu

Costas Tsatsoulis, Dean

Kuruvilla John, Associate Dean
Vijay Vaidyanathan, Associate Dean
Miguel Garcia-Rubio, Associate Dean

Programs of study

The College of Engineering, through its disciplines of science, engineering and technology, offers course work leading to the Master of Science and the Doctor of Philosophy.

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 five academic departments.

- Department of Computer Science and Engineering
- Department of Electrical Engineering
- Department of Engineering Technology
- Department of Materials Science and Engineering
- Department of Mechanical and Energy Engineering

Research

Research interests in the Department of Computer Science and Engineering include databases, game programming, wired and wireless networks, computer security, artificial intelligence, natural language processing, computer systems architecture, collaborative learning, parallel and distributed processing, numerical analyses, wireless communication, image understanding and computer vision, sensor fusion, data mining, computational epidemiology, VLSI design, medical imaging, compilers, algorithm analyses, human factors, cryptography, and bioinformatics.

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, telemedicine, 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 are focused in the areas of computational materials modeling, advanced metallic materials, polymers, renewable bioproducts, nano-composites, electronic materials, optoelectronics, ceramics and glass, and materials characterization. The graduate

programs emphasize student-centered hands-on multi-disciplinary research with modern world-class equipment and facilities housed in the department.

Research areas within the Department of Mechanical and Energy Engineering include novel energy conversion systems for solar and wind energy applications, energy conservation technology for built environment, zero-energy buildings, environmental monitoring and modeling to study urban and regional-scale air quality, biomedical heat transfer, environmentally friendly electronic systems, stress analysis in thin films, fracture and failure of solid materials, nanomaterials, micro- and nano-scale machining, fabrication and characterization.

Advising

For general information, contact the Toulouse Graduate School. For specific requirements for graduate degrees, contact the appropriate department chair or graduate advisor.

Department of Computer Science and Engineering

Main Departmental Office
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Mailing address:
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Denton, TX 76203-5017
940-565-2767

Web site: www.cse.unt.edu

Barrett Bryant, Chair

The Department of Computer Science and Engineering offers the Master of Science with majors in computer engineering and in computer science and the Doctor of Philosophy with a major in computer science and engineering.

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 and engineering.

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 Department 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 that focuses on computer systems, intelligent systems and computer security. Within computer systems, faculty research includes work in architecture, compiler design, parallel and distributed processing, sensor fusion, software engineering, VLSI design, and wired and wireless networks. Areas within intelligent systems include bioinformatics, collaborative learning, computational epidemiology, databases and data mining, game programming, human factors, image understanding and computer vision, medical imaging and natural language processing. Research in computer security includes cryptography. Supporting areas include algorithm analysis and numerical analysis.

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.

Centers

The **Center for Computational Epidemiology and Response Analysis** (CeCERA) is a UNT center that operates under the Provost and Vice President for Academic Affairs. The Department of Computer Science and Engineering's Computational Epidemiology Research Laboratory (CERL) is part of CeCERA. CERL applies computational science paradigms to the domain of public health researchers.

The **Center for Information and Computer Security** (CICS) has helped UNT earn the designation of "Center of Academic Excellence in Information Assurance Education" from the National Security Agency for its strong computer and information security program. This designation places UNT among the top institutions in the country in the field of computer security.

The **Net-Centric Software and Systems Center** is an NSF Industry/University Collaborative Research Center. Drawing on the expertise of industry and academia, the center focuses on a collaborative approach of research and development in net-centric and cloud computing systems. Net-centric and cloud computing operations offer a computing model for the future. In this paradigm, applications are no longer viewed as having a fixed set of capabilities, but as a set of higher reliable services that are dynamically created from acquired services, then verified and validated in the field in real-time. The center explores the development, verification, and validation of applications and systems for net-centric and cloud environments such that the applications and services meet service level agreements (SLAs), including response time, reliability and security.

Laboratories

The **Bioinformatics Laboratory** conducts research on developing databases and analysis tools for genomics and many other research areas in the life sciences.

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. CERL is part of CeCERA (the UNT Center for Computational Epidemiology and Response Analysis).

The **Computer Systems Research Laboratory** focuses its work on researching multithreaded and multicore architectures for both embedded and high-performance applications. Research includes work in processing architectures, memory systems, cache memories and software tools to utilize the special capabilities of underlying hardware systems, and in developing both hardware and software solutions to improve performance, reduce energy consumption and prevent security breaches.

The **Computer Vision and Intelligent Systems (CoVIS) Laboratory** seeks to advance the understanding of the theories of machine learning for processing complex data and to develop applications in areas such as medicine and geo-information. The center's research focuses on both algorithm innovation and hardware integration, which includes computer vision, pattern recognition, data mining, and artificial intelligence. The CoVIS lab is facilitated with state-of-the-art computing resources and various imaging technologies. The lab provides both graduate and undergraduate students a unique, collaborative research cohort to further their career goals.

The **Declarative Programming Languages and Computational Mathematics Lab** focuses on the design and implementation of logic and functional programming languages, their inferential aspects and their synergies with logic, type theory and computational mathematics.

The **Dependable Computing Systems Lab** conducts research on failure modeling, failure management, adaptive failure resilience, failure-aware resource management and power-aware dependable computing. The lab conducts both fundamental and applied research to develop highly dependable and energy-efficient distributed and cloud computing systems.

The **Geometric Computing Laboratory** conducts research to improve the theoretical efficiency of algorithms with particular focus on geometric problems. GCL has been successful in mentoring students and involving them in synergistic activities associated with international conferences funded by UNT/National Science Foundation.

The **Global Software Development Laboratory** investigates problems related to teaching people how to work more effectively in global teams. The laboratory examines various software and human issues and how these factors interact in the context of a computer supported collaborative environment. It is also interested in testing whether specific problems can be remediated through direct or indirect intervention and whether these remediation strategies actually improve team performance. The group studies methodologies, techniques and technologies that address these issues.

The **Information Management and Knowledge Discovery Lab (IMKD)** focuses on information processing and data mining for emerging applications (e.g., spatial, spatio-temporal, streaming, web and sensor

databases). Current projects include a number of topics in spatial data mining, geo-stream processing, modeling network similarity, trajectory modeling and privacy preserving. The lab conducts both fundamental and applied research and development to enable the use of information technology for many application domains, such as environmental monitoring, transportation and social networking.

The **Laboratory for Recreational Computing (LARC)** serves as a center for research, education and development in the field of video game programming.

The **Language and Information Technologies Laboratory** focuses on research on natural language processing, information retrieval, and applied machine learning, with current projects covering a number of topics in lexical semantics, graph-based natural language processing and information retrieval, and multilingual natural language processing.

The **Multimedia Information Laboratory** conducts research on multimedia (videos and images) processing, multimedia information extraction, and multimedia information modeling and retrieval, which includes video and image segmentation, motion and color analysis, image quality analysis, and object recognition by region clustering and classification. The lab is one of the pioneers in medical image and video processing, and it pursues cutting-edge research on various endoscopies.

The **NanoSystem Design Laboratory (NSDL)** conducts research in design and CAD for low-power high-performance nanoscale mixed-signal, mixed-discipline systems. NSDL researches on power, leakage and timing models; incorporates them in CAD flow through optimization methodology; and demonstrates them through computational intensive applications. NSDL members conduct their research using modern state-of-the-art hardware facilities to meet the computational demands of nanoscale VLSI design and CAD. These facilities include multiple Quad core high-end servers, several terabytes of storage servers and commercial standard electronic design automation (EDA) tools.

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 **Software Engineering Language Lab (SELL)** maintains a focus on issues relating to software engineering and programming language design and implementation. This focus includes research in software engineering techniques designed to improve the quality of computer language design and implementation as well as research into language design and implementation methods to facilitate development, testing and execution of well-designed software.

The **Trusted Secure Systems Laboratory** conducts research on building trusted and secure computing systems.

The **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.

Admission to degree programs

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.

September 15 — spring term/semester
February 15 — fall term/semester

Assistantships

In addition to completing an application for admission, students who wish to be considered for an assistantship must complete an assistantship application by February 15 for the fall semester and by September 15 for the spring semester. Assistantship applications are available on the department's web site.

Additional information

Programs are listed below. Information regarding the department's degree programs, including admission requirements and degree requirements, can be obtained from the department's web site.

Master's Degree

Computer Engineering, MS

The department offers the Master of Science with a major in computer engineering.

Admission requirements

Admission requirements for the MS with a major in computer engineering will be the same as the requirements for the Computer Science, MS.

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 advisor and the Dean of the Graduate School. 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 Graduate School after the degree plan has been approved.

Leveling courses

- CSCE 2100, Computing Foundations I
- CSCE 2110, Computing Foundations II
- CSCE 3612, Embedded Systems Design
- CSCE 3730, Reconfigurable Logic
- EENG 3510, Electronics I (Devices and Materials)

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 (31 hours that include CSCE 5020 and 6 hours of thesis).

Leveling courses cannot be counted.

Option B: Course Option (37 hours that include CSCE 5020 and may include 3 hours of project or 6 hours of problem in lieu of thesis).

Leveling courses cannot be counted.

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 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 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.

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. To qualify for the master's degree, the student must earn a grade of B or better in each of the core courses.

Course requirements

The four computer engineering areas are VLSI, communications and networks, real-time systems, and computer systems. The specific courses comprising each area can be obtained from the department.

General courses

- CSCE 5900 - Special Problems
- CSCE 5910 - Special Problems
- CSCE 5932 - Internship
- CSCE 5934 - Directed Study
- CSCE 5950 - Master's Thesis

Computer Science, MS

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 Graduate School as well as the following admission requirements of the computer science and engineering department:

1. the Graduate Record Examination (GRE); contact the department or the Toulouse Graduate School for information concerning typical admission test scores;
2. for applicants whose native language is not English, UNT graduate school guidelines will be followed;
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, CSCE 3110, and CSCE 3600; some undergraduate leveling sequences are available; and
5. at least 12 hours of mathematics, including differential and integral calculus, 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 advisor and the dean of the Graduate School. 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 Graduate School 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 (31 hours that include CSCE 5020 and 6 hours of thesis). Leveling courses cannot be counted toward the degree plan hours.

Option B: Course Option (37 hours that include CSCE 5020 and may include 3 hours of project or 6 hours of problem in lieu of thesis). Leveling courses cannot be counted toward the degree plan 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.

All master's students in computer science must complete CSCE 5150 - Analysis of Computer Algorithms. The remaining courses and areas of specialization are selected in consultation with the student's advisor.

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. To qualify for the master's degree, the student must earn a grade of B or better in each of the core courses.

Doctorate

Computer Science and Engineering, PhD

The program of study for the doctoral degree with a major in computer science and engineering 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 and engineering.

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 Computer Science, MS and/or Computer Engineering, MS. Additional requirements are delineated below:

1. an acceptable score on the Graduate Record Examination (GRE); contact the department or the Toulouse Graduate School 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, Toulouse Graduate School guidelines will be followed; 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

The PhD in computer science and engineering requires 72 graduate semester hours beyond the bachelor's degree, including no more than 12 hours of dissertation, or 42 graduate semester hours beyond the master's degree, including no more than 12 hours of dissertation.

In addition to satisfying the general requirements for all UNT doctoral degrees listed in this catalog, each PhD student must satisfactorily complete the following:

1. A minimum of 6 hours of 6000-level organized courses in computer science and engineering;
2. The residence requirement, consisting of two consecutive terms/semesters of enrollment in at least 9 semester hours other than thesis or dissertation hours;
3. PhD qualifying requirements:
 - a. Formation of a PhD committee after, at most, four long semesters. This committee shall consist of the student's advisor (major professor) and at least three additional members.

- b. Students must have a copy of their degree plan, complete and approved by the Graduate School.
 - c. Student shall complete, with a grade of B or higher, a theoretical course (such as Analysis of Algorithms) that is recommended/approved by the student's PhD committee.
 - d. Research Readiness Exam: an oral exam to be conducted by the student's PhD committee. The format of this oral exam is to be determined by the student's PhD committee. At the discretion of the PhD committee, the research readiness exam may be combined with the qualifying examination.
 - e. Student shall complete the qualifying examination requirements as outlined by the CSCE "Results of PhD Qualifying Examination" requirements form (located in the CSCE main office).
 - f. Results of the qualifying examination and the assessment of the student's research readiness shall be recorded in part II of this form, signed by the committee and submitted to the graduate secretary for processing.
4. Dissertation Proposal Defense: an oral presentation of a detailed research plan. The research plan (prospectus) is distributed to the committee well in advance, and an examination announcement will be distributed for interested graduate faculty and students.
 5. Dissertation Defense: upon completion, the dissertation is to be distributed to the committee members at least four weeks prior to the final examination date. The candidate will prepare a formal presentation of their dissertation research and results to be defended during an oral exam.
 6. Upon completion of the dissertation defense, the student shall be required to present at a departmental colloquium. The colloquium is different from the dissertation defense and prepares the candidate to present his or her research to a broader audience.

Pass-through master's degree (30 hours of course work)

Pass-through degree only. Students who have completed the comprehensive exams may apply for this option after the completion of 40 hours in the doctoral program.

Department of Electrical Engineering

Main Departmental Office
Discovery Park, Room B270

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Murali Varanasi, Chair

The Department of Electrical Engineering at the University of North Texas commits to achieving excellence in research and graduate education in 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 research at the frontiers of electrical engineering; (3) to facilitate access to our faculty expertise and our modern facilities, and (4) to serve the industry, the profession, and other constituents in North Texas, the state and the nation.

Research laboratories

The Department of Electrical Engineering has state-of-the-art instructional and research laboratories and software to provide practical and advanced hands-on experiences. Some laboratories and instrumentation from other departments are also available for interdisciplinary work.

The **Analog, RF and Mixed-Signal Design Laboratory** supports teaching, research and development of RF, microwave systems and antenna designs. Researchers in this laboratory design, fabricate and test new RF/microwave/millimeter-wave circuits both in the board level and the chip level. Researchers also design new antennas for different applications. All activities are supported by facilities for simulations, prototyping and measurement of RF/microwave components and systems.

The **Autonomous Systems Laboratory** focuses on information assurance, decision making and video communications aspects in autonomous systems, such as unattended aerial vehicles (UAVs). The laboratory consists of infrastructure and simulation tools necessary to develop protocols for autonomous systems and to analyze their performance. The laboratory has several indoor and outdoor robots that are used to develop and test decentralized decision-making and task-scheduling algorithms. The laboratory's infrastructure includes a wireless video sensor network platform suitable for simulating applications such as video surveillance.

The **Communications and Signal Processing Laboratory (CSPL)** focuses on design and development of advanced communication techniques to provide efficient and robust information transmission over wired and wireless networks. Working in concert with academia and industry partners, CSPL is dedicated to research in coding, information theory, encryption, wireless networking and software defined radio.

The **Computer-Aided Design (CAD) Laboratory** supports teaching and research activities related to analog, digital, mixed signal, VLSI/SoC design, test and test verification. Resources include Cadence, Xilinx, LabVIEW, MATLAB, Advanced Design Systems, and Mentor Graphics.

Research in the **Speech, Music and Digital Signal Processing Laboratory** involves the study of different acoustic aspects, including speech (production, perception, transmission, analysis and synthesis, recognition, and speaker identification), ultrasound, hearing prosthetics, music (analysis, synthesis and transcription), and management of acoustic signals with applications of digital signal processing methods and devices. Researchers are interested in human-computer verbal dialog interfaces and in the influence of auditory perception on emotions. The laboratory is equipped with a large acoustic booth, audio analyzers, and modern hardware and software.

The main goal of the **Vision, Robotics and Control Systems Laboratory** is to support research in the areas of large-scale dynamical networks, decentralized control, pattern recognition, image processing, computer vision, computational intelligence, robotics and allied areas. The laboratory consists of infrastructure and simulation tools for computer vision and pattern recognition applications and control systems design.

The **Wireless Systems and Sensor Networks Research Laboratory** focuses on system-level issues that are critical for the design of high-performance wireless networks and intelligent sensor networks. Current research topics include energy efficient networking protocols for distributed sensor networks, experimental and theoretical study of wireless system performance, statistical and real-time signal processing, measurement and modeling of wireless channels, optimum network deployment and connectivity, and development of sensor networks for environmental monitoring applications.

The **Texas Environmental Observatory (TEO)** aims to provide near real-time data on environmental conditions in the state of Texas using a ground-based network of observatories. It also provides cyber infrastructure to make these data readily available to the public and amenable to modeling analysis and synthesis (www.teo.unt.edu). TEO operates one station in Discovery Park.

Master's Degree

Electrical Engineering, MS

Program objectives

1. Graduates will achieve master's-level proficiency in electrical engineering subjects that include digital and analog circuit 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 Graduate School as well as the admission requirements of the electrical engineering department as follows:

1. Competitive score on the Graduate Record Examination (GRE); or graduation from the UNT undergraduate electrical engineering program or a related program at UNT with an overall GPA of 3.0 or better within three years of earning the bachelor's degree.
2. Acceptable scores on the TOEFL for applicants whose native language is not English.
3. A GPA of at least 3.0 on undergraduate electrical engineering course work.
4. Course work in mathematics.

An overall evaluation of credentials is used as a basis for admission to the program. Leveling courses will be required for applicants with degrees other than electrical engineering.

Admission to candidacy

After removal of all deficiencies and upon completion of all the leveling courses described below, the student is required to submit a formal degree plan to his or her advisor and the dean of the Graduate School. 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 3710, Computer Organization
- EENG 3810, Communications Systems

All entering students must demonstrate knowledge of the material covered in the leveling courses by:

- completing the courses at UNT,
- completing similar courses at another recognized institution, or
- evidence based on employment experience.

A student may be required to pass a placement examination to fulfill this requirement.

Degree requirements

Option A, Thesis option

Thesis option with 24 semester hours of course work and 6 semester hours of EENG 5950 - Master's Thesis, excluding undergraduate prerequisites, leveling courses, and EENG 5932 - Internship.

Option B, Non-thesis option

Non-Thesis option with 33 semester hours of course work and 3 semester hours of EENG 5890 - Directed Study, excluding undergraduate prerequisites, leveling courses, and EENG 5932 - Internship.

Course selection

Core courses

Three core courses with a grade of B or better.

Electrical engineering, 18–24 hours

At least 18 (thesis option) or 24 (non-thesis option) semester hours of organized graduate courses in electrical engineering excluding EENG 5890, EENG 5900 and EENG 5950.

Directed study or special problems courses

Students may apply no more than 6 hours of EENG 5890 and/or EENG 5900 to the degree.

Leveling courses

A student whose undergraduate major is not electrical engineering must take additional leveling courses that will be decided by the electrical engineering graduate advisor on an individual basis.

Department of Engineering Technology

Main Departmental Office
Discovery Park, Room F115

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Enrique Barbieri, Chair

The department serves two basic roles. In the broader sense, it provides exposure to technology in theory and in practice for general understanding and interpretation of industry. In a more practical sense, the department provides technology-based education that results in professional technical careers in industry. Career opportunities for graduates are in industry/business.

Research

The Master of Science with a major in engineering systems offered by the Department of Engineering Technology builds primarily upon accredited baccalaureate degree programs in engineering and in engineering technology, and in related fields including computer science, mathematics, and physics. The degree provides an advanced knowledge of engineering technology tools and an understanding of their direct application to current and emerging industry requirements.

The MS degree offers thesis and non-thesis options in the specializations areas of construction management, electrical systems, engineering management, and mechanical systems. In collaboration with the College of Business, a dual MS/MBA program is also available to qualified candidates.

Research in engineering technology entails the systematic application of advanced science, engineering and mathematics to synthesize an implementable solution to a problem of industrial relevance using known or emerging technology. The word “technology” is used to include appropriate hardware specific to any engineering discipline; software such as CAD/CAE; or an abstract design technique or an algorithm described in a textbook, a patent or any other scholarly publication. Therefore, research in engineering technology is naturally translational, applied and led by short- to medium-term industry needs.

Degree programs

The department offers a graduate program with thesis and non-thesis options leading to the following degrees:

- Master of Science with a major in engineering systems (thesis)
- Master of Science with a major in engineering systems (non-thesis)

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 to incorporate undergraduate deficiencies. In addition, applicants must meet departmental requirements for the Graduate Record Examination scores. Contact the department or the Toulouse Graduate School for information concerning competitive admission test scores.

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 advisor in the departmental office, Discovery 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 advisor.

Master's Degree

Engineering Systems (non-thesis), MS

The program of study for the Master of Science with a major in engineering systems is a comprehensive program that provides for a degree of specialization with the proper selection of courses within the major. A thesis option is also available: Engineering Systems (thesis), MS.

Option 2, Master of Science, non-thesis

The graduate credit requirement for the MS degree with a major in engineering systems, non-thesis option, is 33 semester hours chosen in one of the following concentrations. A project and/or examination is required of all degree candidates for the non-thesis option.

Construction management concentration

Required courses, 15 hours

- MGMT 5210 - Human Resource Management Seminar
or
- MSES 5030 - Product Design and Development
or
- MSES 5330 - Instrumentation system Design
- MSES 5020 - Design of Experiments
- MSES 5040 - Analytical Methods for Engineering Systems
- MSES 5060 - Technology Innovation
- MSES 5930 - Research Problems in Lieu of Thesis

Technical courses, 6 hours

6 credit hours selected from

- AECO 5050 - Seminar in Contemporary Applied Economic Problems (when taught as “Construction Dispute Avoidance and Resolution”)
- MSES 5200 - Advanced Construction Scheduling
- MSES 5220 - Building Information Modeling
- MSES 5230 - Risk Management in Construction

Electives, 12 hours

Engineering systems electives, 12 credit hours.

Electrical systems concentration

Required courses, 15 hours

- MSES 5330 - Instrumentation system Design
or
- MSES 5030 - Product Design and Development
- MSES 5020 - Design of Experiments
- MSES 5040 - Analytical Methods for Engineering Systems
- MSES 5060 - Technology Innovation
- MSES 5930 - Research Problems in Lieu of Thesis

Technical courses, 6 hours

6 semester hours selected from

- MSES 5300 - Embedded Controllers
- MSES 5310 - Industrial Process Controls
- MSES 5320 - Introduction to Telecommunications
- MSES 5340 - Digital Logic Design Techniques

Electives, 12 hours

Engineering systems electives, 12 credit hours.

Engineering management concentration

Required engineering courses, 15 hours

- MSES 5020 - Design of Experiments
- MSES 5030 - Product Design and Development
- MSES 5040 - Analytical Methods for Engineering Systems
- MSES 5060 - Technology Innovation
- MSES 5930 - Research Problems in Lieu of Thesis

Management courses, 15 hours

- ACCT 5020 - Accumulation and Analysis of Accounting Data
- MKTG 5150 - Marketing Management

Plus 9 hours from

Three additional courses (9 credit hours) selected from the following:

- MGMT 5120 - Managing Organizational Design and Change
- MGMT 5210 - Human Resource Management Seminar
- MGMT 5240 - Project Management
- MGMT 5280 - Analysis and Design of Operations System
- MGMT 5760 - Strategic Management
- MGMT 5850 - Materials Management

Elective, 3 hours

Engineering systems elective, 3 credit hours.

Mechanical systems concentration

Required courses, 15 hours

- MSES 5330 - Instrumentation system Design
or
- MSES 5030 - Product Design and Development
- MSES 5020 - Design of Experiments
- MSES 5040 - Analytical Methods for Engineering Systems
- MSES 5060 - Technology Innovation
- MSES 5930 - Research Problems in Lieu of Thesis

Technical courses, 6 hours

6 semester hours selected from the following:

- MSES 5100 - Nontraditional Manufacturing Processes
- MSES 5120 - Computer-Integrated Manufacturing
- MSES 5130 - Product Reliability and Quality
- MSES 5150 - Applications of Electron Microscopy and Failure Analysis
- MSES 5160 - Creep and Fatigue in Engineering Design and Systems Performance

Electives, 12 hours

Engineering systems electives, 12 credit hours.

Engineering Systems (thesis), MS

The program of study for the Master of Science with a major in engineering systems is a comprehensive program that provides for a degree of specialization with the proper selection of courses within the major. A non-thesis option is also available: Engineering Systems (non-thesis), MS.

Option 1, Thesis

The graduate credit requirement for the MS degree is 30 semester hours chosen in one of the following concentrations. A formal proposal and an oral defense of the thesis are required of all degree candidates.

Construction management concentration

Required courses, 15 hours

- MGMT 5210 - Human Resource Management Seminar
or

- MSES 5030 - Product Design and Development
or
- MSES 5330 - Instrumentation system Design

- MSES 5020 - Design of Experiments
- MSES 5040 - Analytical Methods for Engineering Systems
- MSES 5060 - Technology Innovation
- MSES 5950 - Master's Thesis (6 hours)

Technical courses, 6 hours

6 credit hours selected from

- AECO 5050 - Seminar in Contemporary Applied Economic Problems (when taught as "Construction Dispute Avoidance and Resolution")
- MSES 5200 - Advanced Construction Scheduling
- MSES 5220 - Building Information Modeling
- MSES 5230 - Risk Management in Construction

Electives, 6 hours

Engineering systems electives, 6 credit hours.

Electrical systems concentration

Required courses, 15 hours

- MSES 5330 - Instrumentation system Design
or
- MSES 5030 - Product Design and Development

- MSES 5020 - Design of Experiments
- MSES 5040 - Analytical Methods for Engineering Systems
- MSES 5060 - Technology Innovation
- MSES 5950 - Master's Thesis (6 hours)

Technical courses, 6 hours

6 semester hours selected from the following:

- MSES 5300 - Embedded Controllers
- MSES 5310 - Industrial Process Controls
- MSES 5320 - Introduction to Telecommunications
- MSES 5340 - Digital Logic Design Techniques

Electives, 6 hours

Engineering systems electives, 6 credit hours.

Engineering management concentration

Required engineering courses, 15 hours

- MSES 5020 - Design of Experiments
- MSES 5030 - Product Design and Development
- MSES 5040 - Analytical Methods for Engineering Systems
- MSES 5060 - Technology Innovation
- MSES 5950 - Master's Thesis (6 hours)

Management courses, 9 hours

- ACCT 5020 - Accumulation and Analysis of Accounting Data
- MKTG 5150 - Marketing Management

Plus 3 hours from

One additional course (3 credit hours) selected from the following:

- MGMT 5120 - Managing Organizational Design and Change
- MGMT 5210 - Human Resource Management Seminar
- MGMT 5240 - Project Management
- MGMT 5280 - Analysis and Design of Operations System
- MGMT 5760 - Strategic Management
- MGMT 5850 - Materials Management

Elective, 3 hours

Engineering systems elective, 3 credit hours.

Mechanical systems concentration

Required courses, 15 hours

- MSES 5330 - Instrumentation system Design
or
- MSES 5030 - Product Design and Development
- MSES 5020 - Design of Experiments
- MSES 5040 - Analytical Methods for Engineering Systems
- MSES 5060 - Technology Innovation
- MSES 5950 - Master's Thesis (6 hours)

Technical courses, 6 hours

6 semester hours selected from the following:

- MSES 5100 - Nontraditional Manufacturing Processes
- MSES 5120 - Computer-Integrated Manufacturing
- MSES 5130 - Product Reliability and Quality
- MSES 5150 - Applications of Electron Microscopy and Failure Analysis
- MSES 5160 - Creep and Fatigue in Engineering Design and Systems Performance

Electives, 6 hours

Engineering systems electives, 6 credit hours.

Dual Program

Engineering Systems, MS/Operations and Supply Chain Management, MBA

This program is offered in collaboration with the College of Business.

Total hours depends on selection of thesis or non-thesis option for the Master of Science with a major in engineering systems.

- 18 hours in MBA background courses
- 18 hours in required MBA core
- 12 hours in required courses
- Consult the Department of Engineering Technology for total hours to complete the Engineering Systems (thesis), MS or Engineering Systems (non-thesis), MS.

Required courses

- MGMT 5240 - Project Management
- MGMT 5280 - Analysis and Design of Operations System
- MGMT 5850 - Materials Management
- DSCI 5210 - Model-Based Business Intelligence

Department of Materials Science and Engineering

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Narendra Dahotre, Chair

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 and Ion 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 3D 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 with 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 **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 viscolastic 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 **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 Metallic 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 **Laboratory for Moving Mechanical Assemblies** is engaged in applied research on tribology (friction, wear and lubrication) of materials. Processing, structure and property interrelationships of thin film coatings and bulk materials are being studied with applications to moving mechanical assemblies, such as bearings, gears, MEMS and orthopedic implants.

The **Optoelectronics and Thin Film Materials Laboratory** studies the processing-structure-property relationships of compound semiconductors and oxides for applications including solar cells, light emitting diodes, thin film batteries and thin film transistors. Growth mechanisms, defects, luminescent properties, carrier transport properties and device physics are key emphases.

The **Laboratory for Laser Materials Synthesis and Fabrication** houses several high power (multi kilowatt) lasers, and is among the nation's best. These lasers include 400J Nd-Yag pulse lasers with pulse shaping capabilities (Lumonics JK701 400W and Rofin Sinar Starweld 250) and a recently purchased 3000 W, Ytterbium YAG (IPG3000) laser equipped with a high speed galvanometric scanning mirror system for scanning the laser beam at extremely high speed. All lasers are equipped with 5-axis CNC workstations and fiber optic beam delivery for remote operation. This laser equipment is routinely employed in research work toward a broad understanding of interactions of lasers with materials and engineering aspects of the laser-materials interactions. Implementation of high power lasers for materials processing such as joining and surface engineering. Address fundamental issues in laser surface engineering of materials for application of this knowledge in the development of new corrosion/oxidation and wear/erosion resistant surfaces in challenging and extreme chemical and mechanical environments. A unique blend of in-situ diagnostics with post process analytical analysis for development of structure-property relationships in laser engineered surfaces of engineering and bio materials. Such a multi-dimensional approach has been envisioned for advanced manufacturing of the next generation materials.

The **Materials Science and Engineering Computational Laboratory** has a cluster with 45 nodes, each node has two six-core Xeon processors giving 540 processing cores. There are also 14 workstations for pre-processing and post-processing jobs for the cluster.

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, Zyvex, LTV Corporation, Viratech Thin Films and many small high-technology companies in the Dallas-Fort Worth region.

Admission requirements

The student must apply for and be granted admission through the office of the dean of the Toulouse Graduate School; admission requirements applicable to all departments are found in the Admission section of this catalog or at graduateschool.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.mtse.unt.edu/03ProspectiveStudents/Graduate.htm). Students currently enrolled in MS degrees (other than materials science) at UNT should apply through the graduate school for admission to the Department of Materials Science and Engineering. Candidates applying for a concurrent degree need not resubmit original documents. Application does not imply admission.

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. The graduate school will forward the application packet to the department for an admission decision. The packet should be as complete as possible to avoid delays in the admission decision. 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.mtse.unt.edu/03ProspectiveStudents/Graduate.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 competitive scores on the Graduate Record Examination (GRE). Contact the department or the Toulouse Graduate School concerning standardized admission test requirements. International applicants must also provide a minimum of 550 (paper) or 213 (computer based) or 80 (Internet 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.

Master's Degree

Materials Science and Engineering, MS

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 courses.

Option 1, Thesis

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 MTSE courses.

Core courses, 12 hours

- MTSE 5000 - Thermodynamics of Materials
- MTSE 5010 - Bonding, Structure and Crystallography
- MTSE 5020 - Mechanical Properties of Materials
- MTSE 5500 - Electronic, Optical and Magnetic Materials

Electives, 12 hours

Twelve hours may be chosen from materials science or related fields, as approved by the major professor and the advisory committee.

Seminar in materials science and engineering, 2 hours minimum

Please see “Seminar in Current Topics in Materials Science” below.

- MTSE 5700 - Seminar in Materials Science and Engineering

Thesis, 6 hours minimum

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 MTSE 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 graduateschool.unt.edu.

- MTSE 5950 - Master’s Thesis

Option 2, Problems in lieu of thesis

The graduate credit requirement for the Master of Science degree is 35 semester hours chosen in the following manner.

Core courses, 12 hours

- MTSE 5000 - Thermodynamics of Materials
- MTSE 5010 - Bonding, Structure and Crystallography
- MTSE 5020 - Mechanical Properties of Materials
- MTSE 5500 - Electronic, Optical and Magnetic Materials

Electives, 15 hours

Fifteen hours may be chosen from materials science or related fields, as approved by the major professor and the advisory committee.

Seminar in materials science and engineering, 2 hours minimum

Please see “Seminar in Current Topics in Materials Science” below.

- MTSE 5700 - Seminar in Materials Science and Engineering

Problem in lieu of thesis, 6 hours

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. Reports for MTSE 5920-MTSE 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).

- MTSE 5920 - Research Problems in Lieu of Thesis
- MTSE 5930 - Research Problems in Lieu of Thesis

Seminar in current topics in materials science

All MS (thesis) and PhD students are expected to attend MTSE 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 MTSE 5920-MTSE 5930 and obtain a minimum grade of B for the seminar. The thesis/problem advisor 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 is 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 is made by the student’s advisory committee. Guidelines for thesis preparation are available from the department secretary. See also the graduate school requirements at graduateschool.unt.edu.

Doctorate

Materials Science and Engineering with a concentration in Mechanical and Energy Engineering, PhD

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.

Generally, the degree consists of 72 semester credit hours beyond a bachelor’s degree and 42 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 two original research articles in a refereed journal prior to graduation.

Admission to the doctoral program

Departmental admission to doctoral candidacy in materials science requires a satisfactory score on the written and oral sections of the qualifying examination (see Examinations section below). Contact the Toulouse Graduate School or the program for current admission requirements, or see information posted on the graduate school web site at graduateschool.unt.edu.

Approximately a year after the candidate is admitted to candidacy, the student is examined on the chosen area of specialization, in this case, mechanical and energy engineering (see Examinations section below for details). Enrollment in MTSE 6950 is not allowed until the student has been admitted to candidacy and has successfully passed the examination on the chosen specialization.

Advisors

A student in this program will have two co-advisors; one from MTSE and one from MEEN. Faculty with joint MTSE/MEEN appointments may serve as either the MTSE or MEEN advisor. A student’s graduate program will be constructed with the advice and consent of the two co-advisors within the framework described below.

Thesis committee

The thesis committee will consist of five members: two must be from MTSE and two must be from MEEN, including one each from MTSE and MEEN as co-advisors. The fifth member can be from either of these departments or another department if the co-advisors agree that is appropriate.

Examinations

1. A written qualifying examination consisting of a “general exam” that tests core MTSE concepts and a “specialty exam” in a mechanical or material area, such as thermal/heat transfer, fluid mechanics and solid mechanics.
2. After passing the written exam, students are required to complete and defend an original research proposal that, if executed, would lead to a PhD dissertation.

- Upon passing the written and oral examination by the examination committee, the applicant is admitted to candidacy.
- A comprehensive oral exam related to the area of specialization of the student (mechanical and energy engineering), not to be confused with the student's PhD dissertation defense, is taken by doctoral candidates approximately one year after they have completed the oral and written qualifying exam.
- Details of the examination schedule, expectations and criteria for successful completion are available in the Materials Science Graduate Student Handbook available in the department office and posted to the department web site.

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.

Course work

For the student who has a BS degree, the approximate requirements follow.

Core courses, 12 hours

Must be selected from the following in consultation with the thesis/dissertation advisor.

- MTSE 5000 - Thermodynamics of Materials
- MTSE 5020 - Mechanical Properties of Materials
- MEEN 5300 - Advanced Thermodynamics.
- MEEN 5340 - Advanced Fluid Mechanics.

Electives, 24 hours

Twenty-four credit hours may be chosen from materials science or mechanical and energy engineering fields, as approved by the major professor and the advisory committee. Example of mechanical and energy engineering electives include MEEN 5110, MEEN 5410 and MEEN 5420. Of the 24 elective hours, no more than 9 can be MEEN courses.

Individual research, 22 hours

- MTSE 6940 - Individual Research
Additional course work may be taken in lieu of individual research hours.

Seminar in Materials Science and Engineering, 2 hours

- MTSE 5700 - Seminar in Materials Science and Engineering
Please see "Seminar in Current Topics in Materials Science and Engineering" below.

Dissertation, 12 hours minimum

- MTSE 6950 - Doctoral Dissertation

Seminar in current topics in materials science and engineering

All doctoral students are expected to attend MTSE 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.

Materials Science and Engineering, PhD

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.

Generally, the degree consists of 72 semester credit hours beyond a bachelor's degree and 42 hours beyond the master's degree. Of these credit hours, 12 semester credit hours are allocated for the dissertation (after a bachelor's degree) and 7 semester credit hours are allocated for the dissertation (after a prior master's degree).

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 doctoral candidacy in materials science requires a satisfactory score on the written and oral sections of the qualifying examination (see "Examinations" section below). Contact the Toulouse Graduate School or the program for current admission requirements, or see information posted on the graduate school web site at graduateschool.unt.edu.

Approximately a year after the candidate is admitted to candidacy, the student is examined on the chosen area of specialization: metallic, ceramic, polymer or electronic materials (see "Examinations" section below for details).

Enrollment in MTSE 6950 is not allowed until the student has been admitted to candidacy and has successfully passed the examination on the chosen specialization.

Examinations

- A written qualifying examination consisting of a "general exam" that tests core MTSE concepts and a "specialty exam" in one of the following areas: electronic materials, ceramics, metals, polymers or mechanics and energy systems.
- After passing the written exam, students are required to complete and defend an original research proposal that, if executed, would lead to a PhD dissertation.
- Upon passing the written and oral examination by the examination committee, the applicant is admitted to candidacy.
- A comprehensive oral exam related to the area of specialization of the student (metallic, ceramic, polymer or electronic materials), not to be confused with the student's PhD dissertation defense, is taken by doctoral candidates approximately one year after they have completed the oral and written qualifying exam.
- Details of the examination schedule, expectations and criteria for successful completion are available in the Materials Science Graduate Student Handbook available in the department office and posted to the department web site.

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.

Seminar in current topics

All doctoral students are expected to attend MTSE 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.

Course work

For the student who has a BS degree, the approximate requirements follow:

Core courses, 12 hours

- MTSE 5000 - Thermodynamics of Materials
- MTSE 5010 - Bonding, Structure and Crystallography
- MTSE 5020 - Mechanical Properties of Materials
- MTSE 5500 - Electronic, Optical and Magnetic Materials

Electives, 24 hours minimum

Eight 3-hour courses (24 credit hours total) may be chosen from materials science or related fields, as approved by the major professor and the advisory committee.

Individual research, 10–22 hours

Additional course work may be taken in lieu of individual research hours.

10 hours are required if the individual enters the PhD program after previously having completed an MS

22 hours are required if the individual enters the PhD program after previously having completed only a bachelor's degree

- MTSE 6940 - Individual Research

Seminar in materials science and engineering, 2 hours minimum

Please see "Seminar in Current Topics in Materials Science and Engineering".

- MTSE 5700 - Seminar in Materials Science and Engineering (two semesters of 1 credit hour each)

Dissertation, 9–12 hours minimum

9 hours are required if the individual enters the PhD program after previously having completed a master's degree

12 hours are required if the individual enters the PhD program after previously having completed only a bachelor's degree

- MTSE 6950 - Doctoral Dissertation

Department of Mechanical and Energy Engineering

Main Departmental Office
Discovery Park, Room F101

Mailing address:
1155 Union Circle #311098
Denton, TX 76203-5017
940-565-2400
Fax 940-369-8675

Web site: www.mee.unt.edu

Yong X. Tao, Chair

The Department of Mechanical and Energy Engineering at the University of North Texas is committed to academic excellence in graduate education and research in all areas pertinent to energy conservation and thermal engineering. The goals of the department and its faculty are (1) to provide high quality and innovative educational programs at the undergraduate and graduate levels; to foster lifelong learning; to promote professionalism and ethical standards; and to help students develop leadership qualities; (2) to pursue excellence in scholarly research in areas of mechanical and energy engineering; (3) to collaborate with engineers in industry, national laboratories and government agencies in the solution of national and global problems related to energy use and its environmental impacts.

Research

Research areas within the department include the following:

Novel energy conversion systems including concentrated solar power and cryogenic heat engines for transportation applications.

Solid-state energy conversion, low-grade energy capture, and blade-less multiphase flow turbines.

Energy conservation technology in building cooling and heating systems; energy simulation of building; zero-net-energy buildings; utilization of solar, wind, and geothermal energy in buildings.

Environmental monitoring and modeling with applications to urban and regional-scale air quality, climate change impact analysis, and anthropogenic emissions assessment.

Biomedical heat transfer, natural convection, computational modeling, and particle image velocimetry with applications to microfluidics.

Environmentally friendly electronic systems including nano-based lead-free technology, processing, metal and alloy based electroplating processes, tin whisker phenomena, and numerical analysis of residual stresses in thin films.

Fracture and failure of advanced solid materials, experimental mechanics of materials, and microstructural evolution in materials processing.

Micro/nano-scale science and technology and energy system design with applications to femto-second laser machining; fabrication; characterization; plasma and carrier dynamics; nano-scale fabrication; nanomaterials, e.g., nanotubes and nanowires; properties and the transport properties of micro- and nanoscale biological systems; and enhanced bio-inspired evaporative cooling.

Admission requirements

Students must apply through the appropriate university admissions office and meet the minimum requirements for graduate admission to the University of North Texas.

U.S. students submit the Toulouse Graduate School application online; pay the application fee; and send by mail the official transcripts from all universities or colleges attended, official GRE scores*, three letters of recommendation, and a detailed resume. For details visit graduateschool.unt.edu.

International students must apply through the International Admissions Office online; pay the application fee; and send by mail official academic documentation from all schools attended, official GRE scores*, three letters of recommendation, and a detailed resume. For details visit international.unt.edu.

** The department does not require GRE scores from UNT graduates for admission to its program. However, students who apply for financial assistance are strongly encouraged to take the GRE.*

Master's Degree

Mechanical and Energy Engineering, MS

All students pursuing the master's degree with a major in mechanical and energy engineering must plan their degree program with the assistance of their major professor and their advisory committee. The requirement for graduation is at least 31 semester credit hours and maintenance of at least a B average in all graduate courses.

Option 1, Thesis

The graduate credit requirement for the Master of Science degree is 31 semester credit hours chosen as follows:

1. Twenty-four semester credit hours of course work chosen from the graduate-level courses offered by the university. A minimum of 18 semester credit hours of this course work must be chosen from the graduate-level (5000 or higher) courses offered by the Department of Mechanical and Energy Engineering. The rest of the course work may be chosen from other departments with the approval of the student's major professor.
2. Six semester credit hours of MEEN 5950 - Master's Thesis. Work for the master's thesis is comprised of an independent and original study. As part of these requirements, the student must present and defend a written thesis that must be approved by the major professor and the advisory committee and filed with the graduate dean's office. The thesis must conform to the graduate school thesis requirements, which may be found at graduateschool.unt.edu. It is expected that this material will be of archival quality.
3. One semester credit hour of MEEN 5940 - Graduate Seminar in Mechanical and Energy Engineering.

Option 2, Non-thesis

The graduate credit requirement for the MS degree is 31 semester credit hours chosen as follows:

1. Thirty semester credit hours of course work chosen from the graduate level courses offered by the university. A minimum of 21 semester credit hours of course work must be chosen from the graduate level courses offered in the area of mechanical and energy engineering. The rest of the course work may be chosen from other departments with approval of the student's major professor.
2. The students in this option must compose a report on an independent research problem and give a formal seminar/presentation to his or her advisory committee.
3. One semester credit hour of MEEN 5940 - Graduate Seminar in Mechanical and Energy Engineering.

Examinations

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. A decision on the acceptance of the report for an independent research problem will be made by the student's advisory committee. Guidelines for the independent research problem and thesis preparation may be found at www.mee.unt.edu. For the thesis, additional preparation guidelines can be found at graduateschool.unt.edu.

College of Information

Main Office
Discovery Park, Room E290
3940 North Elm Street

Mailing address:
1155 Union Circle #311068
Denton, TX 76203-5017
940-369-8164
Fax: 940-891-6773
Web site: www.ci.unt.edu

Herman Totten, Dean

The College of Information situates itself at the intersection of people, technology, and information. It comprises faculty, staff, and students who invest in innovative research, collaborative partnerships and student-centered education to serve a global information society. The college is dedicated to serving the state, region, nation, and global community by preparing information leaders and innovators; forging the creation of transformative and translational knowledge; and sharing knowledge that addresses information challenges and problems. The college's goals are to

- provide exemplary learning opportunities and instruction facilitated through varied formats, technology-rich environments, and an accomplished faculty who embrace diversity in all college endeavors;
- contribute leading-edge research, scholarship, and creative pursuits for a global informational society; and
- nurture the professional endeavors of faculty and staff, the University, and the general public through outstanding leadership, consulting, community engagement, and continuing education.

Programs of study

The college offers a graduate program leading to the following degrees:

- Master of Education with a major in applied technology and performance improvement
- Master of Science with a major in applied technology and performance improvement
- Master of Science with a major in computer education and cognitive systems
- Master of Science with a major in information science
- Master of Science with a major in library science
- Doctor of Philosophy with a major in applied technology and performance improvement
- Doctor of Philosophy with a major in educational computing
- Doctor of Philosophy with a major in information science

The college also offers teacher and librarian certifications, graduate academic certificates and a post-master's certificate of advanced study. General requirements for each graduate program are listed in the appropriate departmental section of this catalog.

Research

The college has four research centers and an excellent and growing record of success in obtaining research funding. Faculty and graduate students are highly productive in a wide variety of research efforts related to human information seeking, learning, and use behaviors; human-computer interactions; development, delivery, and evaluation of information and education systems and services; and information and education policies and ethics in public and private sectors.

Texas Center for Digital Knowledge

The Texas Center for Digital Knowledge (TxCDK) is a dynamic, entrepreneurial research and consulting services organization focusing on digital knowledge in the networked environment. Its mission is to stimulate and support interdisciplinary research encompassing theoretical frameworks and practical applications that can enhance the creation, storage, organization, retrieval, use, and evaluation of information in a wide variety of digital formats. TxCDK sponsors lectures and workshops and provides research support services for faculty and graduate students.

Advising

For general information, contact the Toulouse Graduate School. For specific requirements for graduate programs, contact the appropriate academic advisor in the Department of Learning Technologies or Department of Library and Information Sciences.

Department of Learning Technologies

Main Office
Discovery Park, Room G150
3940 North Elm Street
Denton, TX 76203-0530
940-565-2057

Fax: 940-565-4194

Web site: lt.unt.edu

Mike Spector, Chair

The Department of Learning Technologies offers course work in applied technology, training and development; and computer education, instructional technology and cognitive systems; and learning technologies.

Degree programs and certifications focus on such areas as learning technologies, instructional and educational technologies, technological solutions in education, career technical education, non-traditional education, performance improvement, computer education, and applied technology.

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 in the areas of learning technologies, performance technologies and computing technologies.

Faculty interests include but are not limited to instructional and educational technology, technology integration for teaching and learning, distributed learning, technology-based learning environments, social and behavioral assessment, designing effective instructional environments, computer-assisted and managed instructional environments, academic acceleration, social and emotional aspects of giftedness, artificial intelligence, multimedia, human-computer interfaces, virtual environments, mobile technology, 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 National Science Foundation, 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.

Center for Knowledge Solutions

The Center for Knowledge Solutions empowers scholars and scholar-practitioners to make evidence-based decisions that optimize learning and performance systems to improve organizational knowledge. The uniqueness of the center is learning and performance across disciplines and professions. CKS's mission is to generate, integrate and disseminate knowledge solutions through learning and performance innovation for business and education. The center enables constituents and funding agencies to implement knowledge solutions for improving their organizational systems.

Institute for the Integration of Technology into Teaching and Learning

The Institute for the Integration of Technology into Teaching and Learning (IITTL) promotes the infusion of information technologies into daily teaching/learning practices. IITTL conducts research in the field of teaching and learning at the local, national and international levels.

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.

Degree programs

The department offers the following degrees at the master's and doctoral level:

- Master of Education with a major in applied technology and performance improvement
- Master of Science 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 applied technology and performance improvement
- Doctor of Philosophy with a major in learning technologies

Further specialization at the master's level is offered in applied technology and performance improvement, educational media, health science technology, instructional systems design, instructional systems technology, interactive and virtual digital communications, learning and assessment technologies, marketing education, teaching and learning with technology, trade and industrial education, training and development.

The department also supports an interdisciplinary master's degree and an interdisciplinary doctorate with a major in information science. Additional information on these programs is available from the Toulouse Graduate School and from the Department of Library and Information Sciences respectively.

Depending on the degree attained, graduates of these programs normally seek employment in business, education, industry, military, as teachers, trainers, instructional designers, instructional systems designers and managers, program administrators, supervisory personnel, training technologists, research and evaluation specialists, and faculty at community college and university settings.

Applicants must meet requirements for admission to the Toulouse Graduate School and meet all requirements of the Department of Learning Technologies. For admission to any program in this department, the applicant should file an application portfolio with the program area of interest and schedule an interview with a program representative.

Routes to certification for graduate students

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

- ATTD – Health Science Technology Education
- ATTD – Marketing Education
- ATTD – Trade and Industrial Education

Advanced or supplemental certification

- Computer Education and Cognitive Systems – Technology Applications 8–12
- Computer Education and Cognitive Systems – Technology Applications EC–12
- Computer Education and Cognitive Systems – Master Technology Teacher

Further information

Additional information is available on the program web site (lt.unt.edu).

Master's Degree

Applied Technology and Performance Improvement, MEd

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 the web site: www.lt.unt.edu.

Required for major

- ATTD 5110 - Curriculum Design and Instructional Resources
- ATTD 5120 - Demonstrating Effective Presentation Skills
- ATTD 5130 - Roles and Responsibilities of Career and Technical Education Professionals
- ATTD 5140 - Developing Work-Based Experiences in Career and Technical Education
- ATTD 5320 - Research Seminar in Applied Technology, Training and Development
- ATTD 5340 - Research Techniques in Applied Technology and Training
- ATTD 5360 - Evaluation Seminar
- ATTD 5440 - Facilitation Strategies in Applied Technology and Training
- ATTD 5490 - Diversity Issues in Applied Technology, Training and Development
- ATTD 6200 - Leadership Development in Applied Technology and Training
- ATTD 6450 - Needs Analysis and Curriculum Development
- EPSY 5210 - Educational Statistics

This is the recommended degree for those seeking certification in trade and industrial education, marketing education and health science education.

Applied Technology and Performance Improvement, MS

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 the web site at www.lt.unt.edu.

Required courses

- ATTD 5010 - Performance Assessment
- ATTD 5100 - Principles of Applied Technology, Training and Development
- ATTD 5320 - Research Seminar in Applied Technology, Training and Development
- ATTD 5340 - Research Techniques in Applied Technology and Training
- ATTD 5360 - Evaluation Seminar
- ATTD 5440 - Facilitation Strategies in Applied Technology and Training
- ATTD 5490 - Diversity Issues in Applied Technology, Training and Development
- ATTD 6200 - Leadership Development in Applied Technology and Training
- ATTD 6450 - Needs Analysis and Curriculum Development
- ATTD 6460 - Consulting Skills
- ATTD 6470 - Evaluation and Accountability in Applied Technology and Training
- EPSY 5210 - Educational Statistics

Additional requirements

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.

Computer Education and Cognitive Systems, MS

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 department-administered placement is required. Contact the department for more information.
4. Scores on the department-administered placement test and/or the GRE (verbal, quantitative and analytical writing) may be used in assessing a student's application for admission to the program. 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. 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.
6. Resume or curriculum vitae that includes the candidate's previous work or educational experiences.
7. 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.

Degree requirements

This degree is a comprehensive program with options to prepare individuals for positions in both education and industry related to instructional and educational technology. Options include instructional systems design, technology-based instructional systems, coordination of technology programs, e-learning/distributed learning systems and technology, teaching and learning with technology, learning and assessment technologies, and development and management of instructional systems. Theoretical foundations in cognition and systems as well as instructional technology processes are expanded through applications in computer-based training, web-based training, distance education, instructional systems and multimedia development.

This degree is a 36-hour program. Requirements include a core of 12 hours. Also required is completion of one of the foundation courses and one of the program tracks to reach a total of 36 credit hours.

Core courses, 12 hours

- CECS 5210 - Instructional Systems Design I
- CECS 5310 - Human-Computer Interaction
- CECS 5610 - Analysis of Research in Educational Technology
- CECS 5580 - Readings Seminar in Computer Education and Cognitive Systems (which is to be taken during the last 6 hours of course work)

Foundation courses, 12 hours

- CECS 5030 - Foundations of Learning Technologies
- CECS 5200 - New Technologies of Instruction
- CECS 5300 - Learning and Cognition
- CECS 5510 - Technology-Based Learning Environments

Instructional systems technology

This program track requires the completion of

- CECS 5100 - Advanced Web and Media Development
- CECS 5400 - Educational Telecommunications
- CECS 5420 - Web Authoring
- CECS 5450 - Building Internet Information Services

Instructional systems design

This program track requires completion of

- CECS 5110 - Multimedia in Technology Applications
- CECS 5420 - Web Authoring
- CECS 5211 - Instructional Systems Design II
- One 3 hour CECS elective course

Teaching and learning with technology

This program track requires the completion of

- CECS 5020 - Computers in Education
- CECS 5110 - Multimedia in Technology Applications
- CECS 5570 - Ethical, Legal and Professional Issues in Computing
- One 3 hour CECS elective course

Technology teacher certification

Computer Education and Cognitive Systems: State Board of Educator Certification (SBEC) in 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, students must successfully complete the courses listed for each test:

Technology Applications certification (8–12)

Texas Examination of Educator Standards (TExES): Technology Applications certification (8–12):

- CECS 5020 - Computers in Education
- CECS 5030 - Foundations of Learning Technologies
- CECS 5110 - Multimedia in Technology Applications
- CECS 5111 - Introduction to Video Technology

Technology Applications certification (EC–12)

TExES: Technology Applications certification (EC–12):

- CECS 5020 - Computers in Education
- CECS 5030 - Foundations of Learning Technologies
- CECS 5110 - Multimedia in Technology Applications
- CECS 5111 - Introduction to Video Technology
- CECS 5800 - Studies in Education

Master Technology Teacher certification (EC–12)

Texas Examinations for Master Teachers (TexMat): Master Technology Teacher certification (EC–12):

- CECS 5020 - Computers in Education
- CECS 5030 - Foundations of Learning Technologies
- CECS 5110 - Multimedia in Technology Applications
- CECS 5111 - Introduction to Video Technology
- CECS 5500 - Computer Applications for Curriculum and Instruction

Note

Only teachers who already have initial teacher certification are eligible for the above technology certifications.

Doctorate

Applied Technology and Performance Improvement, PhD

The change in number of hours required for the degree from 72 hours to 60 hours for students entering with a master's degree is pending approval by the Texas Higher Education Coordinating Board.

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 the web site at www.lt.unt.edu.

Required for major

- ATTD 5100 - Principles of Applied Technology, Training and Development
- ATTD 6100 - Technological Innovations in Training and Development
- ATTD 6200 - Leadership Development in Applied Technology and Training
- ATTD 6210 - Trends and Issues in Applied Technology, Training and Development
- ATTD 6450 - Needs Analysis and Curriculum Development
- ATTD 6460 - Consulting Skills
- ATTD 6470 - Evaluation and Accountability in Applied Technology and Training
- 3 hours of ATTD courses
- 6 hours of support courses outside the College of Information

Research and statistics, 18 hours

The 18 hours of research and statistics requirements include

- ATTD 6480 - Research Seminar
- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education
- EPSY 6230 - Theory and Application of Hierarchical Linear Modeling
- EPSY 6240 - Technology in Research
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- or
- EPSY 5350 - Foundations of Psychoeducational Measurement

Dissertation credit

- ATTD 6950 - Doctoral Dissertation

Required for minor

12 hours of course work outside the College of Information.

Further information

Additional information is available on the program web site (www.lt.unt.edu).

Learning Technologies, PhD

Admission requirements

Admission to doctoral study in learning technologies is competitive. Each prospective student will be subjected to a competitive evaluation by the computer education and cognitive systems (CECS) faculty. Admission to the program is considered only after the applicant meets or exceeds the university and College of Information admission standards. Admission to the Toulouse Graduate School and meeting the program standards does not automatically mean the student will be admitted to the program. The admission process is competitive and depends upon the availability of faculty to mentor doctoral students.

The minimum requirements for admission include the following:

1. A master's degree from an accredited institution with a grade point average of 3.4 (on a 4.0 scale) or, under some circumstances, a bachelor's degree with sufficient additional courses required to secure a master's degree on the way to a PhD. A total grade point average of 3.0 or a grade point average of 3.4 (on a 4.0 scale) over the last 60 hours.
2. Graduate Record Examination (GRE) scores including verbal, quantitative and analytical writing must be on file at the time the application is reviewed or submission of the following materials.

- A scholarly presentation at a professional conference related to learning technologies.
- Completion of 6 hours of graduate course work in mathematics or statistics with a grade point average of 3.0 or higher.
- A scholarly publication in a respected, peer-reviewed setting.

International students who have completed the IELI program through level 6 and successfully completed the UNT Graduate Preparation Course (GPC) may submit the GPC in place of GRE scores.

3. For international students, a satisfactory score on the Test of English as a Foreign Language (TOEFL) or successful completion of the UNT Intensive English Language Institute (IELI) through level 6.
4. A personal resume that includes a summary of teaching, administrative and/or training experience.
5. A letter of intent from the graduate faculty member(s) who would work with the applicant. Applicants should contact program faculty before submitting the letter of intent.
6. Personal statement (500–1,000 words) of career objectives, which may include doctoral research areas of interest; research, professional or community experiences that demonstrate motivation, commitment and potential for doctoral work; accomplishments; communication skills; technology skills; and contribution to the diversity of the field.
7. Three letters of recommendation. One must be from a faculty member currently working at an academic institution. This letter must acknowledge the applicant's potential to successfully complete the learning technologies doctoral program.
8. Interview with program faculty, which is not a requirement, but may be requested by the admission committee.

Degree requirements

This program includes formal course work, including a portfolio-based 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 60 semester credit hours past the master's degree.

CECS 5030 or the equivalent skills are minimally required for levelling. Additional courses or experiences may be required depending on applicant ability.

CECS 5110, CECS 5210, CECS 5310, CECS 5420 and CECS 5570 or the equivalent skills are considered prerequisite to this degree.

Course requirements

Core, 15 hours

- 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

Electives, 21 hours

- CECS 6050 - Practicum/Internship
- CECS 6200 - Message Design in Education
- CECS 6210 - Theory of Design of Interactive Multimedia Systems
- CECS 6220 - Theory of Educational Technology Implementation
- CECS 6230 - Advanced Educational Production Design
- CECS 6300 - Artificial Intelligence Applications
- CECS 6320 - Creating Technology-Based Learning Environments

- CECS 6400 - Educational Technology Systems Design and Management
- CECS 6600 - Developing Educational Funding Opportunities
- CECS 6800 - Special Topics in Educational Computing
- CECS 6900 - Special Problems

Research, 12 hours

- CECS 6510 - Analysis of Research in Educational Computing
- CECS 6511 - Introduction to Research in Learning Technologies
- CECS 6512 - Analysis of Qualitative Research in Learning Technologies
- CECS 6514 - Seminar on Advanced Research Topics in Learning Technologies and Information Sciences
- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6220 - Classical and Modern Educational Measurement Theory
- EPSY 6230 - Theory and Application of Hierarchical Linear Modeling
- EPSY 6240 - Technology in Research
- EPSY 6250 - Item Response Theory
- EPSY 6280 - Qualitative Research in Education

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.

Dissertation, 12 hours

- CECS 6950 - Doctoral Dissertation

Additional course requirements

Candidates for the PhD in learning technologies must additionally complete a tool subject consisting of 9 hours of graduate computer education or 9 hours of educational research. If a candidate has a MS degree in an aligned degree area, the 9 hours of tools courses may be waived upon approval. The candidate's academic advisor will determine which courses are appropriate for fulfilling this requirement with approval of the program coordinator.

No student will count more than 9 hours for this degree from independent studies (CECS 6900), practicum or internship (CECS 6050).

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.

Teacher Certification

Health Science Technology Education teacher certification

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 Graduate School 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. Successfully completing an admission interview.
5. 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 TExES examinations.
3. Making application, fulfilling all state requirements, 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 advisor for details.

Health science technology education

- Bachelor's degree from an accredited institution.
- 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.
- Two years of approved wage-earning experience.

Required courses

- ATTD 5110 - Curriculum Design and Instructional Resources
- ATTD 5120 - Demonstrating Effective Presentation Skills
- ATTD 5130 - Roles and Responsibilities of Career and Technical Education Professionals
- ATTD 5140 - Developing Work-Based Experiences in Career and Technical Education
- ATTD 6030 - Practicum, Field Problem or Internship (Instructional Internship)

Master Technology teacher certification

Routes to certification for graduate students

Advanced or supplemental certification without an advanced degree

This certificate is available as additional content area 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 required. 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.

Master technology teacher

1. Bachelor's degree.
2. Current Texas teaching certificate with three years of experience.

Technology, 15 hours

- CECS 5020 - Computers in Education
- CECS 5030 - Foundations of Learning Technologies
- CECS 5110 - Multimedia in Technology Applications
- CECS 5111 - Introduction to Video Technology
- CECS 5500 - Computer Applications for Curriculum and Instruction

Probationary certificates

Each probationary certificate is for one year and may be renewed three times. Candidates must pass a required criminal background check.

Technology Applications (8-12) teacher certification

Routes to certification for graduate students

Advanced or supplemental certification without an advanced degree

This certificate is available as additional content area 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 required. 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.

Technology applications (8–12)

1. Bachelor's degree.
2. Current Texas teaching certificate.

Technology, 12 hours

- CECS 5020 - Computers in Education
- CECS 5030 - Foundations of Learning Technologies
- CECS 5110 - Multimedia in Technology Applications
- CECS 5111 - Introduction to Video Technology

Probationary certificates

Each probationary certificate is for one year and may be renewed three times. Candidates must pass a required criminal background check.

Technology Applications (all-level) teacher certification

Routes to certification for graduate students

Advanced or supplemental certification without an advanced degree

This certificate is available as additional content area 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 required. 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.

Technology applications (all-level)

1. Bachelor's degree.
2. Current Texas teaching certificate.

Technology, 15 hours

- CECS 5020 - Computers in Education
- CECS 5030 - Foundations of Learning Technologies
- CECS 5110 - Multimedia in Technology Applications
- CECS 5111 - Introduction to Video Technology
- CECS 5800 - Studies in Education

Probationary certificates

Each probationary certificate is for one year and may be renewed three times. Candidates must pass a required criminal background check.

Trade and Industrial teacher certification

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 Graduate School 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. Scores on the Texas Higher Education Assessment (THEA) test that are acceptable to the individual certification program.
4. Admission to a teacher education certification program 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 TExES examinations.
3. Making application and paying fees to SBEC for teacher certification.

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 advisor for details.

Routes to certification for graduate students

Initial teacher 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 Graduate School 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.
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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 - Curriculum Design and Instructional Resources *
 - ATTD 5120 - Demonstrating Effective Presentation Skills *
 - ATTD 5130 - Roles and Responsibilities of Career and Technical Education Professionals *
 - ATTD 5140 - Developing Work-Based Experiences in Career and Technical Education *
 - ATTD 6030 - Practicum, Field Problem or Internship (instructional internship) *
- * or undergraduate equivalents

Note

If a student is not certified in the trade area, the student must pass the appropriate occupational competency testing exam.

Department of Library and Information Sciences

Main Office
Discovery Park, Room E292
3940 North Elm Street

Mailing address:
1155 Union Circle #311068
Denton, TX 76203-5017
Voice: 940-565-2445 or 877-ASK-SLIS
Fax: 940-565-3101
TDD access: 800-735-2989

E-mail: slis@unt.edu
Web site: www.lis.unt.edu

Suliman Hawamdeh, Chair

The Department of Library and Information Sciences prepares graduates for dynamic roles in the knowledge age. The department'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 department 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 department offers a graduate program leading to the Master of Science with majors in information science and library science. In addition, the department administers an interdisciplinary doctoral program with a major in information science.

The department also offers a certificate (non-degree) program of advanced study in both information science and library sciences, 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 level. 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 Department of Library and Information Sciences web site at www.lis.unt.edu to access application forms and current program information.

The department'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 and graduate students pursue research in diverse areas of the library and information science fields, often working with the college's Texas Center for Digital Knowledge. Research interests include information and communication theory; human information needs, seeking, searching, evaluation and use behaviors; development of information resources and services for specific populations; technology-based social networking in corporate and cultural environments; competency-based learning in the information professions; management and leadership of libraries and information agencies; roles of school library media specialists in instructional delivery; storytelling; scientific and scholarly communication; bibliometrics; human-computer interaction; information systems design, analysis and evaluation; information retrieval including specializations in cross-language, digital image, and multimedia retrieval; technology standards development and application; digital libraries; institutional repositories; metadata and organization of networked resources; philosophy and theories of information organization including information representation and classification; digital information management including bibliographic control and preservation; distributed learning and technologies; automated library systems; medical informatics, legal informatics, and information resources and services in corporate and government fields; text and data mining; competitive intelligence; information policy and ethics; and information technology issues of privacy and security.

Further information

For further information about any degree or certificate program, write or call the Department of Library and Information Sciences or visit the department's web site: www.lis.unt.edu. Personal interviews and counseling may be arranged through the department office.

The Department 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 department's ADA compliance policy are available in the department office. Problems may be reported to the department's ADA liaison, Information Sciences Building, Room 205; 940-565-2445.

Master's Degree

Information Science, MS

Master of Science

The master's program prepares information professionals for work in a variety of roles and application settings, including all types of libraries and other information agencies. The program rests on a broad conceptual framework that explores the nature of information, its organization and retrieval, and its access and use from the user's viewpoint. In addition, the program prepares individuals who wish to pursue doctoral studies in information science theory, research and practice.

Goal 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.

Course delivery

Master's courses are delivered in both on-site and online formats and in blended combinations of these formats. On-site or face-to-face courses are offered in Denton and Houston, Texas, and in several other states. Most students choose the blended web institute format for the three required core courses, attending one nine-day on-site institute or two four-day on-site institutes held in Denton, Houston or elsewhere, and then completing the courses online using web-based coursework. Beyond the required core courses, students may pursue the remainder of their studies entirely online or take a combination of online and on-site courses. Regardless of delivery mode, the master's program and all courses are governed by the same policies.

Admission requirements

Students may enter the master's degree program in the fall, spring or summer term/semester. Prospective students must apply to both the Toulouse Graduate School and the Department of Library and Information Sciences and must meet all of the requirements listed below.

1. Completed bachelor's degree from a regionally accredited institution.
2. Overall undergraduate grade point average (GPA) of at least 2.8 (4.0 scale) or at least 3.0 in the last 60 hours of undergraduate work; or completed master's degree or other post-baccalaureate degree with GPA of at least 3.4.
3. Scores on the Graduate Record Examination (GRE), Miller Analogies Test (MAT) Graduate Management Admission Test (GMAT) or Law School Admission Test (LSAT) must be on file at the time the application is reviewed.
4. For international students, a satisfactory score on the Test of English as a Foreign Language (TOEFL) or successful completion of the UNT Intensive English Language Institute (IELI) through level 6.
5. Three recommendations 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.
6. Personal statement (300–500 words) of career objectives, which may cover professional areas of special interest and how the UNT program will help meet career objectives. Background information may help demonstrate motivation, commitment and potential for leadership in a dynamic and multicultural environment, such as relevant educational, work and community experiences and accomplishments (publications, presentations, awards); communication skills including multilingual proficiency; and information technology skills.

7. Interview (optional). Prospective students are invited to visit the department and schedule a meeting with an academic advisor. Applications are due by the deadline set by the Toulouse Graduate School for the semester in which admission is sought. Applications will be considered only if all required materials have been received. Admissions are competitive; applicants who meet the criteria are not guaranteed admission. If additional information is needed to evaluate the admissibility of an applicant, an interview may be requested.

Application materials and instructions are available from the **Toulouse Graduate School (graduateschool.unt.edu) and the Department of Library and Information Sciences (www.lis.unt.edu).**

Degree requirements

The program may be completed in one calendar year of full-time study, although many students extend their work over a longer period. Students must complete all planned course work with a grade point average of 3.0 (B) or better, successfully complete a capstone experience and file an application for the degree. At the time of graduation, all course work used to satisfy degree requirements may be no more than six years old.

Course requirements

- SLIS 5000 - Information and Knowledge Professions (3 hours)
- SLIS 5200 - Information Organization (3 hours)
- SLIS 5600 - Information Access and Knowledge Inquiry (3 hours)

Additional course requirements

At least 27 additional hours of other course work, *planned in consultation with a faculty advisor*, are required.

Up to 9 *advisor-approved* hours from any institution (including other programs at UNT) may be transferred in to 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).

Students in all master's level programs are required to demonstrate general computer proficiency before starting the program. To demonstrate proficiency, students are expected to take the Information Technology Knowledge and Skills Assessment (ITKS) (see www.lis.unt.edu/main/ITKS). If self-test results indicate a need for improvement in any category, contact the department for suggestions.

Master's students also must present evidence of relevant work 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 are required to take SLIS 5090 - Practicum and Field Study. SLIS 5090 does not count toward the 36 hours of graduate credit required for the degree.

Further information concerning these requirements may be obtained through the department.

Programs of study

Majors and advising

Students may choose a major in either library science or information science at the time they apply to the Toulouse Graduate School.

Elective courses beyond the 9 hours of required core courses are determined in consultation with the academic advisor. All course selections must be made under the guidance of an academic advisor. Descriptions of programs of study are available at www.lis.unt.edu.

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.

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 performed by a graduate of this program is likely to involve 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 create 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.

Progress toward degree

Minimum academic standards: The Toulouse Graduate School 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 dismissed from the program.

Satisfactory Progress: Within the Department 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) on all course work in the degree program. In addition,

- all core courses must be completed with a grade of A or B;
- no more than two C's in the non-core program requirements will count toward the degree; and
- no course with a grade below C will count toward the degree.

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.

Library Science, MS

Master of Science

The master's program prepares information professionals for work in a variety of roles and application settings, including all types of libraries and other information agencies. The program rests on a broad conceptual framework that explores the nature of information, its organization and retrieval, and its access and use from the user's viewpoint. In addition, the program prepares individuals who wish to pursue doctoral studies in information science theory, research and practice.

Goal 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.

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1. understand the critical impact of electronic technology and networks on information practices;
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9. recognize the impacts of information policies, practices, and information itself on diverse populations in a technological and global society;
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Master's courses are delivered in both on-site and online formats and in blended combinations of these formats. On-site or face-to-face courses are offered in Denton and Houston, Texas, and in several other states. Most students choose the blended web institute format for the three required core courses, attending one nine-day on-site institute or two four-day on-site institutes held in Denton, Houston or elsewhere, and then completing the courses online using web-based courseware. Beyond the required core courses, students may pursue the remainder of their studies entirely online or take a combination of online and on-site courses. Regardless of delivery mode, the master's program and all courses are governed by the same policies.

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Progress toward degree

Minimum academic standards: The Toulouse Graduate School 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 dismissed from the program.

Satisfactory Progress: Within the Department 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) on all course work in the degree program. In addition,

- all core courses must be completed with a grade of A or B;
- no more than two C's in the non-core program requirements will count toward the degree; and
- no course with a grade below C will count toward the degree.

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.

Doctorate Information Science, PhD

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, along with recognition of the widespread application and influence of information and communication technologies. Graduates of the program are prepared to contribute to the advancement and evolution of the information society in a variety of roles and settings as administrators, researchers and educators.

The mission of the program is to provide a center of excellence in doctoral education and research. Its primary goals are to

1. develop scholars passionate about the role of information in human affairs;
2. nurture critical and reflective thinking on fundamental issues and problems related to information;
3. promote cross-disciplinary thinking and research; and
4. foster an environment of substantive and productive mentoring and apprenticeship.

Students are attracted to the program from a wide range of disciplines and are encouraged to expand their expertise in cutting-edge areas of information science that cross disciplinary boundaries. The multifaceted nature of information science warrants the integration of resources, courses and faculties from a broad range of academic units. Nine units participate in the doctoral program:

- Department of Behavior Analysis, College of Public Affairs and Community Service;
- Department of Computer Science and Engineering, College of Engineering;
- Department of Criminal Justice, College of Public Affairs and Community Service;
- Department of Communication Studies, College of Arts and Sciences;
- Department of Information Technology and Decision Sciences, College of Business;
- Frank W. and Sue Mayborn School of Journalism;
- Department of Learning Technologies, College of Information;
- Department of Library and Information Sciences, College of Information.
- College of Visual Arts and Design; and

Admission requirements

Students may enter the doctoral program in the fall semester. Prospective students must apply and be admitted first to the Toulouse Graduate School and then to the doctoral program (see respective web sites for details). To ensure full processing by all offices, including international admissions and scholarships if appropriate, all application materials are due by **November 1** of the year preceding the fall semester of initial enrollment. Applicants must meet all general admission requirements of the Graduate School and requirements of the doctoral program, as follows:

1. Completed master's degree from a regionally accredited institution.
2. Overall graduate grade point average of 3.4 (4.0 scale).
3. Graduate Record Examination (GRE) scores including verbal, quantitative and analytical writing (must be on file at the time the application is reviewed) or successful completion of UNT Graduate Preparation Course (GPC).
4. For international students, a satisfactory score on the Test of English as a Foreign Language (TOEFL) or successful completion of the UNT Intensive English Language Institute (IELI) through level 6.
5. Three recommendations from former professors, employers or others who can give evidence of the applicant's interest in and aptitude for a research career in information science.
6. Personal statement (300–500 words) of career objectives, which may include doctoral research areas of interest; research, professional or community experiences that

demonstrate motivation, commitment and potential for doctoral work; accomplishments (publications, presentations, awards); communication skills including multilingual proficiency; technology skills; and contribution to diversity of the field.

7. Curriculum vitae.
8. Sample of formal writing (published paper, major term paper, thesis chapter, etc.).
9. Interview with program faculty, which is not required but is encouraged prior to application and may be requested by the admission committee.

An admission committee of interdisciplinary faculty members reviews applications. Admissions are highly competitive, depending on applicant qualifications and the availability of faculty members to mentor doctoral students. Not all qualified applicants can be accepted.

Degree 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.

A student must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, independent study (maximum 9 hours) and the dissertation. Additional courses above the 60 hours also may be stipulated as needed, such as the research tool requirement.

Courses counted toward the doctorate must be numbered 5000 or above and must be chosen with the approval of a faculty academic advisor. The student formally concludes course work by passing the qualifying examination before fully engaging in dissertation research.

Course requirements

Interdisciplinary core, 3 hours

- SLIS 6945 - Doctoral Seminar in Information Issues (1 hour in each of three terms/semesters. Classes typically meet concurrently with monthly doctoral colloquia.)

Subject core, 9 hours

- SLIS 6000 - Seminar in Information Science
- SLIS 6700 - Seminar in Communication and Use of Information
- SLIS 6660 - Readings in Information Science

Methods core, 9 hours

- Research design
- Research statistics
- Elective

Concentration, 18 hours

Two of the following three areas:

- Information theory and design, 9 hours: Explores ways to structure information and knowledge for a multitude of uses, including the evaluation and study of information systems, related communication processes, and systems application and design.
- Information and behavior, 9 hours: Relates to human information and communication behavior and the systematic response to these behaviors by using information technologies to facilitate communication and learning in a variety of settings.
- Information policy and management, 9 hours: Focuses on organization, cultural and societal behavior with respect to information and the management of information, information policy development and ethical issues, and the organizations and systems that handle information.

Electives, 9 hours

Dissertation, 12 hours

- INFO 6950 - Doctoral Dissertation

Research tool requirement

Students must demonstrate proficiency in research methods or statistics prior to or shortly after beginning doctoral course work. This requirement can be met by successfully completing the courses listed below or an equivalent course, or by passing a proficiency exam. A course accepted for this requirement cannot count toward the 60 hours required for the doctoral degree.

- COMM 5185 - Quantitative Research Methods in Communication
- DSCI 5180 - Introduction to the Business Decision Process
- EPSY 5210 - Educational Statistics
- SLIS 5080 - Research Methods and Analysis

Additional requirements

Information organization requirement

Students must demonstrate proficiency in the organization of information prior to or shortly after beginning doctoral course work. This requirement can be met by successfully completing SLIS 5200 or an equivalent course or by passing a proficiency exam. A course accepted for this requirement cannot count toward the 60 hours required for the doctoral degree.

Multidisciplinary requirement

The doctoral program is intended to provide students with a variety of approaches to researching and solving information problems from multiple disciplines. Therefore, no more than 18 graduate credit hours may be taken from any one academic unit in areas of concentrations and electives.

Doctoral committee

The doctoral committee comprises at least three faculty members who represent at least two academic units, one of which is the Department of Library and Information Sciences. The committee is formed by the student and serves to evaluate the student's work at the qualifying examination, dissertation proposal, and dissertation stages.

Progress toward the degree

The student must maintain a minimum grade point average of 3.0 (B) on all course work on the degree plan. The maximum time allowed for completing the doctoral degree is 10 years. A faculty academic advisor meets with each student at least annually to review the student's progress in the program. The student is eligible to sit for the qualifying examination when he or she has designated a doctoral committee, met all degree plan requirements except dissertation hours, and cleared any incomplete grades. When a student passes the qualifying examination, he or she is admitted to candidacy. The doctoral candidate must write and successfully defend a dissertation proposal and a completed dissertation in order to complete the degree.

Certificate of Advanced Study

Information Science Certificate of Advanced Study

Certificate of advanced study

The post-master's 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.

Admission requirements: Master's program requirements apply, with consideration given to prior study and academic record, standardized entrance examination scores, letters of recommendation, career interests and objectives, and any prior professional experience. An interview with a department representative designated by the chair is strongly recommended before or at the time of initial enrollment for course work.

Program requirements: 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 department.

The program of study, which is tailored to individual needs, must be planned with a faculty advisor and approved in advance by the chair of the department. 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.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Library Sciences Certificate of Advanced Study

Certificate of advanced study

The post-master's 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.

Admission requirements: Master's program requirements apply, with consideration given to prior study and academic record, standardized entrance examination scores, letters of recommendation, career interests and objectives, and any prior professional experience. An interview with a department representative designated by the chair is strongly recommended before or at the time of initial enrollment for course work.

Program requirements: 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 department.

The program of study, which is tailored to individual needs, must be planned with a faculty advisor and approved in advance by the chair of the department. 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.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Graduate Academic Certificate

Advanced Management in Libraries and Information Agencies certificate

Graduate academic certificates

The department offers graduate academic certificates in advanced management in libraries and information agencies, storytelling, and youth services in libraries and information settings.

The graduate academic certificate program is intended for two audiences:

1. master's degree 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.

Admission information: Prospective students must be admitted to the Toulouse Graduate School, which requires a graduate school application and official transcripts from prior colleges or universities. Students who are awarded graduate academic certificates and later apply for admission to the master's program will be required to submit additional materials including standardized entrance examination scores (see Master of Science program).

Program requirements: Graduate academic certificates consist of three or four courses. They can be pursued prior to or concurrently with the master's degree.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Storytelling certificate

Graduate academic certificates

The department offers graduate academic certificates in advanced management in libraries and information agencies, storytelling, and youth services in libraries and information settings.

The graduate academic certificate program is intended for two audiences:

1. master's degree 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.

Admission information: Prospective students must be admitted to the Toulouse Graduate School, which requires a graduate school application and official transcripts from prior colleges or universities. Students who are awarded graduate academic certificates and later apply for admission to the master's program will be required to submit additional materials including standardized entrance examination scores (see Master of Science program).

Program requirements: Graduate academic certificates consist of three or four courses. They can be pursued prior to or concurrently with the master's degree.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Youth Services in Libraries and Information Settings certificate

Graduate academic certificates

The department offers graduate academic certificates in advanced management in libraries and information agencies, storytelling, and youth services in libraries and information settings.

The graduate academic certificate program is intended for two audiences:

1. master's degree 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.

Admission information: Prospective students must be admitted to the Toulouse Graduate School, which requires a graduate school application and official transcripts from prior colleges or universities. Students who are awarded graduate academic certificates and later apply for admission to the master's program will be required to submit additional materials including standardized entrance examination scores (see Master of Science program).

Program requirements: Graduate academic certificates consist of three or four courses. They can be pursued prior to or concurrently with the master's degree.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Frank W. and Sue Mayborn School of Journalism

Main Office
General Academic Building, Room 102

Mailing address:
1155 Union Circle #311460
Denton, TX 76203-5017
940-565-2205

Web site: journalism.unt.edu

Roy Busby, Interim Dean

Nann Goplerud, Interim Chair, News
Sheri Broyles, Interim Chair, Strategic Communications

Frank W. Mayborn Graduate Institute of Journalism

Main Office
General Academic Building, Room 207

Mailing address:
1155 Union Circle #311460
Denton, TX 76203-5017
940-565-4564

Web site: journalism.unt.edu

Roy Busby, Director

Graduate work in the Mayborn Graduate Institute of Journalism prepares students with lifetime communication and intellectual skills for successful careers in the professions represented by the school's graduate degree programs. The 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, publishing broadcast and multimedia 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.

Graduate programs lead to the following degrees:

- Master of Arts with a major in journalism
- Master of Journalism

The school collaborates in the offering of a concentration in interactive and virtual digital communication under the Master of Arts or Master of Science with a major in interdisciplinary studies. The school offers graduate academic certificates in interactive and virtual digital communication and in narrative journalism.

The Mayborn School of Journalism and the Mayborn Graduate Institute of Journalism are nationally accredited by the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC). ACEJMC is located at the University of Kansas School of Journalism, Stauffer-Flint Hall, 1435 Jayhawk Blvd, Lawrence, KS 66045; 785-864-3973; www2.ku.edu/~acejmc.

Research

Areas of research interest in the school include the impact of new technology on journalism and mass communication and the importance of ethics in media. 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, narrative journalism, international communication and magazine production issues.

Admission requirements

Application for admission should originate at the Toulouse Graduate School. The applicant must hold a bachelor's degree from an approved college or university.

Applications for admission to the journalism graduate program are reviewed holistically to determine a candidate's likelihood of success. A competitive 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 a competitive score is submitted and accepted. A portfolio must also be submitted to the Mayborn Graduate Institute of Journalism. Contact the institute for details. International students may substitute successful completion of the Graduate Preparation Course for the verbal portion of the GRE. Non-native speakers of English also must submit satisfactory scores on the TOEFL.

North Texas Daily

The award winning *North Texas Daily*, UNT's student newspaper, provides practical experience for students in the School of Journalism. The North Texas Daily 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 month in the summer. The *Daily* has been providing news and entertainment to UNT students since 1948. For more information, contact the *Daily's* advisor at 940-565-2205, or visit the *Daily's* web site (www.ntdaily.com).

Denton Live

Graduate students also have the opportunity of working with Denton Live (dentonlive.com), the magazine that promotes major events in Denton. The Mayborn Graduate Institute of Journalism publishes this magazine for the Denton Convention and Visitor Bureau. Students write, edit and illustrate the stories as well as provide the layout and design using Adobe InDesign and other state-of-the-art software.

MAYBORN Magazine

Graduate students interested in narrative magazine writing can work for MAYBORN, published once a year by the Mayborn Graduate Institute of Journalism. Students write, fact check and edit stories as well as provide the layout and design using Adobe InDesign and Photoshop.

The Mayborn Literary Nonfiction Conference

This nationally acclaimed annual conference offers a forum for journalists, writers, readers, students, educators and the general public to listen to, be inspired by and practice their craft at the highest possible level. The conference is incorporated into the literary journalism course offered during the second summer session.

Master's Degree

Journalism, MA

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. The student should meet with his or her advisor after completing 12 hours to select a thesis chair and committee and to register for the comprehensive exam. The comprehensive exam 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

- JOUR 5040 - Media Studies and Theories
- JOUR 5050 - Readings in Mass Communication
- JOUR 5250 - Quantitative Research
- JOUR 5260 - Qualitative Research
- JOUR 5950 - Master's Thesis (6 hours)

Remaining courses

With the approval of the graduate advisor, a candidate may select his or her remaining course work to support career interests such as arts and entertainment; broadcast journalism; business journalism; general media studies; health, medicine, sciences and environmental journalism; international communications; Internet, interactive and virtual digital communications; investigative journalism, law and journalism; management and entrepreneurship; mass communication research; multicultural communications; narrative journalism; public and civic journalism; race, gender, ethnicity and sexuality communications; religion and journalism; sports journalism; strategic communications (advertising and public relations); and visual communications.

Journalism, MJ

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 for those students whose undergraduate degrees are in journalism. 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 courses

- JOUR 5040 - Media Studies and Theories
- JOUR 5050 - Readings in Mass Communication
- JOUR 5250 - Quantitative Research
- JOUR 5260 - Qualitative Research

Remaining courses

With the approval of the graduate advisor, a candidate may select their remaining course work to support career interests such as arts and entertainment; broadcast journalism; business journalism; general media studies; health, medicine, sciences and environmental journalism; international communications; Internet, interactive and virtual digital communications; investigative journalism, law and journalism; management and entrepreneurship; mass communication research; multicultural communications; narrative journalism; public and civic journalism; race, gender, ethnicity and sexuality communications; religion and journalism; sports journalism; strategic communications (advertising and public relations); and visual communications.

Minor fields

Recommended minor fields for the MJ are English, history, information science, political science, radio/television/film, sociology, economics and business administration.

Graduate Academic Certificate

Interactive and Virtual Digital Communication certificate

The graduate academic certificate in interactive and virtual digital communication combines the best of two nationally accredited programs to train students in the most up-to-date written, visual and technical competencies required to successfully communicate in today's online and information world. The graduate academic certificate in interactive and virtual digital communication requires the completion of 18 hours.

Required courses

- JOUR 5510 - Internet and Interactive Communication Strategy
 - JOUR 5500 - Integrated Communications
or
 - JOUR 5320 - New Technologies of Mass Communication
 - SLIS 5040 - Information Behavior
 - SLIS 5615 - Electronic Databases and Information Services
 - CECS 5200 - New Technologies of Instruction
 - CECS 5260 - Computer Graphics for Mediated Communications
- These courses may also be applied to a master's degree in journalism.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Narrative Journalism certificate

The graduate academic certificate in narrative journalism is offered for professional journalists, authors, writing instructors, editors and researchers currently working for newspapers, magazines, book publishers and public relations firms. The certificate program is designed to teach exceptional narrative writing, editing and other storytelling skills.

Completion of 15 hours selected from

The graduate academic certificate in narrative journalism requires completion of 15 hours from the following

- JOUR 5270 - Advanced Reporting Techniques
- JOUR 5700 - Advanced Feature Writing
- JOUR 5710 - Narrative Journalism
- JOUR 5720 - Magazine Writing and Publishing
- JOUR 5730 - Writing, Editing and Publishing for the Narrative Journalism Market
- JOUR 5740 - Literary Journalism

Note

These courses may also be applied to a master's degree in journalism. Contact the Mayborn Graduate Institute of Journalism for further information.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

College of Merchandising, Hospitality and Tourism

Main Office
Chilton Hall, Room 331

Mailing address:
1155 Union Circle #311100
Denton, TX 76203-5017
940-565-2436

Web site: www.smhm.unt.edu

Judith C. Forney, Dean

Dee K. Knight, Associate Dean
Lisa Kennon, Graduate Programs Coordinator
Lea Dopson, Chair, Division of Hospitality Management
Tammy Kinley, Chair, Division of Merchandising

Programs in the college are designed to meet personnel needs in retail/merchandising, hospitality and tourism. 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. 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.

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 and restaurant 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 includes 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 service quality, cross-cultural consumer analyses, digital commerce, retail employee professional development, evaluative criteria, experiential retailing and tourism shopping, garment size issues, brand equity, and consumer experiences in digital environments.

Financial assistance

Numerous scholarships are available to majors in the College of Merchandising, Hospitality and Tourism. Students may apply for financial awards from a wide range of national, state, university and school resources. Please check the CMHT web site for specific information and guidelines at www.smhm.unt.edu.

A limited number of graduate teaching assistantships and teaching fellowships are available in the college. Contact the Office of the Dean for information.

Online programs

Some programs are offered 100 percent online. See program listings in the Department of Hospitality and Tourism Management and the Department of Merchandising and Digital Retailing.

Department of Hospitality and Tourism Management

Main Office
Chilton Hall, Room 331

Mailing address:
1155 Union Circle #311100
Denton, TX 76203-5017
940-565-2436

Web site: www.smhm.unt.edu

Lea Dopson, Chair

Master's Degree

Hospitality Management (online), MS

Admission requirements

The student must meet the requirements for admission to the Toulouse Graduate School. Included in these requirements are:

- a bachelor's degree from an accredited university;
- an 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 (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 during the first semester in the graduate program, earning a grade no lower than B.

In addition, to be considered for admission into the hospitality management program, students need to submit the following to the SMHM Graduate Programs Coordinator:

- three letters of recommendation from employers or teachers;
- a resume; and
- a professional essay that addresses the student's motivation and perseverance toward educational goals, academic or professional honors, recognitions and awards, and a demonstrated commitment to the field of study.

Degree requirements

The student must earn a minimum of 36 hours.

Online thesis option

Hospitality management core, 3 hours

- HMGT 5860 - Strategic Management in the Hospitality Industry

Research tools/minor, 6 hours

- EPSY 5050 - Foundations of Educational Research Methodology
- EPSY 5210 - Educational Statistics

Thesis course, 6 hours

- SMHM 5950 - Master's Thesis

HMGT and SMHM courses, 15–21 hours

15–21 hours of HMGT and SMHM courses, excluding SMHM 5950.

- HMGT 5250 - Restaurant Development
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis
- SMHM 5440 - Consumer Theory
- HMGT 5520 - Global Tourism Systems

- SMHM 5550 - Promotional Strategies
- SMHM 5600 - Managing Customer Experiences
- HMG 5630 - Event Management
- SMHM 5700 - Service Excellence
- SMHM 5790 - Field Experiences in Various Areas of Concentration
- SMHM 5900 - Special Problems in Various Areas of Concentration
- SMHM 5910 - Special Problems in Various Areas of Concentration

Electives, 0–6 hours

Courses must be approved by CMHT advisor.

Online non-thesis option

Hospitality management core, 6 hours

- HMG 5860 - Strategic Management in the Hospitality Industry
- SMHM 5920 - Problem in Lieu of Thesis

Research tools/minor, 6 hours

- EPSY 5050 - Foundations of Educational Research Methodology
- EPSY 5210 - Educational Statistics

HMG 5 and SMHM courses, 21–24 hours

21–24 hours of HMG 5 and SMHM courses, excluding SMHM 5950.

- HMG 5250 - Restaurant Development
- HMG 5280 - Hotel and Restaurant Operations: Theory and Analysis
- SMHM 5440 - Consumer Theory
- HMG 5520 - Global Tourism Systems
- SMHM 5550 - Promotional Strategies
- SMHM 5600 - Managing Customer Experiences
- HMG 5630 - Event Management
- SMHM 5700 - Service Excellence
- SMHM 5790 - Field Experiences in Various Areas of Concentration
- SMHM 5900 - Special Problems in Various Areas of Concentration
- SMHM 5910 - Special Problems in Various Areas of Concentration

Electives, 0–3 hours

Courses must be approved by CMHT advisor.

Hospitality Management, MS

Admission requirements

The student must meet the requirements for admission to the Toulouse Graduate School. Included in these requirements are:

- a bachelor's degree from an accredited university;
- an 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 (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 during the first semester in the graduate program, earning a grade no lower than B.

In addition, to be considered for admission into the hospitality management program, students need to submit the following to the CMHT Graduate Programs Coordinator:

- three letters of recommendation from employers or teachers;
- a resume; and
- a professional essay that addresses the student's motivation and perseverance toward educational goals, academic or professional honors, recognitions and awards, and a demonstrated commitment to the field of study.

Degree requirements

The student must earn a minimum of 36 semester hours.

Hospitality management core, 9 hours

- SMHM 5300 - Research Methods in Merchandising and Hospitality Management
- SMHM 5400 - Research Applications in Merchandising and Hospitality Management
- HMG 5860 - Strategic Management in the Hospitality Industry

HMG 5 and SMHM courses, 18–21 hours

- HMG 5200 - Survey of Beverages in the Hospitality Industry *
- HMG 5210 - Hospitality Cost Controls *
- HMG 5250 - Restaurant Development
- HMG 5260 - Hospitality Business Strategies *
- HMG 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMG 5480 - Hospitality Industry Finance *
- HMG 5520 - Global Tourism Systems
- HMG 5530 - International Sustainable Tourism
- HMG 5540 - Tourism Services Management and Marketing
- HMG 5630 - Event Management
- HMG 5730 - Hotel and Restaurant Management Systems *
- HMG 5820 - Facilities Planning, Equipment Layout and Design *
- SMHM 5000 - Merchandising and Hospitality Management Study Tour *
- SMHM 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management
- SMHM 5440 - Consumer Theory
- SMHM 5460 - Human Capital Development in Merchandising and Hospitality Management
- SMHM 5550 - Promotional Strategies
- SMHM 5600 - Managing Customer Experiences
- SMHM 5700 - Service Excellence
- SMHM 5790 - Field Experiences in Various Areas of Concentration
- SMHM 5810 - Teaching Practicum in Merchandising and Hospitality Management
- SMHM 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- SMHM 5900 - Special Problems in Various Areas of Concentration
- SMHM 5910 - Special Problems in Various Areas of Concentration

Note

* A maximum of 6 hours may be included on the degree plan.

Electives, 6 hours

Courses must be approved by CMHT advisor.

Thesis option or individual research 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 electives, and 6 hours of SMHM 5950, Master's Thesis. The student must complete and defend the thesis successfully and submit it for approval.
- **Individual research option:** This option requires a minimum of 36 semester hours with 27 hours in the student's major area (including research tools), 6 hours of electives, and 3 hours

of SMHM 5920, Problem in Lieu of Thesis. The student must pass a written comprehensive exam upon successful completion of all course work.

International Sustainable Tourism, MS

This is a joint degree with the University of North Texas (UNT) and Centro Agronómico Tropical de Investigación y Enseñanza (CATIE) — in English, Tropical Agricultural Research and Higher Education Center — in Turrialba, Costa Rica. Courses will be taken by cohorts of students. The first 18 credits of the program (first year) will be taken at the University of North Texas and the second 18 credits of the program (second year) will be taken at CATIE in Costa Rica. Students must pass a written comprehensive exam upon completion of all course work.

Admission requirements

The student must meet the requirements for admission to the Toulouse Graduate School. Included in these requirements are:

- a bachelor's degree from an accredited university or the equivalent to an accredited U.S. bachelor's degree;
- 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 course work credited on the bachelor's degree;
- official and competitive scores on the Graduate Record Examination (GRE) or the Graduate Management Admissions Test (GMAT) must be submitted with application. (GRE or GMAT scores must be less than 10 years old.);
- a demonstrated proficiency in oral and written English according to UNT policy; and
- evaluation of undergraduate courses regarding specified prerequisite courses before beginning the graduate program.

International students should refer to international.unt.edu for specific instructions on dates for application deadlines and other requirements related to international students entering the U.S. on student visas.

Go to graduateschool.unt.edu/admissions for the online application (applytexas.org) and other specific information.

In addition, to be considered for admission into the international sustainable tourism program, students need to submit the following to the CMHT graduate coordinator:

- three letters of recommendation from employers or teachers which attest to the applicant's aptitude for graduate study;
- resume; and
- a professional essay that addresses the applicant student's motivation and perseverance toward graduate education, previous academic or professional honors, future educational or professional goals and a demonstrated commitment to the field of study.

Should an otherwise academically eligible student be precluded from coming to the United States for the first two terms, due solely to visa denial, UNT will work with that student to develop an appropriate alternative completion option. In the event a student is not academically eligible to come to Texas for the first two terms, or does not successfully complete the terms in Texas, no degree will be awarded, though they may have earned sufficient credits for a lesser credential, such as a certificate. Should a student choose not to come to Texas, no degree will be awarded, but a certificate may be awarded at UNT's sole discretion.

Degree requirements

Students must earn a minimum of 36 semester hours as follows:

Courses offered by UNT, 18 hours

- HMG 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMG 5530 - International Sustainable Tourism
- HMG 5540 - Tourism Services Management and Marketing

- HMG 5560 - Planning and Policy in Sustainable Tourism
- BIOL 5100 - Introduction to Environmental Impact Assessment
- PHIL 5000 - Environmental Ethics

Courses offered by CATIE, 18 hours

- HMG 5531 - Sustainable Natural Resource Management
- HMG 5532 - Context and Challenges of Sustainable Tourism Development
- HMG 5533 - Environmental Policies in a Changing World
- HMG 5534 - Seminars in Sustainable Tourism: Experiences of Successful Practitioners in Costa Rica
- HMG 5535 - Quantitative and Qualitative Analyses in Sustainable Tourism
- HMG 5536 - Field/Practical/Professional Experience with Research Applications (Capstone)

Dual Program

Hospitality Management, MS / MBA (any concentration)

MS / MBA with a major in Hospitality Management and MS / MBA with a major in Merchandising

The MS/MBA with a major in hospitality management and the MS/MBA with a major in merchandising each require a total of 54 hours for the dual degree. Hospitality management and merchandising courses are offered face-to-face at the Denton campus in the evening, or online. 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 79–80 on the internet-based TOEFL or an equivalent score depending on manner of test delivery, 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. For a complete list of methods to meet the English proficiency requirement for graduate study at UNT, consult the Admission section of this catalog or consult the International Admissions Office;
- a minimum of 24 semester hours of undergraduate work in the CMHT major or the equivalent; 12 hours of the 24 must be advanced. Students who do not meet the requirements must complete specified prerequisite courses in the selected CMHT major during the first semester with a grade of B or better; and
- 12 hours of background work are required for the MBA (background requirements for the MBA program are outlined in the College of Business section in this catalog).

In addition, to be considered for admission into the merchandising or hospitality management programs, students need to submit the following to the CMHT Graduate Coordinator:

- three letters of recommendation from employers or teachers;
- a resume; and
- a professional essay that addresses the student's motivation and perseverance toward educational goals, academic or professional honors, recognitions and awards, and a demonstrated commitment to the field of study

Program requirements

MBA required core, 18 hours

- ACCT 5130 - Accounting for Management
- BUSI 5190 - Administrative Strategy
- DSCI 5180 - Introduction to the Business Decision Process
- 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:

- Business studies
- Decision sciences
- Decision technology
- Finance
- Health services management
- Information technology
- Logistics and supply chain management
- Marketing
- Operations and supply chain management
- Organizational behavior and human resource management
- Strategic management

MS Hospitality Management, 24 hours

Required, 9–12 hours

- SMHM 5300 - Research Methods in Merchandising and Hospitality Management
- HMGT 5860 - Strategic Management in the Hospitality Industry

Plus one of the following

- SMHM 5920 - Problem in Lieu of Thesis
- SMHM 5950 - Master's Thesis

12–15 hours from the following

- HMGT 5200 - Survey of Beverages in the Hospitality Industry *
- HMGT 5250 - Restaurant Development
- HMGT 5260 - Hospitality Business Strategies *
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMGT 5480 - Hospitality Industry Finance *
- HMGT 5630 - Event Management
- HMGT 5730 - Hotel and Restaurant Management Systems *
- HMGT 5820 - Facilities Planning, Equipment Layout and Design *
- SMHM 5000 - Merchandising and Hospitality Management Study Tour *
- SMHM 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management
- SMHM 5400 - Research Applications in Merchandising and Hospitality Management
- SMHM 5440 - Consumer Theory
- SMHM 5460 - Human Capital Development in Merchandising and Hospitality Management
- SMHM 5550 - Promotional Strategies
- SMHM 5600 - Managing Customer Experiences
- SMHM 5700 - Service Excellence
- SMHM 5790 - Field Experiences in Various Areas of Concentration
- SMHM 5800 - Seminar in Various Areas of Concentration (may be repeated for credit as topics vary)
- SMHM 5810 - Teaching Practicum in Merchandising and Hospitality Management
- SMHM 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- SMHM 5900 - Special Problems in Various Areas of Concentration
- SMHM 5910 - Special Problems in Various Areas of Concentration

Note

A maximum of 6 hours from the following list of courses may be included on the degree plan under the required 24 hours in hospitality management.

- SMHM 5000 - Merchandising and Hospitality Management Study Tour
- HMGT 5200 - Survey of Beverages in the Hospitality Industry
- HMGT 5260 - Hospitality Business Strategies
- HMGT 5480 - Hospitality Industry Finance
- HMGT 5730 - Hotel and Restaurant Management Systems
- HMGT 5820 - Facilities Planning, Equipment Layout and Design

Graduate Academic Certificate

Event Management certificate

Graduate academic certificates

The School of Merchandising and Hospitality Management offers graduate academic certificates in hospitality management, merchandising, and event management. 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. See the Admission section of this catalog for admission requirements. Upon advisement of the CMHT graduate advisor 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 College of Merchandising, Hospitality and Tourism courses. The courses may be completed in residence, online or a combination of both.

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 advisor, division chair, and the student's major professor, who will be selected when proceeding for a degree.

Certificate requirements

The event management graduate academic certificate program includes:

- SMHM 5550 - Promotional Strategies
- SMHM 5600 - Managing Customer Experiences
- HMGT 5630 - Event Management
- SMHM 5700 - Service Excellence

Note

SMHM 5800 can be substituted for any course except HMGT 5630 with the approval of the CMHT graduate advisor.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Hospitality Management certificate

Graduate academic certificates

The College of Merchandising, Hospitality and Tourism offers graduate academic certificates in hospitality management, merchandising, and event management. 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. See the Admission section of this catalog for admission requirements. Upon advisement of the CMHT graduate advisor 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 College of Merchandising, Hospitality and Tourism courses. The courses may be completed in residence, online or a combination of both.

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 advisor, division chair, and the student's major professor, who will be selected when proceeding for a degree.

Requirements

Core courses, 6 hours

- HMG 5250 - Restaurant Development
- HMG 5280 - Hotel and Restaurant Operations: Theory and Analysis

Electives, 6 hours selected from

- SMHM 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management
- SMHM 5460 - Human Capital Development in Merchandising and Hospitality Management
- SMHM 5550 - Promotional Strategies
- SMHM 5700 - Service Excellence
- SMHM 5800 - Seminar in Various Areas of Concentration
- SMHM 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management

Note

SMHM 5800 may be substituted for any course with the approval of the CMHT graduate advisor.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Department of Merchandising and Digital Retailing

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940-565-2436

Web site: www.smhm.unt.edu

Tammy Kinley, Chair

Mission

The mission of the Department of Merchandising and Digital Retailing is to develop talent for careers in the trend-driven global retail marketplace. The mission embraces innovative and diverse curricula, experiential learning, applied technologies, research experiences, industry involvement and professional development of students. A merchandising degree can lead to careers in the multifaceted industry, including product development, manufacturing, wholesaling and retailing.

Master's Degree

Merchandising (online), MS

The student must earn a minimum of 36 semester hours.

Admission requirements

The student must meet the requirements for admission to the Toulouse Graduate School. 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. (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.

In addition, to be considered for admission into the merchandising program, students need to submit the following to the SMHM graduate coordinator:

- three letters of recommendation from employers or teachers;
- a resume; and
- a professional essay that addresses the student's motivation and perseverance toward educational goals, academic or professional honors, recognitions and awards, and a demonstrated commitment to the field of study.

Online thesis option

Merchandising core, 3 hours

- MDSE 5500 - Merchandising Strategies

Research tools, 6 hours

- EPSY 5050 - Foundations of Educational Research Methodology
- EPSY 5210 - Educational Statistics

Thesis course, 6 hours

- SMHM 5950 - Master's Thesis

MDSE and SMHM courses, 18–21 hours

18–21 hours of MDSE and SMHM courses, excluding SMHM 5950.

- MDSE 5230 - Home Furnishings Industry
- MDSE 5240 - Global Fashion Retailing
- MDSE 5500 - Merchandising Strategies
- MDSE 5560 - Sustainable Strategies in Merchandising
- MDSE 5620 - Socio-Cultural Analysis of Dress
- MDSE 5650 - International Sourcing
- MDSE 5750 - Digital Retailing
- SMHM 5440 - Consumer Theory
- SMHM 5550 - Promotional Strategies
- SMHM 5600 - Managing Customer Experiences
- SMHM 5700 - Service Excellence
- SMHM 5790 - Field Experiences in Various Areas of Concentration
- SMHM 5900 - Special Problems in Various Areas of Concentration
- SMHM 5910 - Special Problems in Various Areas of Concentration

Electives, 0–6 hours

Courses must be approved by SMHM advisor and division chair.

Online individual research option

Merchandising core, 6 hours

- MDSE 5500 - Merchandising Strategies
- SMHM 5920 - Problem in Lieu of Thesis

Research tools, 6 hours

- EPSY 5050 - Foundations of Educational Research Methodology
- EPSY 5210 - Educational Statistics

MDSE and SMHM courses, 18–24 hours

18–24 hours of MDSE and SMHM courses, excluding SMHM 5920.

- MDSE 5230 - Home Furnishings Industry
- MDSE 5240 - Global Fashion Retailing
- MDSE 5560 - Sustainable Strategies in Merchandising
- MDSE 5620 - Socio-Cultural Analysis of Dress
- MDSE 5650 - International Sourcing
- MDSE 5750 - Digital Retailing
- SMHM 5440 - Consumer Theory
- SMHM 5550 - Promotional Strategies
- SMHM 5600 - Managing Customer Experiences
- SMHM 5700 - Service Excellence
- SMHM 5790 - Field Experiences in Various Areas of Concentration
- SMHM 5900 - Special Problems in Various Areas of Concentration
- SMHM 5910 - Special Problems in Various Areas of Concentration

Electives, 0–6 hours

Courses must be approved by SMHM advisor and division chair.

Merchandising, MS

Admission requirements

The student must meet the requirements for admission to the Toulouse Graduate School. 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. (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.

In addition, to be considered for admission into the merchandising program, students need to submit the following to the SMHM graduate coordinator:

- three letters of recommendation from employers or teachers;
- a resume; and
- a professional essay that addresses the student's motivation and perseverance toward educational goals, academic or professional honors, recognitions and awards, and a demonstrated commitment to the field of study.

Degree requirements

The student must earn a minimum of 36 semester hours.

Merchandising core, 3 hours

- MDSE 5500 - Merchandising Strategies (is required for all merchandising majors)

Research tools, 6 hours

- SMHM 5300 - Research Methods in Merchandising and Hospitality Management
- SMHM 5400 - Research Applications in Merchandising and Hospitality Management

Courses in major, 18–21 hours

- MDSE 5230 - Home Furnishings Industry
- MDSE 5240 - Global Fashion Retailing
- MDSE 5500 - Merchandising Strategies
- MDSE 5560 - Sustainable Strategies in Merchandising
- MDSE 5620 - Socio-Cultural Analysis of Dress
- MDSE 5650 - International Sourcing
- MDSE 5750 - Digital Retailing
- SMHM 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management
- SMHM 5440 - Consumer Theory
- SMHM 5460 - Human Capital Development in Merchandising and Hospitality Management
- SMHM 5550 - Promotional Strategies
- SMHM 5600 - Managing Customer Experiences
- SMHM 5700 - Service Excellence
- SMHM 5790 - Field Experiences in Various Areas of Concentration
- SMHM 5800 - Seminar in Various Areas of Concentration (may be repeated for credit as topics vary)
- SMHM 5810 - Teaching Practicum in Merchandising and Hospitality Management
- SMHM 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- SMHM 5900 - Special Problems in Various Areas of Concentration
- SMHM 5910 - Special Problems in Various Areas of Concentration

Maximum of 6 hours from the following

A maximum of 6 hours from the following may be included as part of the major:

- SMHM 5000 - Merchandising and Hospitality Management Study Tour
- MDSE 5080 - Merchandising Ventures

- MDSE 5090 - Virtual Merchandising
- MDSE 5510 - Advanced Buying, Planning and Allocation
- MDSE 5660 - Advanced Merchandising Applications
- MDSE 5850 - Brand Development

Electives, 6 hours

Up to 6 hours may be taken in courses outside of merchandising with the consent of the division chair and the student's major professor. The thesis option requires 6 hours of electives in a related area.

Options under the degree

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, plus 6 hours of research tools. Students must have a minimum of 6 elective hours from a department outside merchandising. The student must complete and defend the thesis successfully and submit it for approval.
- **Individual Research Option:** This option requires a minimum of 27 semester hours in the student's major area (including research tools), 3 hours of SMHM 5920, Problem in Lieu of Thesis, and up to 6 hours of electives for a total of 36.

Dual Program

Merchandising, MS / MBA (any concentration)

MS / MBA with a major in Hospitality Management and MS / MBA with a major in Merchandising

The MS/MBA with a major in hospitality management and the MS/MBA with a major in merchandising each require a total of 54 hours for the dual degree. Hospitality management and merchandising courses are offered face-to-face at the Denton campus in the evening, or online. 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 79–80 on the internet-based TOEFL or an equivalent score depending on manner of test delivery, 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. For a complete list of methods to meet the English proficiency requirement for graduate study at UNT, consult the Admission section of this catalog or consult the International Admissions Office;
- a minimum of 24 semester hours of undergraduate work in the CMHT major or the equivalent; 12 hours of the 24 must be advanced. Students who do not meet the requirements must complete specified prerequisite courses in the selected CMHT major during the first semester with a grade of B or better; and
- 12 hours of background work are required for the MBA (background requirements for the MBA program are outlined in the College of Business section in this catalog).

In addition, to be considered for admission into the merchandising or hospitality management programs, students need to submit the following to the CMHT Graduate Coordinator:

- three letters of recommendation from employers or teachers;
- a resume; and

- a professional essay that addresses the student's motivation and perseverance toward educational goals, academic or professional honors, recognitions and awards, and a demonstrated commitment to the field of study

Program requirements

MBA required core, 18 hours

- ACCT 5130 - Accounting for Management
- BUSI 5190 - Administrative Strategy
- DSCI 5180 - Introduction to the Business Decision Process
- 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:

- Business studies
- Decision sciences
- Decision technology
- Finance
- Health services management
- Information technology
- Logistics and supply chain management
- Marketing
- Operations and supply chain management
- Organizational behavior and human resource management
- Strategic management

MS Merchandising, 24 hours

Required, 6 hours

- SMHM 5300 - Research Methods in Merchandising and Hospitality Management
- MDSE 5500 - Merchandising Strategies

Select 18 hours from the following

- MDSE 5240 - Global Fashion Retailing
- SMHM 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management
- SMHM 5400 - Research Applications in Merchandising and Hospitality Management
- SMHM 5440 - Consumer Theory
- SMHM 5460 - Human Capital Development in Merchandising and Hospitality Management
- SMHM 5550 - Promotional Strategies
- SMHM 5600 - Managing Customer Experiences
- MDSE 5650 - International Sourcing
- SMHM 5700 - Service Excellence
- MDSE 5750 - Digital Retailing
- SMHM 5790 - Field Experiences in Various Areas of Concentration
- SMHM 5800 - Seminar in Various Areas of Concentration (may be repeated for credit as topics vary)
- SMHM 5810 - Teaching Practicum in Merchandising and Hospitality Management
- SMHM 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- SMHM 5900 - Special Problems in Various Areas of Concentration
- SMHM 5910 - Special Problems in Various Areas of Concentration
- SMHM 5920 - Problem in Lieu of Thesis (3 hours)
or
- SMHM 5950 - Master's Thesis (6 hours)

Note

A maximum of 6 hours from the following list of courses may be included on the degree plan under the required 24 hours in merchandising.

- SMHM 5000 - Merchandising and Hospitality Management Study Tour
- MDSE 5080 - Merchandising Ventures
- MDSE 5090 - Virtual Merchandising
- MDSE 5660 - Advanced Merchandising Applications
- MDSE 5850 - Brand Development

Graduate Academic Certificate

Merchandising certificate

Graduate academic certificates

The School of Merchandising and Hospitality Management offers graduate academic certificates in hospitality management, merchandising, and event management. 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. See the Admission section of this catalog for admission requirements. Upon advisement of the CMHT graduate advisor 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 College of Merchandising, Hospitality and Tourism courses. The courses may be completed in residence, online or a combination of both.

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 advisor, division chair, and the student's major professor, who will be selected when proceeding for a degree.

Requirements

The merchandising graduate academic certificate program includes:

6 semester hours of core courses

- SMHM 5440 - Consumer Theory
- MDSE 5500 - Merchandising Strategies

plus 6 elective hours selected from

- MDSE 5240 - Global Fashion Retailing
- HMGY 5520 - Global Tourism Systems
- SMHM 5550 - Promotional Strategies
- SMHM 5600 - Managing Customer Experiences
- MDSE 5650 - International Sourcing
- SMHM 5700 - Service Excellence
- MDSE 5750 - Digital Retailing
- MDSE 5850 - Brand Development

Note

SMHM 5800 can be substituted for any course except HMGY 5630 with the approval of the CMHT graduate advisor.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

College of Music

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940-565-2791

Office of Graduate Studies
Music Building, Room 216A
940-565-3721

Web site: music.unt.edu

James C. Scott, Dean

Warren Henry, Associate Dean
Jon C. Nelson, Associate Dean
John C. Scott, Associate Dean
Lynn Eustis, Director of Graduate Studies
Steven Harlos, Chair, Division of Keyboard Studies
Eileen Hayes, Chair, Division of Music History, Theory and Ethnomusicology
John Holt, Chair, Division of Instrumental Studies
Joseph Klein, Chair, Division of Composition Studies
John Murphy, Chair, Division of Jazz Studies
Debbie Rohwer, Chair, Division of Music Education
Jeffrey Snider, Chair, Division of Vocal Studies
Richard Sparks, Chair, Division of Conducting and Ensembles

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 a major in performance
- Master of Music with a major in jazz studies
- Master of Music Education with a major in music education
- Master of Arts with a major in music and concentrations in composition, music theory, musicology and ethnomusicology
- Doctor of Musical Arts with a major in performance
- Doctor of Philosophy with a major in music and concentrations in composition, music theory and musicology
- Doctor of Philosophy with a major in music education

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 Opper 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 Musikliteratur* 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 and performance practice. Independent investigation and creative problem solving also play significant 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.

In music theory, technological resources play an important role, and faculty and graduate students alike recognize the relevance of these applications to the field. Proficiency with the latest music notation software is a basic element in a broader array of emerging music software choices. These options include various digital multi-media players and media library applications capable of playing and cataloging aural and visual resources. The UNT music academic unit also has at its disposal various music applications that serve a variety of purposes, including pedagogy, performance and practice. Graduate and undergraduate music students help operate the Music Computer Lab. The lab serves to reinforce the concepts and skills presented in theory classes as well as to facilitate other professional-level music performance needs. Pedagogical applications, such as ear training packages, are found in this lab, along with digital audio recording and editing, digital transcription and production tools, and one application in which a graphical development environment was designed especially for the interface of various forms of media.

The Clarinet (quarterly journal of the International Clarinet Society) is edited by a faculty member in the College of Music.

Application procedure

Applicants for all graduate degrees in the College of Music must submit an application to the Toulouse Graduate School (www.applytexas.org) as well as to the College of Music for the specific degree they intend to pursue (music.unt.edu/admissions/graduate).

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 cannot 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.

For all MM and PhD students majoring in composition, musicology or theory; for all MM, MME and PhD students majoring in music education; and for all MM and DMA students majoring in performance, a grade of B or better must be earned in each undergraduate or graduate course assigned as a deficiency, including both transcript deficiency courses and Graduate Placement Examination (GPE) deficiency courses. For MM students majoring in jazz studies, all transcript deficiency course work must be passed with a grade of B or better and all Graduate Placement Examination (GPE) deficiency courses must be passed with a grade of C or better.

Graduate Placement Examination

All new College of Music graduate students must take the Graduate Placement Examination (GPE) or sign a waiver stating that they will complete the courses for each examination waived. The GPE covers academic communication skills, musical traditions, and musicianship skills and analysis. The examination is given each long semester during the week of registration and orientation. The GPE may be retaken only one time and only by master's students who have failed any individual exam by 5 points or less. If remedial course work is assigned based on the results of the GPE, the student must enroll in these courses in the first semester the specified courses are offered. 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 Graduate School.

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 Graduate School.

Tuition and fees

See the Financial Information section of this catalog or visit www.unt.edu/tuition.

Degree plan

By the completion of 12 hours of study, the graduate student is expected to 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 submitted to the director of graduate studies in music. Forms for this purpose are available at music.unt.edu/advising/graduate.php.

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's Degree

Jazz Studies, MM

Master of Music degree program

Students seeking the master's degree should consult their applied lesson teacher, thesis advisor or division chair in preparing a tentative program to meet the degree requirements and in selecting 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 GRE requirements for individual programs. Students applying for the MM in performance or jazz studies may satisfy the GRE requirement by completing an on-campus writing examination. Details are available in the Office of Graduate Studies.

The Graduation Preparation Course (GPC) provided for international students by the Intensive English Language Institute will not be accepted as a substitute for the GRE requirement.

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. Performance majors must take the examination after the completion of the MM degree recital requirement. 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. 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 advisors. Credit may be earned by enrolling in the courses listed below (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.

- MULB 5171 - Large Ensemble: Choir
- MULB 5172 - Large Ensemble: Orchestra
- MULB 5173 - Large Ensemble: Band
- MULB 5174 - Large Ensemble: Jazz Lab Band
- MULB 5175 - Large Ensemble: Accompanying

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 2370 and (2) submit manuscripts that demonstrate arranging skill equivalent to the level of MUJS 3620.

At the end of each long semester, the student's work will be reviewed for continuance in the program. This review will consist of either an improvisation skill jury or an evaluation of written projects.

All MUJS course work counted toward the degree and transcript deficiency course work must be passed with a grade of B or better. All Graduate Placement Examination (GPE) deficiency courses must be passed with a grade of C or better.

Required courses, 17 hours

The following courses are required for all jazz studies majors:

- MULB 5174 - Large Ensemble: Jazz Lab Band (2 hours)
- MUJS 5440 - Introduction to Research in Jazz Studies
- MUJS 5470 - Conducting College Jazz Ensembles
- MUJS 5780 - Jazz Styles and Analysis
- Electives in music and outside the field of Jazz Studies, 6 hours

Note

The student may choose one of the following tracks, but must be accepted into a specific track on the basis of the audition.

Jazz performance

- MUJS 5490 - Advanced Jazz Improvisation
- MUJS 5535 - Jazz Recital
- MUCM 5550 - Jazz Chamber Music (4 hours)

Applied jazz, 6 hours chosen from

- MUJS 5531 - Jazz Piano
- MUJS 5532 - Jazz Saxophone
- MUJS 5533 - Jazz Voice
- MUJS 5536 - Jazz Trumpet
- MUJS 5537 - Jazz Trombone
- MUJS 5538 - Jazz Double Bass
- MUJS 5539 - Jazz Drumset
- MUAC 5526 - Jazz Guitar

Jazz composition

- MUJS 5760 - Jazz Arranging
- MUJS 5534 - Jazz Composition (6 hours)
- MUJS 5535 - Jazz Recital
- MUJS 5540 - Composition for the Media
- MUCM 5550 - Jazz Chamber Music

Jazz pedagogy

- MUJS 5480 - Pedagogy of Jazz
- MUJS 5535 - Jazz Recital (lecture-recital on a pedagogy related topic)
- MUCM 5550 - Jazz Chamber Music

Applied jazz, 6 hours chosen from

- MUJS 5531 - Jazz Piano
- MUJS 5532 - Jazz Saxophone
- MUJS 5533 - Jazz Voice
- MUJS 5534 - Jazz Composition
- MUJS 5536 - Jazz Trumpet
- MUJS 5537 - Jazz Trombone
- MUJS 5538 - Jazz Double Bass
- MUJS 5539 - Jazz Drumset
- MUAC 5526 - Jazz Guitar

3 hours selected from

- MUJS 5760 - Jazz Arranging
- MUED 5100 - Music Supervision
- MUED 5510 - Philosophical Foundations and Principles of Music Teaching
- MUED 5520 - Psychology of Music

To complete the jazz degree, students in the pedagogy track must demonstrate one of the following: skill in improvisation equal to MUJS 3370 or skill in jazz arranging equal to MUJS 4620. This may be accomplished through course work or appropriate proficiency examination.

Additional requirements

Students in all tracks must pass a comprehensive examination.

Music Education, MME

The Division of Music Education offers two degree options that lead toward a master's degree (MME). Requisite for both options is a bachelor's degree in music education and at least one (1) year of successful classroom teaching experience. Both degree options in the MME are 34 semester credit hours and include a teaching emphasis and a research emphasis.

The teaching emphasis is recommended for experienced educators in school music programs who seek to advance their knowledge in the practice and theory of music instruction.

The research emphasis is recommended for experienced music educators who seek to advance their music instruction knowledge and who may be contemplating college-level teaching at a later point in their careers. Enrollment is highly recommended for individuals preparing for possible doctoral work in music education.

Teaching emphasis

Degree requirements

The following courses are required for the 34-hour teaching emphasis program:

Music education, 12 hours

- MUED 5120 - Applied Research in Music Education
- MUED 5280 - Current Issues in Music Education
- MUED XXXX - 6 hours

Music courses outside the field of music education, 10 hours

Students may choose classes in ethnomusicology, music history, music theory, composition, jazz studies or other areas of interest outside the division of music education.

Electives, 9 hours

Electives should be linked to professional development and should be connected to the major

Comprehensive project

2 hours in one semester and 1 hour in a second semester, for a total of 3 credits. MUED 5890 - Project Practicum (3 hours): students will complete a project practicum over two semesters where they propose the project in the first semester (2 credits) and defend the final project in the second semester (1 credit). This is a guided project in the student's respective area of general music, band, orchestra or choir.

Research emphasis

Degree requirements

The following courses are required for the 34-hour research emphasis program:

Music education, 12 hours

- MUED 5280 - Current Issues in Music Education
- MUED XXXX - 9 hours

Research requirement, 6 hours

- MUED 5120 - Applied Research in Music Education
- EPSY 5210 - Educational Statistics (or an alternate 3 hour research course chosen in consultation with the Master's coordinator.)

Electives, 10 hours

Electives must be music courses outside the field of music education.

Thesis, 6 hours

The student must complete 6 thesis hours.

- MUGC 5950 - Master's Thesis

Additional requirements

The final defense given at the end of the degree work will include but not be limited to questions related to the thesis.

Students must receive a grade of B or better for all courses counting toward the degree, including deficiency courses.

Music, MA

Concentrations available under the Master of Arts with a major in music include composition, musicology, ethnomusicology and music theory. Students seeking the master's degree should consult their thesis advisor or division chair in preparing a tentative program to meet the degree requirements and in selecting an advisory committee.

- Composition Concentration
- Musicology Concentration
- Ethnomusicology Concentration
- Music Theory Concentration

Degree requirements

All concentrations require the completion of a common core:

Common core, 15 hours

- MUMH 5010 - Introduction to Research in Music
- MUTH 5360 - Analytical Techniques II (1700–1900)
- MUGC 5950 - Master's Thesis (6 hours)

3 hours selected from

(selected in consultation with the major advisor)

- MUCP 5080 - Composition Seminar
- MUMH 5711 - Seminar in Musicology
- MUET 5030 - Music Cultures of the World

Additional requirements

Additional requirements for each concentration are outlined below. The Office of Graduate Studies in Music provides complete information concerning procedures, administrative details and GRE requirements for individual programs. Before the degree is granted, the candidate must pass a final comprehensive exam—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. Laboratories include 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 advisors.

Ensembles available for graduate student participation include 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

Credit may be earned by enrolling in

(1 semester hour each)

- MULB 5171 - Large Ensemble: Choir
- MULB 5172 - Large Ensemble: Orchestra
- MULB 5173 - Large Ensemble: Band
- MULB 5174 - Large Ensemble: Jazz Lab Band
- MULB 5175 - Large Ensemble: Accompanying

Lecture attendance requirement

Each graduate student with a declared concentration 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 concentration in composition is expected to attend all Music Now events during each long term/semester of full-time enrollment.

Concentration in composition

Application procedure

Applicants to the Master of Arts degree with a major in music and a concentration in composition must submit a completed College of Music application form and a portfolio to the College of Music Admissions Office by the first Monday in December to be considered for acceptance in the following academic year. The portfolio must include scores, recordings, a resume or vita, transcripts, GRE scores, letters of recommendation, writing sample and a personal statement; details are included in the *Composition Student Handbook* and on the composition division web site (<http://music.unt.edu/comp/admissions/graduate>).

General application information

1. Please note that application to the Toulouse Graduate School 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. Applicants are expected to submit GRE scores at the time of application in order to be considered for graduate studies in composition:
 - a. 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.

- b. The Graduate Preparation Course (GPC), provided for international students by the Intensive English Language Institute, is not accepted as a substitute for the GRE requirement.
3. International applicants in composition must be provisionally accepted to the program prior to beginning study at the Intensive English Language Institute (IELI).

Additional application information may be found in the *Composition Student Handbook* or on the division web site (<http://music.unt.edu/comp>).

Degree requirements

The Master of Arts with a major in music and a concentration in composition is a 36-hour degree with thesis and includes the common core (15 hours, listed above), plus three possible options for the remaining 21 required hours:

Concentration in composition, 21 hours

- MUCP 5190 - Master's Composition

3 hours selected from

- MUCP 5680 - History and Technology of Electroacoustic Music
- MUCP 5690 - Topics in Electroacoustic Music

6 hours selected from

- MUCP 5320 - Orchestration
- MUCP 5460 - Contemporary Music
- MUCP 5590 - Intermedia Performance Arts and
- MUEN 5595 - Intermedia Performance Arts
- or other 5000-level MUCP courses approved by program

Related field in music, 9 hours

Concentration in Composition, Computer Music Media, 21 hours

- MUCP 5190 - Master's Composition

6 hours selected from

- MUCP 5680 - History and Technology of Electroacoustic Music
- MUCP 5690 - Topics in Electroacoustic Music

3 hours selected from

- MUCP 5320 - Orchestration
- MUCP 5460 - Contemporary Music
- MUCP 5590 - Intermedia Performance Arts and
- MUEN 5595 - Intermedia Performance Arts
- or other 5000-level MUCP courses approved by program

Related field in music or minor field outside of music, 9 hours

Concentration in Composition, Interdisciplinary, 21 hours

- MUCP 5190 - Master's Composition
- MUCP 5590 - Intermedia Performance Arts and
- MUEN 5595 - Intermedia Performance Arts

6 hours selected from

interdisciplinary courses approved by the composition program

Minor field outside of music, 9 hours

Related field, 9 hours, select one

Conducting

Required: 9 hours selected from

- MUAG 5000 - Choral Techniques
- MUAG 5800 - Advanced Choral Conducting
- MUAG 5850 - Advanced Instrumental Conducting
- MUED 5300

Ethnomusicology

Required:

- MUET 5030 - Music Cultures of the World

6 hours selected from

- MUET 5220 - Ethnomusicology Field and Research Methods (recommended)
- MUET 5040 - Ethnomusicology Studies Abroad
- MUET 5050 - Music of Africa
- MUET 5060 - African-American Music
- MUET 5070 - Studies in Asian Music
- MUET 5210 - Seminar in Ethnomusicology

Or 6 hours selected from

- 3 hours selected from the list above and
- 3 hours of ensembles from African Ensemble, South Indian Ensemble, Balinese Gamelan, Afro-Cuban and Brazilian Ensemble.

Jazz studies

Required: audition

- MUJS 5470 - Conducting College Jazz Ensembles
- MUJS 5480 - Pedagogy of Jazz

3 hours selected from

- MUJS 5440 - Introduction to Research in Jazz Studies
- MUJS 5450 - Jazz Historiography
- MUJS 5760 - Jazz Arranging
- MUJS 5780 - Jazz Styles and Analysis

Music and medicine

Required:

- MUAG 5450 - Introduction to Music and Medicine
- MUGC 5910 - Special Problems (with medical school faculty)
- and one elective consistent with student's area of interest in music and medicine.

Musicology

Required: 9 hours selected from

- MUMH 5020 - Introduction to Musicology
- MUMH 5110 - History of Opera
- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 5341 - Western Music History, 1700–1800
- MUMH 5342 - Western Music History, 1800–1900
- MUMH 5343 - Western Music History, 1900 to the Present
- MUMH 5430 - Music in Latin America
- MUMH 5440 - Music in the United States
- MUMH 5711 - Seminar in Musicology
- or additional courses with approval of the division chair.

Music education

Required: 9 hours selected from any 5000- or 6000-level MUED course.

Performance

Required: audition

- MUAC 5500 level, 6 hours

3 hours selected from

- MUAG 5640 - Operatic Acting
- MUAG 5650 - Opera Stage Direction
- MUAG 5800 - Advanced Choral Conducting
- MUAG 5850 - Advanced Instrumental Conducting
- MUEN 5040 - Graduate Opera Theater
- MUEN 5530 - Early Music Ensembles
- MUEN 5602 - Brass Ensembles
- MUEN 5605 - Chamber Wind Ensemble
- MUEN 5611 - Jazz Ensembles
- MUEN 5616 - Chamber Orchestra
- MUEN 5617 - Percussion Ensembles
- MUEN 5621 - String Ensembles
- MUEN 5624 - Vocal Ensembles
- MUEN 5625 - Wind Ensembles
- MUCM 5500 level
- MULB 5170 level

Theory

Required: 9 hours selected from

- MUTH 5080 - Pedagogy of Theory
- MUTH 5090 - Problems in Pedagogy of Theory
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5370 - Analytical Techniques III (Post 1900)
- MUTH 5400 - Invertible Counterpoint and Fugue
- MUTH 5470 - Advanced Schenkerian Analysis

Additional requirements

1. Each graduate student with a declared concentration 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 students are expected to present at least one public performance or reading of original compositions each semester; these may include Spectrum programs, CEMI Centerpieces, reading sessions, student recitals or any off-campus venues.
3. 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.
4. Graduate composition students are to maintain a portfolio that includes completed works, recordings and a record of works and performances. This portfolio is submitted to the composition faculty for evaluation at the annual graduate review each spring term/semester.
5. Students may enroll in no more than one composition lesson each term/semester.
6. A grade of B or better is required in all courses used to satisfy the MA degree, including undergraduate and graduate deficiency courses. Students not meeting this division 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 reviews may be called for at any time during the course of study in order to monitor the student's progress.
7. 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.

Composition students are expected to enroll in thesis (MUGC 5950) for at least two semesters. During those semesters of enrollment, students are to meet with their major professor on a regular basis (typically one hour per week, similar to graduate composition lessons). Other arrangements may be made for nonresident students as long as (1) both the student and major professor agree on the terms, and (2) sufficient progress on the final document can be demonstrated to the graduate

advisory committee each semester. Further information regarding thesis requirements is found in the *Composition Student Handbook*, also available online (music.unt.edu/comp/students).

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 may be downloaded from the composition division web site (music.unt.edu/comp).

Concentration in musicology

Acceptance and permission to enroll

To obtain permission to enroll in course work, the student must:

1. apply for admission to UNT through the Toulouse Graduate School (an evaluation of the students's transcripts will determine deficiencies in course work);
2. submit an acceptable score on the general test of the Graduate Record Examination (GRE);
3. attend all orientation sessions scheduled by the Director of Graduate Studies in Music;
4. take the Graduate Placement Examination (GPE) given by the College of Music; and
5. complete the appropriate deficiency courses the first term/semester they are offered.

Application for acceptance into the program is made by a letter submitted to the coordinator of the musicology area. 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 or academically;
3. one or more samples of the student's writing on musical topics; and
4. a completed College of Music application, which includes a statement of personal interest indicating reasons for interest in pursuing graduate study in the chosen field. Please note that the music history area considers this statement and the writing samples to be critical; applicants should put a great deal of thought into writing the statement and choosing the writing samples.

Advising and degree plan

The Musicology Coordinator will assign a mentor to each student admitted to the Master of Arts with a major in music and a concentration in musicology. The mentor will assist the student in choosing courses and, after the student has finished 12 hours of course work that count toward the degree, in completing the degree plan. The degree plan, listing all courses to be required for the degree, must be 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 216A and online at music.unt.edu/advising/graduate.php. All changes in the degree plan must be submitted in writing and filed with the Graduate Studies Office.

Degree requirements are determined by the *Graduate Catalog* in effect at the time the degree plan is approved by the Dean of the Toulouse Graduate School. Degree plans may not be filed in the term/semester a student plans to graduate.

The Master of Arts with a major in music and a concentration in musicology is a 35-hour degree with thesis, including the common core (15 hours, listed above), plus the following requirements for the remaining 20 hours:

Concentration in Musicology, 20 hours*

- MUMH 5020 - Introduction to Musicology
- MUEN 5530 - Early Music Ensembles (or other ensemble)

9 hours selected from

- MUMH 5110 - History of Opera
- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 5341 - Western Music History, 1700–1800
- MUMH 5342 - Western Music History, 1800–1900
- MUMH 5343 - Western Music History, 1900 to the Present
- MUMH 5430 - Music in Latin America
- MUMH 5440 - Music in the United States
- and others with the permission of the coordinator for the music history area

6 hours selected from

- MUED 6580 - College Teaching of Music Courses
- MUET 5030 - Music Cultures of the World
or
- MUET 5220 - Ethnomusicology Field and Research Methods
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
or
- MUTH 5370 - Analytical Techniques III (Post 1900)
- MUCP 5180 - Secondary Composition

Additional requirements

For the concentration in musicology, the student must pass an examination testing reading knowledge German administered by the musicology faculty prior to applying for graduation.

Emphasis in early music performance*

Entrance requirements for the early music performance emphasis are the same as the current requirements for the MA with a major in music and a concentration in musicology with the addition of an audition (equivalent of senior recital concentration level).

The Master of Arts with a major in music, a concentration in musicology and an emphasis in early music performance is a 37-hour degree with thesis, including the common core (15 hours, listed above) plus the following requirements for the remaining 22 hours:

Concentration in Musicology, Early Music Performance, 22 hours

- MUMH 5020 - Introduction to Musicology
- MUMH 5610 - Ornamentation and Improvisation 1500–1800
- MUEN 5530 - Early Music Ensembles
- MUAG 5900 - Special Problems when taught as “Early Instruments,” 4 hours (2 semesters at concentration level)

9 hours selected from

- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 5341 - Western Music History, 1700–1800
- MUMH 5342 - Western Music History, 1800–1900
- MUMH 5343 - Western Music History, 1900 to the Present
- MUMH 5430 - Music in Latin America
- MUMH 5440 - Music in the United States
- and others with permission of the coordinator for the music history area

Additional requirements for the degree include

- Knowledge of either French or German
- A thesis project with a required recital portion.

*Master’s thesis

Graduate students with a concentration in musicology, including those students with an emphasis in early music performance, should consult

the Master’s Thesis Guidelines link at the division web site (www.music.unt.edu/mhte/node/111) for formatting, content and stylistic suggestions for the master’s thesis proposal. In consultation with his or her major professor, the student will ask two other professors to serve as members of his or her thesis advisory committee. Thesis proposals must be submitted and, if necessary, revised and re-submitted to the graduate advisory committee in a timely manner.

Before the degree is granted, the candidate must pass a final oral examination (thesis defense) covering the field of concentration and, if applicable, the thesis or research problem. The examination may be taken no more than three times.

Concentration in Ethnomusicology

Entrance requirements are the same as the current requirements for the Master of Arts with a major in music and a concentration in musicology.

The Master of Arts with a major in music and a concentration in ethnomusicology is a 35-hour degree with thesis, including the common core (15 hours, listed above), plus the following requirements for the remaining 20 hours.

Concentration in Ethnomusicology, 22 hours

- MUET 5210 - Seminar in Ethnomusicology (6 hours)
- ANTH 5010 - Anthropological Thought and Praxis I (3 hours)

6 hours selected from

- MUET 5040 - Ethnomusicology Studies Abroad
- MUET 5050 - Music of Africa
- MUET 5060 - African-American Music
- MUET 5070 - Studies in Asian Music
- MUET 5080 - Studies in Latin American Music
- MUET 5090 - Music of India

3 hours selected from

- MUJS 5440 - Introduction to Research in Jazz Studies
- MUJS 5450 - Jazz Historiography
- MUJS 5780 - Jazz Styles and Analysis
- MUMH 5020 - Introduction to Musicology

3 hours selected from

- MUGC 5555 - Introduction to Music Entrepreneurship
- MUJS 5430 - Graduate Review of Jazz History
- MUMH 5430 - Music in Latin America
- MUMH 5711 - Seminar in Musicology

Ensembles

MUEN 56xx, Music Ensembles (1 hour)

Master’s thesis

Graduate students in ethnomusicology should consult the Master’s Thesis Guidelines link at the division web site (www.music.unt.edu/mhte/node/111) for formatting, content and stylistic suggestions for the master’s thesis proposal. In consultation with his or her major professor, the student will ask two other ethnomusicology professors to serve as members of his or her thesis advisory committee. Thesis proposals must be submitted and, if necessary, revised and re-submitted to the Graduate Academic Degrees Committee in a timely manner.

Before the degree is granted, the candidate must pass a final oral examination (thesis defense) covering the field of concentration and, if applicable, the thesis or research problem. The examination may be taken no more than three times.

Concentration in Music Theory

The Master of Arts in Music with a concentration in music theory is a 36-hour degree with thesis: Common Core (15 hours, listed above) plus the following requirements for the remaining 21 hours:

Concentration in Music Theory, 21 hours

- MUTH 5080 - Pedagogy of Theory
- MUTH 5090 - Problems in Pedagogy of Theory
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5370 - Analytical Techniques III (Post 1900)

3 hours selected from

- MUTH 5400 - Invertible Counterpoint and Fugue
- MUTH 5470 - Advanced Schenkerian Analysis

Additional requirements

- Music History or Literature elective, 3 hours
- Piano, 2 hours
- Ensemble, 1 hour

Additional requirements

1. For the concentration in music theory, the student must pass an examination testing reading knowledge of one foreign language prior to applying for graduation. The choice of language, other than German or French, is to be approved by the music theory area.
2. Students must receive a grade of B or better for all courses counting toward the concentration in music theory, including deficiency courses. Students not meeting this division 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.

Advising and degree plan

Students seeking the concentration in music theory should consult the graduate music theory coordinator to prepare a tentative program to meet the degree requirements. By the completion of 12 semester hours, the student is expected to file a degree plan in consultation with the area coordinator or major professor. The degree plan, listing all courses to be required for the degree, must be submitted to the Director of Graduate Studies in Music. Forms for this purpose are available in the College of Music Graduate Studies Office, Chilton Hall, Suite 211. All changes in the degree plan must be submitted in writing, approved by the major professor and filed with the Graduate Studies Office.

Degree requirements are determined by the *Graduate Catalog* in effect at the time the degree plan is approved by the Dean of the Toulouse Graduate School. Degree plans may not be filed in the term/semester a student plans to graduate.

Master's thesis

Graduate students in music theory should consult the Master's Thesis Guidelines link at the division web site (www.music.unt.edu/mhte/node/111) for formatting, content and stylistic suggestions for the master's thesis proposal. In consultation with his or her major professor, the student will ask two other professors to serve as members of his or her thesis advisory committee. Thesis proposals must be submitted and, if necessary, revised and re-submitted to the Graduate Academic Degree Committee in a timely manner.

Before the degree is granted, the candidate must pass a final oral examination (thesis defense) covering the field of concentration and, if applicable, the thesis or research problem. The examination may be taken no more than three times.

Performance, MM

Master of Music degree program

Students seeking the master's degree should consult their applied lesson teacher, thesis advisor or division chair in preparing a tentative program to meet the degree requirements and in selecting 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 GRE requirements for individual programs. Students applying for the MM in performance or jazz studies may satisfy the GRE requirement by completing an on-campus writing examination. Details are available in the Office of Graduate Studies.

The Graduation Preparation Course (GPC) provided for international students by the Intensive English Language Institute will not be accepted as a substitute for the GRE requirement.

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. Performance majors must take the examination after the completion of the MM degree recital requirement. 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. 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 advisors. Credit may be earned by enrolling in the courses listed below (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.

- MULB 5171 - Large Ensemble: Choir
- MULB 5172 - Large Ensemble: Orchestra
- MULB 5173 - Large Ensemble: Band
- MULB 5174 - Large Ensemble: Jazz Lab Band
- MULB 5175 - Large Ensemble: Accompanying

Performance major

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. Keyboard students are required to complete secondary study which must be related to the major area of study, i.e., harpsichord, organ or piano (exceptions may be approved by the division chair).

Students must receive a grade of B or better for all courses counting toward the degree, including deficiency courses.

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.

Piano specialization

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 an audition for the piano faculty. The audition must consist of three major works: (1) a contrapuntal work, preferably 18th century; (2) a complete sonata of Haydn, Mozart, Beethoven or Schubert; (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, 8 hours
- Secondary applied music, 2 hours
- MUCM 5500 level or MUEN 5600 level, chamber music (2 hours)
or
- MUEN 5530 - Early Music Ensembles (2 hours)
- MUAG 5701 - Master's Recital (1 hour)
- MUAG 5702 - Master's Recital (1 hour)
- MUMH 5010 - Introduction to Research in Music

Additional requirements

Related field, 9 hours

Select an area from those listed below.

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 must be presented publicly. The programs for the public recitals 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.

Collaborative Piano specialization

To be admitted to this 37-hour program, each applicant must first meet the entrance requirements for the specialization in piano by performing an audition of collaborative works from the list of approved works, consisting of one movement of a major sonata or other large work involving piano with another instrument, and a 10 minute vocal program representing art songs and operatic repertoire. In addition, the applicant must play a 5–10 minute solo piece from memory. Consult with the coordinator of collaborative piano in order to arrange for this audition.

- MUAM 5501 - Piano (2 terms/semesters) (4 hours)
- MUAG 5701 - Master's Recital (1 hour)
- MUAG 5702 - Master's Recital (1 hour)
- Secondary Instrument, 2 hours
- MUMH 5010 - Introduction to Research in Music

Collaborative Piano

Nine hours from the following courses, based on the chosen emphasis (MUAG 5261 and MUAG 5271 may be repeated):

- MUAG 5260 - Piano Collaboration (Vocal)
- MUAG 5261 - Vocal Repertoire Master Class
- MUAG 5270 - Piano Collaboration (Instrumental)
- MUAG 5271 - Instrumental Repertoire Master Class

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

Additional requirements

Related field, 9 hours

German, Italian and/or French recommended for vocal option. For other options, select an area from those listed below.

Electives, 6 hours

Suggested courses for electives:

- MUAG 5210 - 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.

Organ specialization

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, 9 hours
- Secondary applied music, 2 hours
- MUMH 5010 - Introduction to Research in Music
- MUAG 5701 - Master's Recital (1 hour)

2 hours selected from

- MUCM 5500 level
or
- MUEN 5600 level
or
- MUEN 5530 - Early Music Ensembles and

3 hours selected from

(This requirement is waived for those electing musicology as a related field.)

- MUMH 5110 - History of Opera
- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 5341 - Western Music History, 1700–1800
- MUMH 5342 - Western Music History, 1800–1900
- MUMH 5343 - Western Music History, 1900 to the Present
- MUMH 5711 - Seminar in Musicology

Additional requirements

Related field, 9 hours

Select an area from those listed below. For those electing conducting as a related field, MUAG 5810 is required and may count toward the 9-hour related field course options.

Electives, 3–6 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 recital programs must be performed publicly, the first of which may be 45 minutes; the second program of 50–55 minutes, counts as the actual MM program. 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.

Harpichord specialization

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, 9 hours
- Secondary applied music, 2 hours
- MUEN 5530 - Early Music Ensembles and
- MUAG 5701 - Master's Recital
- MUAC 5531, Keyboard Continuo Playing, 2 hours (may be fulfilled by participation in MUEN 5530 - MUEN 5540)
- MUMH 5010 - Introduction to Research in Music
- 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)

Additional requirements

Related field, 9 hours

Select an area from those listed below.

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.

Voice specialization

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, 7 hours
- MULB 5100 level, music laboratory, 1 hour
- MUEN 5040 - Graduate Opera Theater (2 hours)
- MUMH 5010 - Introduction to Research in Music
- MUAG 5701 - Master's Recital (1 hour)
- MUAG 5215 - Advanced Vocal Diction

Additional requirements

Related field, 9 hours

Select an area from those listed below.

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.

Orchestral Instrument specialization

Before being admitted to graduate study with a specialization in an orchestral instrument, candidates will perform an audition before a faculty jury. This audition must consist of repertoire appropriate to the area and degree.

The following courses are required for the 32-hour program.

- Major instrument, 8 hours
- MUCM 5500 level, chamber music, or MUEN 5600 level, ensemble, (2 hours) and/or
- MUEN 5530 - Early Music Ensembles (2 hours)
- MUMH 5010 - Introduction to Research in Music
- MUAG 5701 - Master's Recital (1 hour)

Additional requirements

Related field, 9 hours

Select an area from those listed below.

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.

Woodwinds specialization

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, 5 hours
- Four other woodwinds, 2 hours in each, total 8 hours
- MUCM 5500 level, chamber music (2 hours) or
- MUEN 5625 - Wind Ensembles (2 hours) and/or
- MUEN 5530 - Early Music Ensembles (2 hours)
- MUMH 5010 - Introduction to Research in Music
- MUAG 5701 - Master's Recital (1 hour)

Additional requirements

Related field, 9 hours

Select an area from those listed below.

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.

Conducting specialization

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, high-quality video recordings (DVD or VHS) of the applicant conducting (include, if possible, excerpts from both a rehearsal and a performance) and a statement of career objectives. All materials should be submitted by the first Monday in December to the College of Music Office of Admissions.

On the basis of the written applications 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. Applicants will audition 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
- MUAG 5701 - Master's Recital (1 hour)

11 hours selected from

- MUAM 5533 - Conducting
- MUAG 5000 - Choral Techniques
- MUAG 5800 - Advanced Choral Conducting
- MUAG 5850 - Advanced Instrumental Conducting
- MUAG 6850 - Advanced Score Reading and Interpretation (Band and/or Orchestra)

6 hours selected from

- MUAG 5810 - Choral Literature I
- MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical
- MUMH 5110 - History of Opera

6 hours selected from

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic
- MUTH 5355 - Analytical Techniques I (Ars Antiqua—1700)
- MUTH 5360 - Analytical Techniques II (1700—1900)
- MUTH 5370 - Analytical Techniques III (Post 1900)

Additional requirements

Related field, 9 hours

Select an area from those listed below.

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.

Related field

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.

Collaborative piano

Required: audition (audition procedures may be found in the Piano Area Handbook online); 6 hours selected from

- MUAG 5260 - Piano Collaboration (Vocal)
- MUAG 5261 - Vocal Repertoire Master Class
- MUAG 5270 - Piano Collaboration (Instrumental)
- MUAG 5271 - Instrumental Repertoire Master Class

3 additional hours

Remaining 3 hours determined in consultation with related field advisor. Students must present a public collaborative recital as a final project.

Composition

Application procedures and prerequisites are included in the *Composition Student Handbook*, which may be downloaded from the composition division web site: music.unt.edu/comp. Required:

- MUCP 5185 - Concentration Composition (3–6 hours)
- 3–6 hours of MUCP 5000-level courses selected in consultation with the related field advisor.

Computer music

9 hours

- MUCP 5680 - History and Technology of Electroacoustic Music
- MUCP 5690 - Topics in Electroacoustic Music (6 hours)

Conducting

(Not open as a related field to those with a specialization in conducting.)

Required: audition, 9 hours selected from:

- MUAG 5000 - Choral Techniques
- MUAG 5800 - Advanced Choral Conducting
- MUAG 5850 - Advanced Instrumental Conducting
- MUAG 5861 - Symphonic Literature of the Wind Band II—French Revolution through Present
- MUGC 5890 - Studies in Music (when taught as “Wind Conductor's Collegium”)

Contemporary music

Required:

- MUCP 5580 - Contemporary Performance Practices
- MUEN 5585 - NOVA Ensemble (3 hours)

3 hours selected from

- MUCP 5460 - Contemporary Music
- MUCP 5680 - History and Technology of Electroacoustic Music
- MUCP 5690 - Topics in Electroacoustic Music
- MUCP 5590 - Intermedia Performance Arts
- MUEN 5595 - Intermedia Performance Arts
- MUCP 6465 - Topics in Contemporary Music

Early music

Required: A total of 9 hours must be completed.

- MUMH 5620 - Performance Practice: Medieval/Renaissance or
- MUMH 5630 - Performance Practice: Baroque
- 4 hours of applied instruction in period instrument or voice
- MUEN 5530 - Early Music Ensembles (2 hours)

Ethnomusicology

Required:

- MUET 5030 - Music Cultures of the World

6 hours selected from

- MUET 5220 - Ethnomusicology Field and Research Methods (recommended)
- MUET 5040 - Ethnomusicology Studies Abroad
- MUET 5050 - Music of Africa
- MUET 5060 - African-American Music
- MUET 5070 - Studies in Asian Music
- MUET 5210 - Seminar in Ethnomusicology 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.

Jazz studies

Required: audition;

- MUJS 5470 - Conducting College Jazz Ensembles
- MUJS 5480 - Pedagogy of Jazz

3 hours selected from

- MUJS 5440 - Introduction to Research in Jazz Studies
- MUJS 5450 - Jazz Historiography
- MUJS 5760 - Jazz Arranging
- MUJS 5780 - Jazz Styles and Analysis

Music and medicine

Required:

- MUAG 5450 - Introduction to Music and Medicine
- MUGC 5910 - Special Problems (with medical school faculty)
- one elective consistent with student area of interest in music and medicine.

Music education

Required: 9 hours selected from any 5000- or 6000-level MUED course.

Musicology

Required: 9 hours selected from

- MUMH 5020 - Introduction to Musicology
- MUMH 5110 - History of Opera
- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 5341 - Western Music History, 1700–1800
- MUMH 5342 - Western Music History, 1800–1900
- MUMH 5343 - Western Music History, 1900 to the Present
- MUMH 5430 - Music in Latin America
- MUMH 5440 - Music in the United States
- MUMH 5711 - Seminar in Musicology
- MUET 5210 - Seminar in Ethnomusicology
- or additional courses with approval of the division chair.

Opera

Required: 9 hours selected from

- MUAG 5640 - Operatic Acting
- MUAG 5650 - Opera Stage Direction
- MUAG 5660 - Studies in Opera Repertoire

Sacred music

Required: 9 hours selected from

- MUSM 5285 - Music in Church: Gregorian Chant, Protestant Reformation and John Keble
- MUSM 5286 - Music in the Church: The Larger Volunteer Choir, Hymnody in the 20th and 21st Centuries
- MUSM 5287 - Church Music Intermediate Practicum
- MUSM 5288 - Church Music Advanced Practicum

Theory

Required: 9 hours selected from

- MUTH 5080 - Pedagogy of Theory
- MUTH 5090 - Problems in Pedagogy of Theory
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5360 - Analytical Techniques II (1700–1900)
- MUTH 5370 - Analytical Techniques III (Post 1900)
- MUTH 5400 - Invertible Counterpoint and Fugue
- MUTH 5470 - Advanced Schenkerian Analysis

Vocal pedagogy

Required:

- MUAG 5600 - Advanced Science and Pedagogy of Singing

Two courses from

- MUAG 5610 - Comparative Pedagogy of Singing
- SPHS 5810 - Voice Disorders
- SPHS 5870 - Seminar in Speech-Language Pathology
- SPHS 6660 - Hearing Science
- SPHS 6710 - Occupational and Environmental Hearing Conservation/Instrumentation in Audiology

Applied music

(Available only to those with a conducting specialization.) Required: audition

- MUAC 5500 level (6 hours)

3 hours from

- MUAG 5640 - Operatic Acting
- MUAG 5650 - Opera Stage Direction
- MUAG 5850 - Advanced Instrumental Conducting
- MUEN 5040 - Graduate Opera Theater
- MUEN 5530 - Early Music Ensembles
- MUEN 5602 - Brass Ensembles
- MUEN 5605 - Chamber Wind Ensemble
- MUEN 5611 - Jazz Ensembles
- MUEN 5616 - Chamber Orchestra
- MUEN 5617 - Percussion Ensembles
- MUEN 5621 - String Ensembles
- MUEN 5624 - Vocal Ensembles
- MUEN 5625 - Wind Ensembles
- MUCM 5500 level
- MULB 5170 level

Doctorate

Music Education, PhD

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 the 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 courses, 6 hours

- MUED 6440 - Systematic Measurement of Music Behaviors
- MUED 6520 - Analysis and Criticism of Research Studies

Selected courses, 15 hours

Select 15 hours from the following:

- MUED 5100 - Music Supervision
- MUED 5500 - History of Music Education in the United States
- MUED 5510 - Philosophical Foundations and Principles of Music Teaching
- MUED 5520 - Psychology of Music
- MUED 5880 - Teaching Strategies in General Music at Pre-School, Elementary and Middle School Levels of Instruction
- MUED 5900 - Special Problems (when taught as "Pedagogy in Practice"), 3 hours
- MUED 6430 - Principles of Music Learning
- MUED 6470 - Sociology of Music
- MUED 6580 - College Teaching of Music Courses

Statistics, 6 hours

- EPSY 5210 - Educational Statistics
- EPSY 6010 - Statistics for Educational Research

Electives, 21 hours

Three hours must be a dissertation advancing tool course; 9 hours must be in an academic cognate area; 9 hours may be at the discretion of the student and advisor.

Dissertation, 12 hours

The student must complete 12 Dissertation hours.

- MUGC 6950 - Doctoral 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 Graduate School (an evaluation of the student's transcript will determine deficiencies in course work);
2. submit an acceptable score on the general test of the Graduate Record Examination (GRE); contact the College of Music or the Toulouse Graduate School for standardized admission test requirements;

3. submit an example of scholarly writing (a research paper);
4. document a record of three years of successful teaching experience in group instructional setting; and
5. submit a DVD or videotape of teaching that highlights classroom instructional episodes, such as rehearsals or warm-ups.

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 Toulouse Graduate School. The qualifying examinations cannot be taken unless the approved degree plan is on file in the Toulouse Graduate School.

Doctoral 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.

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 Toulouse Graduate School, 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 and dissertations.

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 Toulouse Graduate School for final reading and approval. A reading copy of the dissertation is due in the College of Music Graduate Office one week prior to the Toulouse Graduate School submission deadline.

Music, PhD

The Doctor of Philosophy degree with a major in music and concentrations in composition, musicology or music 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 with the approval of the Coordinator of Theory in 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 music theory) or to do creative work (in composition) with distinction.

Degree requirements

All concentrations require the completion of a common core:

Common core, 36 hours

- MUGC 6950 - Doctoral Dissertation (12 hours)
- 6 hours of MUMH 6XXX
- Related field, 12 hours
- Elective, 3 hours (selected in consultation with the appropriate advisor)
- Must also have completed Master's core requirement (15 hours)

Directed seminar, 3 hours selected in consultation with the appropriate advisor from

- MUCP 5080 - Composition Seminar
- MUMH 5711 - Seminar in Musicology

Additional requirements

Additional requirements for each concentration are outlined below. The Office of Graduate Studies in Music provides complete information concerning procedures, administrative details and GRE requirements for individual programs.

Concentration in Composition

Applicants to the Doctor of Philosophy degree with a major in music and a concentration in composition must submit a completed College of Music application form and a portfolio to the College of Music Admissions Office by the first Monday in December to be considered for acceptance in the following academic year. The portfolio must include scores, recordings, a resume or vita, transcripts, GRE scores, letters of recommendation, a writing sample and a personal statement; details are included in the *Composition Student Handbook* and on the composition division web site (music.unt.edu/comp/admissions/graduate).

General application information

1. Please note that application to the Toulouse Graduate School 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. Applicants are expected to submit GRE scores at the time of application in order to be considered for graduate studies in composition:
 - a. 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.
 - b. 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.
3. International applicants in composition must be provisionally accepted to the program prior to beginning study at the Intensive English Language Institute (IELI).

Additional application information may be found in the *Composition Student Handbook* or on the division web site (<http://music.unt.edu/comp>).

Degree requirements

The Doctor of Philosophy degree with a major in music and a concentration in composition is a 66-hour degree with dissertation, including the common core (36 hours, listed above), plus two possible options for the remaining 30 hours:

Concentration in Composition, 30 hours

- MUCP 6190 - Doctoral Composition (9 hours)

3 hours selected from

- MUCP 5680 - History and Technology of Electroacoustic Music
- MUCP 5690 - Topics in Electroacoustic Music
- MUCP 6200 - Advanced Research in Computer Music

12 hours selected from

- MUCP 5580 - Contemporary Performance Practices
- MUCP 5590 - Intermedia Performance Arts and
- MUEN 5595 - Intermedia Performance Arts
- MUCP 6465 - Topics in Contemporary Music (up to six hours of MUTH 6680 or MUMH 6770 may be applied here)

6 hours selected from

- MUTH 5355 - Analytical Techniques I (Ars Antiqua—1700)
- MUTH 5360 - Analytical Techniques II (1700–1900)
- MUTH 5370 - Analytical Techniques III (Post 1900)

Concentration in Composition, Computer Music Media, 30 hours

- Computer music, 15 hours (no more than 9 hours of MUCP 5690 and at least 6 hours of MUCP 6200)
- MUCP 6190 - Doctoral Composition (3 hours)

6 hours selected from

- MUCP 5580 - Contemporary Performance Practices
- MUCP 5590 - Intermedia Performance Arts and
- MUEN 5595 - Intermedia Performance Arts
- MUCP 6465 - Topics in Contemporary Music (3 hours of MUTH 6680 or MUMH 6770 may be applied here)

6 hours selected from

- MUTH 5355 - Analytical Techniques I (Ars Antiqua—1700)
- MUTH 5360 - Analytical Techniques II (1700–1900)
- MUTH 5370 - Analytical Techniques III (Post 1900)
- or other MUTH courses may be substituted with permission

Additional degree requirements**Language or tool-subject requirement**

It is recommended that the requirements be met within the first three semesters of doctoral work in order to facilitate research. In any case, they must be completed before the student takes the qualifying examination. Hours earned do not count toward the degree.

1. Languages (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.)
2. Other by petition

Courses selected must have direct relation to the acquisition of a particular skill that is necessary for the dissertation project.

Introduction to research

It is assumed that an entering PhD student will have had an introduction to research courses at the master's level (please see the *Graduate Catalog Course Descriptions*). If not, the student will be required to take MUMH 5010, Introduction to Research in Music, no later than the second term/semester of graduate work to facilitate research. Hours earned do not count toward the degree.

Advisory committee

The student's advisory committee will include a member who has written a dissertation or similar document (other than the PhD 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 PhD 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 advisor will develop a plan, if needed, to satisfy deficiencies (not to exceed 6 credits of musicology and 6 credits of music theory). Graduate music history courses taken as a result of the placement examinations may not be counted toward the degree. A grade of B or better must be earned in each undergraduate or graduate course assigned as a deficiency.

Written and oral qualifying examinations

Each student is required to pass written examinations in his or her major field and chosen related field. 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 qualifying examinations are compiled and graded by the examination committee, which consists of the student's advisory committee as well as representatives from the theory and musicology areas (chosen by the student). Upon successful completion of the written examinations, students must pass a two-hour oral examination with the examination committee in order to advance to candidacy.

The student may take the qualifying examinations when the following conditions have been met: (1) all deficiencies have been removed, (2) 30 hours of course work beyond the master's degree have been completed, (3) the language or tool-subject requirement has been fulfilled and (4) an approved degree plan has been filed with the Toulouse Graduate School.

Detailed information about the content and structure of the qualifying examinations may be found in the *Composition Student Handbook* or on the division web site (music.unt.edu/comp).

Dissertation

Upon completion of the qualifying examinations, doctoral students will be expected to enroll in dissertation (MUGC 6950) for four semesters. Additional dissertation registration may be required to satisfy continuous enrollment requirements. During those semesters of enrollment, students will meet with their major professor on a regular basis (typically one hour per week, similar to graduate composition lessons). Other arrangements may be made for non-resident students as long as (1) both the student and major professor agree on the terms, and (2) sufficient progression on the final document can be demonstrated to the graduate advisory committee each semester. Further information about dissertation requirements may be found in the *Composition Student Handbook* and online (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 or her project before the examination committee. A reading copy of the dissertation is due in the College of Music Graduate Office one week prior to the Toulouse Graduate School submission deadline.

Grades

A grade of B or better is required in courses used to satisfy PhD degree requirements, including undergraduate and graduate deficiency courses.

Concentration in Musicology**Concentration in Musicology, 24 hours**

- MUMH 5711 - Seminar in Musicology

18 hours selected from

- MUMH 6000 - Notation of Polyphonic Music, 1200–1500
- MUMH 6720 - Medieval Music
- MUMH 6730 - Renaissance Music
- MUMH 6740 - Baroque Music
- MUMH 6750 - Classical Music
- MUMH 6760 - Music of the Romantic Era
- MUMH 6770 - Music of the Twentieth Century
- MUMH 6080 - Chamber Music
- MUMH 6160 - Major Composers
- MUTH 6660 - History of Music Theory
- MUTH 6670 - History of Music Theory

3 hours selected from

- MUEN 5530 - Early Music Ensembles

Concentration in Musicology, Early Music Performance, 24 hours

- MUMH 5711 - Seminar in Musicology

12 hours selected from

- MUMH 6000 - Notation of Polyphonic Music, 1200–1500
- MUMH 6720 - Medieval Music
- MUMH 6730 - Renaissance Music
- MUMH 6740 - Baroque Music
- MUMH 6750 - Classical Music
- MUMH 6760 - Music of the Romantic Era
- MUMH 6770 - Music of the Twentieth Century
- MUMH 6080 - Chamber Music
- MUMH 6160 - Major Composers
- MUTH 6660 - History of Music Theory
- MUTH 6670 - History of Music Theory
- or others with the permission of the coordinator for the music history area

9 hours selected from

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic
- MUAG 5000 - Choral Techniques
or
- MUAG 5800 - Advanced Choral Conducting
- MUAG 5900 - Special Problems 4 hours(2 hours in each of 2 semesters)
- MUEN 5530 - Early Music Ensembles

Additional degree requirements

In addition to course requirements, each applicant for the Doctor of Philosophy degree in music with a concentration in musicology must meet the following requirements.

Music History and Theory Lecture Series Attendance

Each graduate student with a declared concentration in musicology 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).

Dissertation

The culmination of the doctoral work is a dissertation of appropriate scope, quality and originality. The student forms his or her dissertation committee in consultation with the major professor. The dissertation proposal will be submitted to the Graduate Academic Degrees Committee (GADCom) 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. A reading copy is due in the College of Music Graduate Office one week prior to the Toulouse Graduate School submission deadline.

Minor Field/Related Field

The related field (within the College of Music) or minor field (a course of study outside the College of Music) must comprise at least 12 credit hours of study. The course of study and method of evaluation for the related or minor field will be determined by the faculty in that area. 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.

Concentration in Music Theory

The Doctor of Philosophy degree with a major in music and a concentration in music theory is a 60-hour degree with dissertation, including the common core (36 hours, listed above).

Concentration in Music Theory, 24 hours

- MUTH 6660 - History of Music Theory
- MUTH 6670 - History of Music Theory
- MUTH 6680 - Proseminar in Music Theory
- MUTH 6700 - Analytical Systems I (1700–1900)
- MUTH 6710 - Analytical Systems II (Post 1900)
- Electives, 3 hours

Additional degree requirements

In addition to course requirements, each applicant for the Doctor of Philosophy degree in music with a concentration in music theory must meet the following requirements.

Music history and theory lecture series attendance

Each graduate student with a declared concentration in 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).

Evidence of satisfactory progress

Students must receive a grade of B or better for all courses counting toward the degree, including deficiency courses. Students not meeting this standard will be placed on probation. Students not fulfilling the conditions of probation may be dismissed from the program.

Dissertation

The culmination of the doctoral work is a dissertation of appropriate scope, quality and originality. The student forms his or her dissertation committee in consultation with the major professor. The dissertation proposal will be submitted to the Graduate Academic Degrees Committee (GADCom) 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.

Minor Field/Related Field

The related field (within the College of Music) or minor field (a course of study outside the College of Music) must comprise at least 12 credit hours of study. The course of study and method of evaluation for the related or minor field will be determined by the faculty in that area. 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.

Related fields

All PhD degree candidates must include on their degree plan a related field of not fewer than 12 hours selected from the options listed below.

Collaborative piano

Required: audition and

- MUAG 5260 - Piano Collaboration (Vocal)
- MUAG 5270 - Piano Collaboration (Instrumental)

6 hours selected from

- MUAG 6280 - Vocal Literature
- MUAG 6290 - Vocal Literature
- MUAG 6370 - Instrumental Literature

Recommended elective

- MUAG 5210 - Vocal Literature (may be repeated for credit)

Composition

Application procedures and prerequisites are included in the Composition Student Handbook, which may be downloaded from the composition division web site (music.unt.edu/comp).

- MUCP 5185 - Concentration Composition (6 hours)
select 6 hours from MUCP 5000- to 6000-level courses, in consultation with the related field advisor

Computer music

- MUCP 5680 - History and Technology of Electroacoustic Music (3 hours)
- MUCP 5690 - Topics in Electroacoustic Music (3–6 hours)
- MUCP 6200 - Advanced Research in Computer Music (3–6 hours)

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 - Choral Techniques
- MUAG 5800 - Advanced Choral Conducting
- MUAG 5810 - Choral Literature I
- MUAG 6850 - Advanced Score Reading and Interpretation (Band and/or Orchestra)

Orchestral conducting

- MUAG 5815 - Symphonic Literature I (3 hours)
- MUAG 5850 - Advanced Instrumental Conducting (9 hours)

Wind conducting

- MUGC 5890 - Studies in Music (3 hours)
- MUAG 5850 - Advanced Instrumental Conducting
- MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical
- MUAG 6850 - Advanced Score Reading and Interpretation (Band and/or Orchestra)

Contemporary music

Required

- MUCP 5580 - Contemporary Performance Practices
- MUEN 5585 - NOVA Ensemble

6 hours selected from

- MUCP 5460 - Contemporary Music
- MUCP 5680 - History and Technology of Electroacoustic Music
- MUCP 5690 - Topics in Electroacoustic Music
- MUCP 5590 - Intermedia Performance Arts
- MUCP 6465 - Topics in Contemporary Music
- MUEN 5585 - NOVA Ensemble
- MUEN 5595 - Intermedia Performance Arts

Early music

Required: audition for the early music committee

- 4 hours of applied instruction in period instrument or voice MUAG 5900 - Special Problems
- 2 semester hours participation in Early Music Ensembles, MUEN 5530

6 hours selected from

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic

Or, 3 hours from

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic

and 3 hours from

- MUMH 5610 - Ornamentation and Improvisation 1500–1800

Ethnomusicology

Required

- MUET 5030 - Music Cultures of the World
- MUET 5220 - Ethnomusicology Field and Research Methods

6 hours selected from

- MUET 5040 - Ethnomusicology Studies Abroad
- MUET 5050 - Music of Africa
- MUET 5060 - African-American Music
- MUET 5070 - Studies in Asian Music
- MUET 5210 - Seminar in Ethnomusicology

Or, 6 hours selected from

- 3 hours selected from the above list and
- 3 hours of ensembles from African Ensemble, South Indian Ensemble, Balinese Gamelan, Afro-Cuban Ensemble and Brazilian Ensemble

Jazz studies

Required: audition and

- MUJS 5470 - Conducting College Jazz Ensembles
- MUJS 5480 - Pedagogy of Jazz
- 3 hours of participation in jazz ensembles and applied study

3 hours selected from

- MUJS 5440 - Introduction to Research in Jazz Studies
- MUJS 5450 - Jazz Historiography
- MUJS 5490 - Advanced Jazz Improvisation
- MUJS 5760 - Jazz Arranging
- MUJS 5780 - Jazz Styles and Analysis
- MUJS 5900 - Special Problems
- MUJS 5910 - Special Problems

Music and medicine

Required:

- MUAG 5450 - Introduction to Music and Medicine
- MUAG 6450 - Advanced Music and Medicine Seminar
- 6 hours selected from 5000- and 6000-level courses in areas outside of music in consultation with the related field advisor

Music education

Required:

- MUED 5120 - Applied Research in Music Education
- 9 hours selected from MUED 5000- or 6000-level courses

Music theory

Classes taken as a result of the placement examinations may not be counted toward the degree in the related field, as electives, or 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).

Required: 12 hours selected from

- MUTH 5080 - Pedagogy of Theory
- MUTH 5090 - Problems in Pedagogy of Theory
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5360 - Analytical Techniques II (1700–1900)
- MUTH 5370 - Analytical Techniques III (Post 1900)
- MUTH 5400 - Invertible Counterpoint and Fugue
- MUTH 6680 - Proseminar in Music Theory

Musicology

Classes used to fulfill the musicology component may not be duplicated in the related field if musicology is the related field of choice.

Required:

- MUMH 5020 - Introduction to Musicology

9 additional hours (6 hours must be at the 6000 level)

Three of the 9 hours must be from a course devoted to a topic from before 1750

- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 6720 - Medieval Music
- MUMH 6730 - Renaissance Music
- MUMH 6740 - Baroque Music

The remaining 6 hours may be chosen from the following

- MUMH 5110 - History of Opera
- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 5341 - Western Music History, 1700–1800
- MUMH 5342 - Western Music History, 1800–1900
- MUMH 5343 - Western Music History, 1900 to the Present
- MUMH 5430 - Music in Latin America
- MUMH 5440 - Music in the United States
- MUMH 6080 - Chamber Music
- MUMH 6160 - Major Composers
- MUMH 6720 - Medieval Music
- MUMH 6730 - Renaissance Music
- MUMH 6740 - Baroque Music
- MUMH 6750 - Classical Music
- MUMH 6760 - Music of the Romantic Era
- MUMH 6770 - Music of the Twentieth Century

Opera

Required: 12 hours selected from the following

- MUAG 5640 - Operatic Acting
- MUAG 5650 - Opera Stage Direction
- MUAG 5660 - Studies in Opera Repertoire (may be repeated as topics vary)

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.)

Sacred music

Required: 12 hours from

- MUSM 5285 - Music in Church: Gregorian Chant, Protestant Reformation and John Keble
- MUSM 5286 - Music in the Church: The Larger Volunteer Choir, Hymnody in the 20th and 21st Centuries
- MUSM 5287 - Church Music Intermediate Practicum
- MUSM 5288 - Church Music Advanced Practicum

Vocal pedagogy

Required: 12 hours selected from the courses listed below. Courses from both departments must be included.

- MUAG 5600 - Advanced Science and Pedagogy of Singing
- MUAG 5610 - Comparative Pedagogy of Singing
- MUAG 6900 - Special Problems
- SPHS 5775 - Research Methods in Speech-Language Pathology/Audiology
- SPHS 5810 - Voice Disorders
- SPHS 5870 - Seminar in Speech-Language Pathology
- SPHS 5900 - Special Problems

Performance, DMA

The Doctor of Musical Arts degree is offered with a major in performance (including conducting and jazz studies) with related fields in collaborative piano, composition, conducting, contemporary music, early music, jazz studies, music education, music and medicine, musicology, music theory, opera, performance, sacred music 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 doctoral residence requirement for performance 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. The minimum residence requirement for jazz studies 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.

Application procedures

Acceptance into the Doctor of Musical Arts program involves the following steps:

1. Apply for admission to the university through the Toulouse Graduate School (an evaluation of student's transcripts will determine deficiencies in course work). While deficiency courses may be taken for graduate credit, these credits cannot be applied to the degree plan.

2. Submit an acceptable score on the general test of the Graduate Record Examination (GRE). Contact the College of Music or the Toulouse Graduate School for standardized admission test requirements. Students applying for the DMA in performance or jazz studies may satisfy the GRE requirement with an on-campus writing examination. Details are available from the Graduate Office in the College of Music. The Graduate Preparation Course (GPC), provided for international students by the Intensive English Language Institute, is not accepted as a substitute for the GRE requirement.
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, conducting or jazz studies majors).

When all of these steps are successfully completed, the student will be considered fully admitted to the degree program.

Application procedures – Performance (Instrumental and Vocal)

1. Apply for admission to UNT through the Toulouse Graduate School, graduateschool.unt.edu. International applicants apply at international.unt.edu.
2. Apply for admission to the College of Music with the application for admission, audition, scholarship, fellowship and assistantships available at music.unt.edu.
3. Candidates for Doctoral Performance programs must pass an audition on the required repertoire for their instrument or voice. Please visit music.unt.edu for a complete listing of required audition repertoire.
4. Evaluation of transcripts from previous degree(s).
5. Submit a resume or curriculum vitae detailing professional experience, honors and awards.
6. Submit a repertoire list (last five years).
7. Graduate performance candidates may take an on-campus writing exam in lieu of the required Graduate Record Exam (GRE) verbal score for admission to the College of Music graduate programs in performance. The writing examination is administered under the direction of the Graduate Performance Degree Program committee each long semester (fall and spring) during orientation week and once during the beginning of the first 5-week summer session (5W1 term). This exam is used to evaluate the candidate's ability to write a document coherently at a graduate level, in English, approximately 600–1,000 words in length. Evaluators review the sample for command of English language (grammar, spelling, punctuation), the ability to present an argument in a coherent manner, and evidence of critical thinking. Graduate candidates may take the exam three times.
8. In lieu of the writing exam, a GRE verbal score may be submitted. The Graduate Preparation Course (GPC), provided for international students by the Intensive English Language Institute, is not accepted as a substitute for the GRE requirement.
9. Attend all orientation sessions scheduled by the director of graduate studies in music.
10. Take the Graduate Placement Examination (GPE) given by the College of Music.

Application procedures – Performance (Conducting)

The admission process for conducting applicants consists of two stages. The materials outlined below are to be submitted by the first Monday in December to the College of Music Office of Admissions.

1. A resume providing complete information concerning the musical training and experience of the applicant.
2. Lists representing the following: works the applicant has studied, works the applicant is prepared to conduct and works the applicant previously conducted.
3. A written analysis of a movement from a major tonal work on the applicant's repertoire list.
4. A face-to-the-camera, high-quality video recording (DVD or VHS cassette) of the applicant conducting a rehearsal and interacting with an ensemble he or she regularly conducts.
5. A good-quality audio CD and/or a face-to-the-camera video recording (DVD or VHS cassette) of a performance conducted by the applicant.
6. Statement of career objectives.
7. Three letters of recommendation.
8. Three names of people (include 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).
9. Applicants must also apply for admission to UNT through the Toulouse Graduate School graduateschool.unt.edu. International applicants must apply at international.unt.edu.

Application procedures – Jazz Studies

1. Apply for admission to UNT through the Toulouse Graduate School, gradschool.unt.edu. International applicants apply at international.unt.edu.
2. Apply for admission to the College of Music with the application for admission, audition, scholarship, fellowship and assistantships available at music.unt.edu.
3. Send a letter of application to the Chair of the Division of Jazz Studies accompanied by a professional resume and a representative sample of your work in digital format (see jazz.unt.edu for required file formats). The letter must describe your professional background, make a statement of purpose for pursuing the degree, and outline your professional goals.
4. Perform an on-campus audition, and, while on campus for the audition, have an interview with members of the jazz faculty. See jazz.unt.edu for audition requirements.
5. Submit GRE score (analytical writing portion only) or take on-campus writing exam administered by the jazz studies division during graduate orientation.
6. Attend all orientation sessions by the director of graduate studies in music.
7. Take the Graduate Placement Examination (GPE) given by the College of Music.

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 advisor will develop a plan, if needed, to satisfy deficiencies (not to exceed 6 credits of musicology and 6 credits of music theory). Graduate music history or music theory courses taken as a result of the placement examinations may not be counted toward the degree.

A grade of B or better must be earned in each undergraduate course assigned as a placement exam deficiency or as a transcript deficiency.

Degree requirements

Students must receive a grade of B or better for all courses counting toward the degree, including undergraduate and graduate deficiency courses.

In addition to course requirements (listed below), each applicant for the Doctor of Musical Arts degree must meet the following requirements.

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 MUMH 5010 - Introduction to Research in Music, no later than the second term/semester of graduate work to facilitate research. For jazz studies, the required course is MUJS 5440 - Introduction to Research in Jazz Studies. Hours earned do not count toward the degree.

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.

Grades

A grade of B or better is required in courses used to satisfy DMA degree requirements, including undergraduate and graduate deficiency courses.

Performance major field

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 with performance and critical essay (25 page minimum) for a total of 3 credits;

Option II: 3 recitals (3 credits each); 1 lecture (50–60 minutes) with thesis** (50 page minimum) for a total of 3 credits; or

Option III: 3 recitals (3 credits each); 1 written project with doctoral document (100 page minimum) for a total of 3 credits.

** Thesis registration is a minimum of 6 hours of registration.

Related field, 12 hours

Choose from one of the following areas of study: collaborative piano, composition, conducting, computer music, contemporary music, early music, jazz studies, music and medicine, music education, music theory, musicology, opera, sacred music, or vocal pedagogy. See "Related Field Course Requirements," above, for the specific related field requirements.

Musicology/music theory component

1. **Musicology**, 6 hours: MUMH 5620, MUMH 5630, MUMH 5640 or 6000-level MUMH courses; specific courses 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 - Analytical Techniques I (Ars Antiqua–1700)
 - MUTH 5360 - Analytical Techniques II (1700–1900)
 - MUTH 5370 - Analytical Techniques III (Post 1900)

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.

Performance major field (Conducting)

Last 60 hours of study

Advanced conducting, applied conducting and/or score reading and interpretation

Wind conducting/symphonic conducting

Enrollment in one of the above is required every term/semester in residence, maximum of 12 hours

Choral conducting

- MUAM 6533 - Conducting (8 hours)
- MUAG 58XX--Advanced Conducting (3 hours)
- MUAG 6840 - Advanced Score Reading (2 hours)

Literature, 6–9 hours

Wind conducting/symphonic conducting, 6 hours

6 hours required in major area, 3 additional recommended

Choral conducting, 9 hours

- MUAG 5810 - Choral Literature I
- MUAG 5811 - Choral Literature II
- MUAG 5812 - Choral Literature III

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.

Related field, 12 hours

Choose from one of the following areas of study: collaborative piano, composition, computer music, 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 Fields" below for the specific related field requirements.

Musicology/music theory component

1. **Musicology**, 6 hours: MUMH 5620, MUMH 5630, MUMH 5640 or 6000-level MUMH courses; specific courses 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 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5360 - Analytical Techniques II (1700–1900)
- MUTH 5370 - Analytical Techniques III (Post 1900)

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, 2–6 hours

Wind conducting/symphonic conducting, 6 hours

Choose from any field in music or outside of music. 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.

Choral conducting, 2 hours

Choose from any field in music or outside of music. 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.

Jazz Studies major field

Last 60 hours of study

1. Applied instruction in performance, 12 hours (MUAM 6xxx)
2. MUJS 6010 - Seminar in Jazz History and Analysis
3. MUJS 6020 - Seminar in Jazz Pedagogy
4. MULB 5174 - Large Ensemble: Jazz Lab Band (2 hours)
5. MUCM 5550 - Jazz Chamber Music (2 hours)
6. Dissertation, 12 hours: the written documentation should be at a level acceptable for peer-reviewed publication. Choose one of the following:

Option I: 3 recitals (3 credits each); 1 lecture/recital (50–60 minutes) with performance and critical essay (25 page minimum) for a total of 3 credits;

Option II: 3 recitals (3 credits each); 1 lecture (50–60 minutes) with thesis* (30 page minimum) for a total of 3 credits; or

Option III: 3 recitals (3 credits each); 1 written project with doctoral document (100 page minimum) for a total of 3 credits.

* Thesis registration is a minimum of 6 hours of registration.

Musicology/music theory component, 9 hours

1. Musicology: 3 to 6 hours of 5000- or 6000-level MUMH courses to be chosen in consultation with the advisor
2. Music theory: 3 to 6 hours of 5000- or 6000-level MUTH courses to be chosen in consultation with the advisor.

Related field in music, 12 hours

Choose from one of the following areas of study: collaborative piano, composition, conducting, contemporary music, ethnomusicology, music and medicine, music education, music theory, musicology, opera, sacred music, or vocal pedagogy.

Electives, 8 hours

Choose from any field in music or outside of music at the 5000 or 6000 level. Electives in jazz arranging and composition are suggested. Competence in arranging is an entrance requirement.

Related field

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.

Collaborative piano

Required: audition. Audition procedures may be found in the Piano Area Handbook online or obtained from the coordinator of collaborative piano.

6 hours selected from

- MUAG 5260 - Piano Collaboration (Vocal)
- MUAG 5261 - Vocal Repertoire Master Class
- MUAG 5270 - Piano Collaboration (Instrumental)
- MUAG 5271 - Instrumental Repertoire Master Class

6 additional hours

Remaining 6 hours determined in consultation with related field advisor. Students must present a public collaborative recital as a final project.

Composition

Application procedures and prerequisites are included in the *Composition Student Handbook*, which may be downloaded from the composition division web site: music.unt.edu/comp.

Required:

- MUCP 5185 - Concentration Composition (6 hours)
- select 6 hours from MUCP 5000- to 6000-level courses, in consultation with the related field advisor.

Computer music

12 hours

- MUCP 5680 - History and Technology of Electroacoustic Music
- MUCP 5690 - Topics in Electroacoustic Music (3–6 hours)
- MUCP 6200 - Advanced Research in Computer Music (3–6 hours)

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 - Choral Techniques
- MUAG 5800 - Advanced Choral Conducting
- MUAG 5810 - Choral Literature I
- MUAG 6850 - Advanced Score Reading and Interpretation (Band and/or Orchestra)

Orchestral conducting

- MUAG 5850 - Advanced Instrumental Conducting (9 hours)
- MUAG 5815 - Symphonic Literature I (3 hours)

Wind conducting

- MUGC 5890 - Studies in Music (3 hours)
- MUAG 5850 - Advanced Instrumental Conducting
- MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical
- MUAG 6850 - Advanced Score Reading and Interpretation (Band and/or Orchestra)

Contemporary music

Required:

- MUCP 5580 - Contemporary Performance Practices
- MUEN 5585 - NOVA Ensemble (3 hours)

6 hours selected from

- MUCP 5460 - Contemporary Music
- MUCP 5680 - History and Technology of Electroacoustic Music
- MUCP 5690 - Topics in Electroacoustic Music
- MUCP 5590 - Intermedia Performance Arts
- MUEN 5595 - Intermedia Performance Arts
- MUCP 6465 - Topics in Contemporary Music
- MUEN 5585 - NOVA Ensemble

Early music

Required: audition for the Early Music committee

- 4 hours of applied instruction in period instrument or voice
MUAG 5900 - Special Problems
- 2 semester hours participation in Early Music Ensembles,
MUEN 5430-5440

6 hours selected from

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic

or 3 hours selected from

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic

and 3 hours selected from

- MUMH 5610 - Ornamentation and Improvisation 1500–1800

Ethnomusicology

Required:

- MUET 5030 - Music Cultures of the World
- MUET 5220 - Ethnomusicology Field and Research Methods

6 hours selected from

- MUET 5040 - Ethnomusicology Studies Abroad
- MUET 5050 - Music of Africa
- MUET 5060 - African-American Music
- MUET 5070 - Studies in Asian Music
- MUET 5210 - Seminar in Ethnomusicology

Or 6 hours selected from

- 3 hours selected from the list above and
- 3 hours of ensembles from African Ensemble, South Indian Ensemble, Balinese Gamelan, Afro-Cuban and Brazilian Ensemble.

Jazz studies

Required: audition and

- MUJS 5470 - Conducting College Jazz Ensembles
- MUJS 5480 - Pedagogy of Jazz
- 3 hours of participation in jazz ensembles and applied study.

3 hours selected from

- MUJS 5440 - Introduction to Research in Jazz Studies
- MUJS 5450 - Jazz Historiography
- MUJS 5490 - Advanced Jazz Improvisation
- MUJS 5760 - Jazz Arranging
- MUJS 5780 - Jazz Styles and Analysis
- MUJS 5900 - Special Problems
- MUJS 5910 - Special Problems

Music and medicine

Required:

- MUAG 5450 - Introduction to Music and Medicine
- MUAG 6450 - Advanced Music and Medicine Seminar
- 6 hours selected from 5000- and 6000-level courses in areas outside of music in consultation with the related field advisor.

Music education

Required:

- MUED 5120 - Applied Research in Music Education
- 9 hours selected from MUED 5000- or 6000-level courses.

Music theory

Classes taken as a result of the placement examinations may not be counted toward the degree in the related field, as electives, or 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).

Required: 12 hours selected from

- MUTH 5080 - Pedagogy of Theory
- MUTH 5090 - Problems in Pedagogy of Theory
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5360 - Analytical Techniques II (1700–1900)
- MUTH 5370 - Analytical Techniques III (Post 1900)
- MUTH 5400 - Invertible Counterpoint and Fugue
- MUTH 6680 - Proseminar in Music Theory

Musicology

Classes used to fulfill the musicology component may not be duplicated in the related field if musicology is the related field of choice.

Required:

- MUMH 5020 - Introduction to Musicology
- 9 additional hours (6 hours must be at the 6000 level)

Topic from before 1750

Three of the 9 hours must be from a class devoted to a topic from before 1750

- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 6720 - Medieval Music
- MUMH 6730 - Renaissance Music
- MUMH 6740 - Baroque Music

Remaining 6 hours

The remaining 6 hours may be chosen from any of the following:

- MUMH 5110 - History of Opera
- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 5341 - Western Music History, 1700–1800
- MUMH 5342 - Western Music History, 1800–1900
- MUMH 5343 - Western Music History, 1900 to the Present
- MUMH 5430 - Music in Latin America
- MUMH 5440 - Music in the United States
- MUMH 6720 - Medieval Music
- MUMH 6730 - Renaissance Music
- MUMH 6080 - Chamber Music
- MUMH 6160 - Major Composers
- MUMH 6740 - Baroque Music
- MUMH 6750 - Classical Music
- MUMH 6760 - Music of the Romantic Era
- MUMH 6770 - Music of the Twentieth Century

Opera

Required: 12 hours selected from the following:

- MUAG 5640 - Operatic Acting
- MUAG 5650 - Opera Stage Direction
- MUAG 5660 - Studies in Opera Repertoire (may be repeated as topics vary)

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.)

Sacred music

Required: 12 hours from

- MUSM 5285 - Music in Church: Gregorian Chant, Protestant Reformation and John Keble
- MUSM 5286 - Music in the Church: The Larger Volunteer Choir, Hymnody in the 20th and 21st Centuries
- MUSM 5287 - Church Music Intermediate Practicum
- MUSM 5288 - Church Music Advanced Practicum

Vocal pedagogy

Required: 12 hours selected from the courses list below. Courses from both departments must be included.

- SPHS 5775 - Research Methods in Speech-Language Pathology/Audiology
- SPHS 5810 - Voice Disorders
- SPHS 5870 - Seminar in Speech-Language Pathology
- SPHS 5900 - Special Problems
- MUAG 5600 - Advanced Science and Pedagogy of Singing
- MUAG 5610 - Comparative Pedagogy of Singing
- MUAG 6900 - Special Problems

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 advisor. 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, (b) 30 hours of course work beyond the master's degree have been completed, (c) at least two degree recitals have been completed (performance majors only), (d) the language or tool-subject requirement has been fulfilled and (e) an approved degree plan has been filed with the Toulouse Graduate School.

Performance majors

Following successful completion of the written qualifying examinations, the student is required to pass a two-hour oral examination that includes questioning on the research project and on all other areas appropriate to the degree. The student's Examination Committee (the Advisory Committee) administers this oral examination.

When both 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. **All components of the examinations must be completed within 14 months.** Further information pertaining to the doctoral qualifying examinations

is included in the DMA Performance Handbook, which may be downloaded from the College of Music graduate advising web site: music.unt.edu/advising/graduate.php.

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-MUGC 6954) each long term/semester through the semester of graduation. 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 or to graduate in August. Doctoral students must maintain continuous enrollment in dissertation subsequent to passing the qualifying examination for admission to candidacy.

Jazz Studies majors

Following successful completion of the written qualifying examinations, the student is required to complete a research project and pass a two-hour oral examination that includes questioning on the research project and on other areas appropriate to the degree. It is understood that the student may consult the Advisory Committee and the library, and that no other form of assistance is acceptable. The student's Advisory Committee will consist of the jazz studies graduate advisor, the student's applied professor, one additional member of the jazz studies faculty selected by the student, one member of the musicology or music theory faculty (determined by the field in which the student took six hours in the musicology/music theory component), and one faculty member representing the student's related field (if the related field is other than musicology or music theory). The Advisory Committee administers this combined oral examination.

When all three parts of the examination (written examination in major field, written examination in related field, and research project/oral examination) have been completed successfully, the student is recommended for admission to candidacy for the degree. Each examination may be taken no more than three times. All components of the examinations must be completed within 14 months.

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 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-MUGC 6954) each long term and at least one summer semester each year until the dissertation has been completed and accepted by the graduate dean.

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. A reading copy of the dissertation is due in the College of Music Graduate Office one week prior to the Toulouse Graduate School submission deadline.

College of Public Affairs and Community Service

Main Office
Chilton Hall, Room 209

Mailing address:
1155 Union Circle #311340
Denton, TX 76203-5017
940-565-2239

Web site: www.pacs.unt.edu

Thomas L. Evenson, Dean
Nicole Dash, 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. Departments in the college offer programs in applied anthropology; long-term care, senior housing and aging services; behavior analysis; criminal justice; public administration; public administration and management; rehabilitation counseling; sociology; and sociology.

The faculty of the college also participates in the master's degree program with a major in interdisciplinary studies offered through the Graduate School. See the Toulouse Graduate School 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 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 college 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.

Departments

Academic units in the college include:

- Department of Anthropology
- Department of Behavior Analysis
- Department of Criminal Justice
- Department of Public Administration
- Department of Rehabilitation, Social Work and Addictions
- Department of Sociology
- Center for Public Service

Center for Public Service

Main Office
Chilton Hall, Room 209

Mailing address:
1155 Union Circle #311340
Denton, TX 76203-5017
940-565-4863

Pamela J. Sybert, 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, in addition to a number of service learning experiences.

Department of Anthropology

Main Office
Chilton Hall, Room 330

Mailing address:
1155 Union Circle #310409
Denton, TX 76203-5017
940-565-2290

Web site: anthropology.unt.edu

Lisa Henry, Chair

The Department of Anthropology offers both on-campus and online graduate programs leading to the Master of Arts and the Master of Science, both with a major in applied anthropology.

In cooperation with the UNT Health Science Center in Fort Worth, on-campus students may also earn a dual master's degree in anthropology and public 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, 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, bilingual education, and ecological and environmental anthropology.

Recent research focuses on leadership and organizational culture in self-managed work teams, 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, virtual communication and collaboration in the workplace, design anthropology, risk behavior 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, physician assistants and rural health care, the culture of sleep, quality of life with rheumatoid arthritis, conservation and environmental justice, sustainable development, food and culture, South Asian religions and ecology, and visual and media anthropology.

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. The graduate committee will decide on scholarship nominees based on first year status and academic achievement; the faculty will then vote. On-campus students must take a minimum of 9 hours. Online students must take a minimum of 6 hours.

Master's Degree Applied Anthropology, MA

Admission requirements

1. The applicant must complete two application forms, one for the Toulouse Graduate School and one for the Department of Anthropology. International applicants must apply to International Admissions and be eligible for graduate study.
2. The applicant must hold a 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 5000) the summer before the first year of study. Please contact the Director of Graduate Programs, Doug Henry, for more information (Doug.Henry@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.

See anthropology.unt.edu/grad-admissions.php for details.

Program requirements

For the Master of Arts degree, students fulfill the 36 hours of degree requirements and demonstrate knowledge of a foreign language.

Core courses, 15 hours

- ANTH 5010 - Anthropological Thought and Praxis I
- ANTH 5021 - Anthropological Thought and Praxis II
- ANTH 5031 - Ethnographic and Qualitative Methods
- ANTH 5041 - Quantitative Methods in Anthropology
- ANTH 5050 - Preparation for Practice and the Applied Thesis

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, on-campus program

Electives in the on-campus anthropology master's program are:

- ANTH 5100 - Organizational Anthropology
- ANTH 5110 - Design Anthropology
- ANTH 5201 - Medical Anthropology
- ANTH 5210 - Anthropology of Public Health
- ANTH 5300 - Migrants and Refugees
- ANTH 5400 - Environmental Anthropology
- ANTH 5620 - Anthropology of Education
- ANTH 5710 - Symbolic/Cognitive Anthropology
- ANTH 5900 - Special Problems
- ANTH 5910 - Special Problems

Electives, online program

Electives in the online anthropology master's program are:

- ANTH 5100 - Organizational Anthropology
- ANTH 5110 - Design Anthropology
- ANTH 5201 - Medical Anthropology
- ANTH 5300 - Migrants and Refugees

- ANTH 5400 - Environmental Anthropology
- ANTH 5620 - Anthropology of Education
- ANTH 5900 - Special Problems
- ANTH 5910 - Special Problems

Note

During some terms/semesters, graduate courses meet with undergraduate courses, which provides graduate students with a greater selection of elective courses.

Applied thesis, 6 hours

All candidates must take 6 hours of supervised applied thesis:

- ANTH 5950 - Applied Thesis

Dual degree

This program may also be taken in conjunction with the Master of Public Health. See Applied Anthropology, MA / Public Health, MPH (UNTHSC).

Applied Anthropology, MS

Admission requirements

1. The applicant must complete two application forms, one for the Toulouse Graduate School and one for the Department of Anthropology. International applicants must apply to International Admissions and be eligible for graduate study.
2. The applicant must hold a 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 5000) the summer before the first year of study. Please contact the Director of Graduate Programs, Doug Henry, for more information (Doug.Henry@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.

See anthropology.unt.edu/grad-admissions.php for details.

Program requirements

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.

Core courses, 15 hours

- ANTH 5010 - Anthropological Thought and Praxis I
- ANTH 5021 - Anthropological Thought and Praxis II
- ANTH 5031 - Ethnographic and Qualitative Methods
- ANTH 5041 - Quantitative Methods in Anthropology
- ANTH 5050 - Preparation for Practice and the Applied Thesis

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, on-campus program

- ANTH 5100 - Organizational Anthropology
- ANTH 5110 - Design Anthropology
- ANTH 5201 - Medical Anthropology
- ANTH 5210 - Anthropology of Public Health
- ANTH 5300 - Migrants and Refugees
- ANTH 5400 - Environmental Anthropology
- ANTH 5620 - Anthropology of Education
- ANTH 5710 - Symbolic/Cognitive Anthropology
- ANTH 5900 - Special Problems
- ANTH 5910 - Special Problems

Electives, online program

- ANTH 5100 - Organizational Anthropology
- ANTH 5110 - Design Anthropology
- ANTH 5201 - Medical Anthropology
- ANTH 5300 - Migrants and Refugees
- ANTH 5400 - Environmental Anthropology
- ANTH 5620 - Anthropology of Education
- ANTH 5900 - Special Problems
- ANTH 5910 - Special Problems

Note

During some terms/semesters, graduate courses meet with undergraduate courses, which provides graduate students with a greater selection of elective courses.

Applied thesis, 6 hours

All candidates must take 6 hours of supervised applied thesis:

- ANTH 5950 - Applied Thesis

Dual degree

This program may also be taken in conjunction with the Master of Public Health. See Applied Anthropology, MS / Public Health, MPH (UNTHSC).

Applied Anthropology, MS

Admission requirements

1. The applicant must complete two application forms, one for the Toulouse Graduate School and one for the Department of Anthropology. International applicants must apply to International Admissions and be eligible for graduate study.
2. The applicant must hold a 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 5000) the summer before the first year of study. Please contact the Director of Graduate Programs, Doug Henry, for more information (Doug.Henry@unt.edu).
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See anthropology.unt.edu/grad-admissions.php for details.

Program requirements

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.

Core courses, 15 hours

- ANTH 5010 - Anthropological Thought and Praxis I
- ANTH 5021 - Anthropological Thought and Praxis II
- ANTH 5031 - Ethnographic and Qualitative Methods
- ANTH 5041 - Quantitative Methods in Anthropology
- ANTH 5050 - Preparation for Practice and the Applied Thesis

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, on-campus program

- ANTH 5100 - Organizational Anthropology
- ANTH 5110 - Design Anthropology
- ANTH 5201 - Medical Anthropology
- ANTH 5210 - Anthropology of Public Health
- ANTH 5300 - Migrants and Refugees
- ANTH 5400 - Environmental Anthropology
- ANTH 5620 - Anthropology of Education
- ANTH 5710 - Symbolic/Cognitive Anthropology
- ANTH 5900 - Special Problems
- ANTH 5910 - Special Problems

Electives, online program

- ANTH 5100 - Organizational Anthropology
- ANTH 5110 - Design Anthropology
- ANTH 5201 - Medical Anthropology
- ANTH 5300 - Migrants and Refugees
- ANTH 5400 - Environmental Anthropology
- ANTH 5620 - Anthropology of Education
- ANTH 5900 - Special Problems
- ANTH 5910 - Special Problems

Note

During some terms/semesters, graduate courses meet with undergraduate courses, which provides graduate students with a greater selection of elective courses.

Applied thesis, 6 hours

All candidates must take 6 hours of supervised applied thesis:

- ANTH 5950 - Applied Thesis

Dual Program

Applied Anthropology, MA / Public Health, MPH (UNTHSC)

The Department of Anthropology at the University of North Texas at Denton the School of Public Health at the UNT Health Sciences Center in Fort Worth have developed a cooperative agreement that allows students to simultaneously pursue the Master of Public Health and a Master of Arts/ Science in Applied Anthropology. The dual degree program in Applied Anthropology and Public Health offers an opportunity to strengthen collaboration in public health and anthropology research and practice. Medical anthropology is a field that uses anthropological theories as a framework to understand public health issues. Its emphasis on social and cultural influences on health, illness, and healing are central to the shared goals of improving health and social justice to eliminate local and global disparities. This 2½ year program prepares students for careers in research, public health, and public policy planning relating to health and health care in the U.S. or in an international setting. Please see <http://anthropology.unt.edu/grad-dualdegree.php> for details

Program requirements

Total hours for the degree: 63

Master of Arts in Applied Anthropology, 27 hours

Required courses in applied anthropology, 21 hours

- ANTH 5010 - Anthropological Thought and Praxis I
- ANTH 5021 - Anthropological Thought and Praxis II
- ANTH 5031 - Ethnographic and Qualitative Methods
- ANTH 5041 - Quantitative Methods in Anthropology
- ANTH 5050 - Preparation for Practice and the Applied Thesis
- ANTH 5201 - Medical Anthropology
- ANTH 5210 - Anthropology of Public Health

Applied thesis, 6 hours

Culminating experience in medical anthropology and public health.

- ANTH 5950 - Applied Thesis (topic to overlap BACH 5397)

Master of Public Health, 36 hours (UNTHSC)

Required courses in public health, 27 hours

- BACH 5300 - Theoretical Foundations of Individual and Community Health
- BACH 5310 - Community Assessment
- BACH 5312 - Community Program Planning
- BIOS 5300 - Biostatistics for Public Health 1
- EOHS 5300 - Environmental Health
- EOHS 5324 - Water and Public Health: Global to Regional Perspectives
- EPID 5300 - Principles of Epidemiology
- EPID 6391 - Advanced Topics in Epidemiology (Applied Methods)
- HMAP 5300 - Introduction to Health Management and Policy

Elective courses in public health, 6 hours

- Any two courses offered in the School of Public Health

Comprehensive examination and practice experience, 3 hours

Culminating experience in public health.

- PHED 5000 - MPH CPH Examination (0 hours)
- BACH 5397 - Practice Experience in Public Health (3 hours)

Applied Anthropology, MS / Public Health, MPH (UNTHSC)

The Department of Anthropology at the University of North Texas at Denton the School of Public Health at the UNT Health Sciences Center in Fort Worth have developed a cooperative agreement that allows students to simultaneously pursue the Master of Public Health and a Master of Arts/ Science in Applied Anthropology. The dual degree program in Applied Anthropology and Public Health offers an opportunity to strengthen collaboration in public health and anthropology research and practice. Medical anthropology is a field that uses anthropological theories as a framework to understand public health issues. Its emphasis on social and cultural influences on health, illness, and healing are central to the shared goals of improving health and social justice to eliminate local and global disparities. This 2½ year program prepares students for careers in research, public health, and public policy planning relating to health and health care in the U.S. or in an international setting. Please see <http://anthropology.unt.edu/grad-dualdegree.php> for details.

Program requirements

Total hours for the degree: 63

Master of Science in Applied Anthropology, 27 hours

Required courses in applied anthropology, 21 hours

- ANTH 5010 - Anthropological Thought and Praxis I
- ANTH 5021 - Anthropological Thought and Praxis II
- ANTH 5031 - Ethnographic and Qualitative Methods
- ANTH 5041 - Quantitative Methods in Anthropology
- ANTH 5050 - Preparation for Practice and the Applied Thesis
- ANTH 5201 - Medical Anthropology
- ANTH 5210 - Anthropology of Public Health

Applied thesis, 6 hours

Culminating experience in medical anthropology and public health.

- ANTH 5950 - Applied Thesis (topic to overlap BACH 5397)

Master of Public Health, 36 hours (UNTHSC)

Required courses in public health, 27 hours

- BACH 5300 - Theoretical Foundations of Individual and Community Health
- BACH 5310 - Community Assessment
- BACH 5312 - Community Program Planning
- BIOS 5300 - Biostatistics for Public Health I
- EOHS 5300 - Environmental Health
- EOHS 5324 - Water and Public Health: Global to Regional Perspectives
- EPID 5300 - Principles of Epidemiology
- EPID 6391 - Advanced Topics in Epidemiology (Applied Methods)
- HMAP 5300 - Introduction to Health Management and Policy

Elective courses in public health, 6 hours

- Any two courses offered in the School of Public Health

Comprehensive examination and practice experience, 3 hours

Culminating experience in public health.

- PHED 5000 - MPH CPH Examination (0 hours)
- BACH 5397 - Practice Experience in Public Health (3 hours)

Department of Behavior Analysis

Main Office
Chilton Hall, Room 360

Mailing address:
1155 Union Circle #310919
Denton, TX 76203-5017
940-565-2274
Fax: 940-565-2467

Web site: www.pacs.unt.edu/behavior-analysis/

Student Advising Office
Chilton Hall, Room 360E
940-565-3318

Richard G. Smith, Chair

Programs in the department prepare 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. Departmental Scholarships are 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.

The Association for Behavior Analysis International (ABAI) (550 W. Centre Ave., Portage, MI 49024-5364; 269-492-9310, mail@abainternational.org) has conferred accreditation on the University of North Texas Master of Science with a major in behavior analysis program.

Research

Both laboratory and applied research are conducted at the Department of Behavior Analysis, and scholarly work in the theory and philosophy of the 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 functional analysis and treatment of severe behavior disorders, behavioral pharmacology, 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, stimulus control, and neuro-operant relations.

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.

Master's Degree Behavior Analysis, MS

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 advisor.

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.

Graduate Academic Certificate

Applied Behavior Analysis certificate

Required courses, 15 hours

The graduate academic certificate in behavior analysis requires completion of the following:

- BEHV 5130 - Basic Behavior Principles
- BEHV 5150 - Techniques in Applied Behavior Analysis
- BEHV 5170 - Research and Applications in Behavior Analysis
- BEHV 5900 - Special Problems ("Introduction to Verbal Behavior") (1 hour)
- BEHV 5900 - Special Problems ("Professional /Ethical Issues in ABA") (1 hour)
- BEHV 5900 - Special Problems ("Functional Analysis in School Settings") (1 hour)
- BEHV 5250 - Topics in Behavior Analysis (when offered as either "Introduction to ABA in Autism" or "Improving Staff Performance" or "Current Issues in the Behavioral Treatment of Autism")

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tgs.unt.edu/certificatedisclosure.

Department of Criminal Justice

Main Office
Chilton Hall, Room 265

Mailing address:
1155 Union Circle #305130
Denton, TX 76203-5017
940-565-2562
Fax: 940-565-2548

Web site: www.pacs.unt.edu/criminal-justice/

Peggy Tobolowsky, Chair
Eric J. Fritsch, Graduate Advisor

The primary objective of the master's program in criminal justice 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 individuals beginning their professional careers, and job advancement for those 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.

Research

Applied research projects and program evaluation studies are conducted by the Department of Criminal Justice. Some of the current research focuses on capital punishment, criminalistics, homeland security, juvenile delinquency, police operations and tactics, prison violence, victimization, and white collar crimes.

Admission requirements

All general admission requirements to the Toulouse Graduate School, as outlined elsewhere in this bulletin, must be fulfilled. Application must first be made to the Toulouse Graduate School 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 complete 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 advisor 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 Advisor
 University of North Texas
 Department of Criminal Justice
 1155 Union Circle #305130
 Denton, TX 76203-5017

Additional information

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 Graduate School. For further information about the interdisciplinary studies program, consult the Toulouse Graduate School section of this catalog or contact the Department of Criminal Justice graduate advisor.

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 advisor 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 advisor. The degree plan must be approved by the departmental graduate advisor and the Toulouse Graduate School. 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 advisor.

Master's Degree

Criminal Justice, MS

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.

Required courses, 9 hours

The following 9 hours must be completed by all students:

- CJUS 5000 - Criminal Justice Policy
- CJUS 5600 - Advanced Criminological Theory
- CJUS 5700 - Evaluation and Research Methodologies

Plus 3 hours

In addition, students must complete one of the following two courses in the core curriculum:

- CJUS 5200 - Legal Aspects of the Criminal Justice System
- CJUS 5500 - Seminar in Criminal Justice Administration

Thesis or non-thesis option

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.

Department of Public Administration

Main Departmental Office
Chilton Hall, Room 204

Mailing address:
1155 Union Circle #310617
Denton, TX 76203-5017
940-565-2165
Fax: 940-565-4466

E-mail: phdpadm@unt.edu or mpa@unt.edu
Web site: www.padm.unt.edu

Robert L. Bland, Chair

Robert L. Bland, Co-MPA Program Coordinator
Skip Krueger, Co-MPA Program Coordinator
Amy Thompson, Internship Coordinator
Lisa Dicke, PhD Program Coordinator

The Department of Public Administration offers a graduate program leading to the Master of Public Administration and to the 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 *Disaster Response Recovery: Strategies and Tactics for Resilience*; *A Revenue Guide for Local Government*; *Introduction to Homeland Security: Understanding Terrorism with an Emergency Management Perspective*; *Texas Politics*; *Budgeting: A Guide for Local Government*; 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.

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).

Master's Degree

Public Administration, MPA

More than 1,200 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) (1029 Vermont Avenue NW, Suite 1100, 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 nonprofit 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 3 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 Graduate School, as outlined elsewhere in this bulletin, must be fulfilled, including Graduate Record Examination (GRE) and grade point requirements. Application must first be made to the Toulouse Graduate School 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), and GRE scores (verbal, quantitative and analytical writing). Additional information may be requested, including 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. All requested materials, including GRE scores, must be submitted before an admission decision is made.

Admission deadlines

Completed applications are reviewed for admission to the fall semester at the following deadlines: February 1, April 1 and May 15. A smaller number of students are admitted to begin in the spring semester (January). The deadline for receipt of completed applications for the spring term is December 1.

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 3-hour internship for most pre-career students (the 3 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, including all core courses except PADM 5035.

Curriculum options are adapted to the needs of both pre-career and in-career students. 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 \$8,000 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 \$2,000 each for tuition and fees and the E. Ray Griffin Alumni Scholarship for tuition and fees. Under current rules, nonresidents of Texas receiving at least \$1,000 per year in scholarships qualify for in-state tuition.

Doctorate

Public Administration and Management, PhD

The PhD in public administration and management is designed primarily for those interested in scholarly careers as researchers and teachers. The program only accepts full-time students and is structured to be completed in four years. The PhD program emphasizes theory, methods and research in the field to enable its graduates to become effective teachers and contribute to the development and dissemination of public administration knowledge. Since students entering the PhD program are expected to have satisfied the core competencies of an MPA degree, the curriculum for doctoral students emphasizes analytic tools and theoretical issues confronting the study and practice of public administration. Students specialize in one of four minor fields: emergency management, financial management, nonprofit management or urban management.

Admission requirements

Admission to the PhD program is a two-tiered process that requires applicants to make simultaneous application to the Toulouse Graduate School and the Department of Public Administration's PhD program. Students must first be admitted to the Graduate School. Once admitted, students must then receive admission to the department's PhD program. Students are strongly encouraged to complete the application process by January 15th of each year. Students can apply after this deadline, but doing so reduces access to financial assistance, and the cohort entering in the fall semester of each year is limited. Admission decisions involve a holistic review process that includes consideration of previous degrees, GPA, GRE scores, letters of recommendation, personal statement, current resume, and an academic writing sample. International students must also provide proof of English proficiency requirement.

There are two categories of admission to the program: unconditional and conditional. First, an applicant may receive unconditional admission to the program if the portfolio provides evidence that the applicant is highly likely to complete all requirements of the PhD program. Unconditional admission is available to students who have completed an MPA degree or the core MPA competencies as established by NASPAA. If an applicant is otherwise qualified, then the applicant may obtain a conditional admission. Students accepted into the program under conditional admission must complete leveling course work. In most cases, leveling course work constitutes 12 to 24 hours of course work to be completed before beginning doctoral seminars in the department. Additional information regarding admissions is available at www.padm.unt.edu.

Official transcripts and test scores must be sent directly to the Toulouse Graduate School by the institution and ETS, respectively. Letters of recommendation, the resume and personal statement can be sent directly to: PhD Coordinator, Department of Public Administration; 1155 Union Circle #310617; Denton, TX 76203-5017.

Degree requirements

The PhD program requires students to earn a minimum of 60 hours of graduate credit beyond the master's degree or 90 hours beyond the bachelor's degree. Required course work includes the following:

1. Core requirements in public administration and management (12 credit hours)
2. Research methods (12 credit hours and departmental exam)
3. Minor field (15 credit hours)
4. Non-dissertation research (9 hours)
5. Dissertation hours (12 hours minimum)

Qualifying exam and dissertation

Once all course work (excluding dissertation hours) has been completed, the student then must pass a comprehensive qualifying examination. This consists of three sections: two written exams taken on site covering the core public administration courses, a written take-home exam in one field of specialization (offered in the PhD in public administration and management), and an oral examination. Successful completion results in the student's admission to candidacy for the PhD degree. Students then enroll for a minimum of 12 dissertation hours.

The doctoral candidate must submit a dissertation that contributes new knowledge to the field. The dissertation is prepared under the supervision of the major professor and a committee in accordance with the guidelines of the Toulouse Graduate School. The topic of the dissertation is selected by the student and approved by the PhD coordinator. The student qualifies for graduation once the student has defended his or her original work before the dissertation examination committee.

Department of Rehabilitation, Social Work and Addictions

Main Office
Chilton Hall, Room 218

Mailing address:
1155 Union Circle #311456
Denton, TX 76203-5017
940-565-2488

Web site: www.unt.edu/rswa

Linda Holloway, Chair
Denise Catalano, Graduate Director

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 enhance equity in the lives of individuals and strengthen communities by preparing professionals in evidence-based practice and engaging in collaborative research that informs the field, impacts policy, and translates knowledge to practice. 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 UNT Workplace Inclusion and Sustainable Employment program (UNTWISE) and the Consortium for Distance Education in Rehabilitation (CDER). CDER's distance education program offers a complete online Master of Science degree with a major in rehabilitation counseling through UNT as part of a two school consortium involving a partnership with San Diego State University.

The University of North Texas Workplace Inclusion and Sustainable Employment (UNTWISE) program delivers information, continuing education and technical assistance in areas that affect the employment and inclusion of individuals with disabilities. Utilizing a variety of delivery systems, from face-to-face training to distance-learning technologies, UNTWISE keeps vocational rehabilitation practitioners and managers abreast of the latest trends, best practices and research. The program has a track-record of success that it is proud to acknowledge including the Rehabilitation Services Administration (RSA) Commissioner's Award for Excellence in Education and Training.

The UNT Wellness and Employment Learning Lab (UNT WELL) provides a hands-on laboratory experience for students to engage in activities designed to enhance the health and well-being of individuals with disabilities and chronic illness. One such project is JobFIT, a Meadows funded program that assists individuals with psychiatric disabilities in finding gainful employment. The lab also hosts a variety of summer youth programs to assist high school students in transitioning to work. UNT WELL is a part of the Disability and Well-being Consortium, a collaboration that consists of DRSWA and the Department of Kinesiology, Health Promotion and Recreation to assist individuals with disabilities and chronic illness progress toward optimal health and well-being.

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, especially returning veterans, 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.

Rehabilitation counseling is one of the largest professional specialties serving people with disabilities. Individuals working in this profession are employed in such settings as state and private rehabilitation agencies, community rehabilitation programs, supported employment programs, pre- and post-secondary schools, medical and psychiatric hospitals, correctional facilities, the veteran's administration, 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 employment and disability substance abuse prevention, wellness, service delivery within the state vocational rehabilitation system, models of supported employment and community integration, ethnic/cultural populations, applications of 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 Rehabilitation Services Administration, the Texas Council on Developmental Disabilities, the Texas Department of Assistive and Rehabilitative Services, the Meadows Foundation, US Aid/Higher Education Development, 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 Graduate School. Criteria for admission are detailed in the Admission section of this catalog and include a competitive score on the Graduate Record Examination (GRE), if required. For standardized admission test requirements, contact the department's web site (www.unt.edu/rswa) or the Toulouse Graduate School. 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 (if required) on file with the graduate school or documentation of two years of full time paid work experience in a rehabilitation setting.

Complete applications are reviewed by the DRSWA graduate faculty, who make recommendations for acceptance of applicants to the program. Acceptance or denial 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 Master of Science with a major in rehabilitation counseling.

Social Work

Main Office
Chilton Hall, Room 218

Mailing address:
1155 Union Circle #311456
Denton, TX 76203-5017
940-565-2488

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.

Master's Degree

Rehabilitation Counseling, MS

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 (neurofeedback, private rehabilitation, assistive technology, psychiatric rehabilitation, etc.)
- RHAB 5700 - Introduction to Rehabilitation
- RHAB 5710 - Rehabilitation in a Multicultural Society
- RHAB 5715 - Disability Issues in Human Development
- RHAB 5720 - Rehabilitation Counseling Theories
- RHAB 5721 - Rehabilitation Counseling Applications
- RHAB 5723 - Group Work and the Rehabilitation Process
- RHAB 5730 - Medical and Psychosocial Aspects of Disability I
- RHAB 5731 - Medical and Psychosocial Aspects of Disability II
- RHAB 5740 - Rehabilitation Assessment
- RHAB 5741 - Employment and Career Development
- RHAB 5742 - Case Management and Rehabilitation Services
- RHAB 5770 - Rehabilitation Research and Program Evaluation
- RHAB 5811 - Practicum in Rehabilitation
- RHAB 5812 - Internship in Rehabilitation

Electives selected from

- RHAB 5125 - Alcohol and Other Drug Abuse Counseling Models
- RHAB 5150 - Alcohol and Other Drug Abuse Counseling Practice
- RHAB 5250 - Topics in Rehabilitation
- RHAB 5450 - Alcohol, Drugs and Disability
- others approved by advisor

Additional course requirements

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.

Additional requirements

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 advisor from among the DRSWA faculty. The academic advisor 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 choose 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) (1699 Woodfield Road, Suite 300, Schaumburg, IL 60173). 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). Rehabilitation counseling students are eligible for licensure as a Professional Counselor (LPC) by the Texas State Board of Examiners of Professional Counselors. 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 Department of State Health Services 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.

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 is currently able to provide RSA scholarship and stipend assistance to qualified students to support their graduate studies in rehabilitation counseling. The availability of RSA financial support varies from year to year. Inquiries should be made at the time of application to the rehabilitation graduate program.

Graduate Academic Certificate

Rehabilitation Counseling advanced certificate

The Post-Graduate Advanced Certificate in Rehabilitation Counseling is designed for current and aspiring rehabilitation counselors who intend to pursue the Certified Rehabilitation Counselor credential, per Category R established by the Commission on Rehabilitation Counselor Certification. The certificate requires 18 hours of post-graduate course work in rehabilitation counseling.

This certificate is open only to those who have earned a master's, specialist or doctoral degree in one of the following majors from an accredited institution: behavioral health, behavioral science, disability studies, human relations, human services, marriage and family therapy, occupational therapy, psychology, psychometrics, rehabilitation, social work, special education or vocational assessment/educvaluation. (Category R Eligibility Criteria)

Students must apply to the UNT Toulouse Graduate School and must have transcripts of all academic work sent to UNT. There is also a one-time \$60 application fee.

Students must also complete a program application. More information about the program and the application requirements can be found here.

Required courses

- RHAB 5700 - Introduction to Rehabilitation
- RHAB 5720 - Rehabilitation Counseling Theories
or
- RHAB 5721 - Rehabilitation Counseling Applications
- RHAB 5730 - Medical and Psychosocial Aspects of Disability I
- RHAB 5740 - Rehabilitation Assessment
- RHAB 5741 - Employment and Career Development
- RHAB 5742 - Case Management and Rehabilitation Services

Course substitution

RHAB 5731 may be substituted for RHAB 5720 if a counseling theories course has been taken as a part of their previous graduate degree. Other courses may be substituted with permission of the graduate advisor depending if taken for a previous graduate degree(s).

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Department of Sociology

Main Office
Chilton Hall, Room 300

Mailing address:
1155 Union Circle #311157
Denton, TX 76203-5017
940-565-2296

Web site: www.unt.edu/soci

Daniel G. Rodeheaver, Chair

George Yancey, Graduate Program Co-director
Gabe Ignatow, Graduate Program Co-director

The department offers graduate programs in sociology and in long-term care, senior housing and aging services.

Areas of concentration include (but are not limited to) social inequality, health and illness, globalization and developing societies, and sociology of aging.

The department offers a graduate academic certificate: specialist in aging.

Sociology and Applied Gerontology

The Department of Applied Gerontology merged with the Department of Sociology, reuniting the two programs initiated by Hiram J. Friedsam. The combined resources and faculties provide students with a variety of training opportunities in research and application. The Master of Arts and the Master of Science degrees in sociology and the Master of Arts and Master of Science degrees in long-term care, senior housing and aging services will continue as unique degree programs. The Doctor of Philosophy degrees in sociology and in applied gerontology have been combined into the PhD with a major in sociology. Students seeking the PhD in applied gerontology must now apply for admission to the PhD in sociology program and may pursue a concentration in sociology of aging in the doctoral program.

Research

Research in sociology at UNT covers a wide range of topics, from studies of individuals to organizations and the global community. Examples include studies of sustainable societies and social interactions of individuals within organizations, such as the study of the effects of nurses aides' empowerment on job performance and the determinants of racial identities in the United States. Studies of whole organizations and social institutions includes the study of work teams in nursing homes, racially integrated churches and environmental groups. Studies of global communities include assessments of disaster preparedness, determinants of ecological sustainability and the worldwide impact of HIV/AIDS. Faculty also publish theoretically oriented research that addresses fundamental debates within the discipline of sociology. Faculty apply for and obtain research grants from funding sources such as the National Science Foundation, the Department of Health and Human Services, and the Commonwealth Fund. Doctoral students are expected to engage in research with their faculty mentors and to conduct independent research projects.

Master's Degree

Long-Term Care, Senior Housing and Aging Services, MA

Students may pursue either of two career options for this professional degree. One option satisfies the Texas requirements for licensure as a long-term care administrator, and the other prepare individuals for alternative careers in administration of community-based services.

Admission and general degree requirements

Admission requirements

Before being admitted to a master's program in the Department of Sociology, the applicant must meet the requirements for admission to the Toulouse Graduate School specified in the Admission section of this catalog. Applying is a two-part process. First, prospective applicants for a master's program must obtain and file an application for admission to the UNT Toulouse Graduate School. Second, applicants for a master's degree must also obtain and file a separate application for admission to the Department of Sociology.

A competitive score on the general test of the Graduate Record Examination must be submitted. No specific undergraduate major is required. However, 3 semester credit hours of social gerontology is a prerequisite for all master's degree candidates. This prerequisite may be taken concurrently with courses that apply to the master's degree.

General degree requirements

All majors require completion of 46 graduate hours. Students must complete a capstone course, Proseminar on Applications in Practice, for 3 hours of 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 "Foreign Language Requirement" in the Master's Degree Requirements section of this catalog for further details.

Degree requirements

Required courses

- AGER 5300 - Computer Applications in Long-Term Care and Community-Based Services for the Aging
- AGER 5400 - Health Delivery Systems
- AGER 5600 - Housing for the Elderly: Planning, Public Policy and Research

- AGER 5750 - Processes of Aging
or
- AGER 5700 - Social Gerontology and

- AGER 5860 - Seminar on the Psychology of Aging
- AGER 5710 - Health Aspects of Human Aging
- AGER 5740 - Financial Issues in Aging Administration
- AGER 5780 - Federal, State and Local Programs in Aging
- AGER 5790 - Needs Assessment, Program Planning and Evaluation in the Services for the Elderly
- AGER 5810 - Seminar on Administration of Programs in Aging
- AGER 5940 - Proseminar on Applications in Practice
- AGER 5840 - Internship in Administration of Programs in Aging

Electives in applied gerontology

- AGER 5250 - Topics in Gerontology
- AGER 5350 - Basic Mediation Skills in Aging
- AGER 5550 - Retirement and Retirement Preparation
- AGER 5560 - Seminar on Minority Aging
- AGER 5770 - Program Evaluation in Aging Services
- AGER 5800 - Grant Proposal Writing for Aging Services
- AGER 5880 - Ethical Issues in an Aging Society
- AGER 5890 - Psychological Counseling for Late Maturity and Old Age

Licensure

Students seeking licensure as long-term care administrators must take:

- AGER 5850 - Internship in Administration of Programs in Aging
- ACCT 5020 - Accumulation and Analysis of Accounting Data
- BLAW 5050 - Legal, Regulatory and Ethical Environment of Business
- MGMT 5140 - Organizational Behavior and Analysis

Additional requirements

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 of 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.

Long-Term Care, Senior Housing and Aging Services, MS

Students may pursue either of two career options for this professional degree. One option satisfies the Texas requirements for licensure as a long-term care administrator, and the other prepare individuals for alternative careers in administration of community-based services.

Admission and general degree requirements

Admission requirements

Before being admitted to a master's program in the Department of Sociology, the applicant must meet the requirements for admission to the Toulouse Graduate School specified in the Admission section of this catalog. Applying is a two-part process. First, prospective applicants for a master's program must obtain and file an application for admission to the UNT Toulouse Graduate School. Second, applicants for a master's degree must also obtain and file a separate application for admission to the Department of Sociology.

A competitive score on the general test of the Graduate Record Examination must be submitted. No specific undergraduate major is required. However, 3 semester credit hours of social gerontology is a prerequisite for all master's degree candidates. This prerequisite may be taken concurrently with courses that apply to the master's degree.

General degree requirements

All majors require completion of 46 graduate hours. Students must complete a capstone course, Proseminar on Applications in Practice, for 3 hours of 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 "Foreign Language Requirement" in the Master's Degree Requirements section of this catalog for further details.

Degree requirements

Required courses

- AGER 5300 - Computer Applications in Long-Term Care and Community-Based Services for the Aging
- AGER 5400 - Health Delivery Systems
- AGER 5600 - Housing for the Elderly: Planning, Public Policy and Research

- AGER 5750 - Processes of Aging
or
- AGER 5700 - Social Gerontology and
- AGER 5860 - Seminar on the Psychology of Aging
- AGER 5710 - Health Aspects of Human Aging
- AGER 5740 - Financial Issues in Aging Administration
- AGER 5780 - Federal, State and Local Programs in Aging
- AGER 5790 - Needs Assessment, Program Planning and Evaluation in the Services for the Elderly
- AGER 5810 - Seminar on Administration of Programs in Aging
- AGER 5940 - Proseminar on Applications in Practice
- AGER 5840 - Internship in Administration of Programs in Aging

Electives in applied gerontology

- AGER 5250 - Topics in Gerontology
- AGER 5350 - Basic Mediation Skills in Aging
- AGER 5550 - Retirement and Retirement Preparation
- AGER 5560 - Seminar on Minority Aging
- AGER 5770 - Program Evaluation in Aging Services
- AGER 5800 - Grant Proposal Writing for Aging Services
- AGER 5880 - Ethical Issues in an Aging Society
- AGER 5890 - Psychological Counseling for Late Maturity and Old Age

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Students seeking licensure as long-term care administrators must take:

- AGER 5850 - Internship in Administration of Programs in Aging
- ACCT 5020 - Accumulation and Analysis of Accounting Data
- BLAW 5050 - Legal, Regulatory and Ethical Environment of Business
- MGMT 5140 - Organizational Behavior and Analysis

Additional requirements

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 of 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.

Sociology, MA

Admission requirements

1. Before being admitted to a master's program in the Department of Sociology, the applicant must meet the requirements for admission to the Toulouse Graduate School specified in the Admission section of this catalog. Applying is a two-part process. First, prospective applicants for a master's program must obtain and file an application for admission to the UNT Toulouse Graduate School. Second, applicants for a master's degree must also obtain and file a separate application for admission to the Department of Sociology. (See the department's web page for details.)
2. A score on the verbal and quantitative sections of the Graduate Record Examination (GRE) is required of all applicants; a score on the written essay is recommended. 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 competitive scores

on the verbal and quantitative sections of the GRE. See the department's web page or contact the Toulouse Graduate School for information concerning 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 Graduate School 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 denial 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 Graduate School.

Requirements

Master's candidates in sociology are required to take the following courses or their equivalents:

- SOCI 5150 - Contemporary Sociological Theory
- SOCI 5200 - Seminar on Research Methods and Design
- SOCI 5210 - Introduction to Social Statistics

Advisory committee

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 Graduate School upon recommendation of the student, department chair and graduate advisor.

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 30 hours for the master's degree, 24 hours must be graduate work in sociology.
2. A minor of 6 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 3 graduate hours may be earned in SOCI 5940 - Sociology Internship.
4. Satisfactory performance on the comprehensive examination completes the requirements for the non-thesis master's degree. The comprehensive examination, 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. Principally, the exams cover, but are not limited to, content from 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, have an approved degree plan and have completed 21 semester hours of graduate credit toward the degree. The examining board consists of the candidate's three-member advisory committee.

Sociology, MS

Admission requirements

1. Before being admitted to a master's program in the Department of Sociology, the applicant must meet the requirements for admission to the Toulouse Graduate School specified in the Admission section of this catalog. Applying is a two-part process. First, prospective applicants for a master's program must obtain and file an application for admission to the UNT Toulouse Graduate School. Second, applicants for a master's degree must also obtain and file a separate application for admission to the Department of Sociology. (See the department's web page for details.)
2. A score on the verbal and quantitative sections of the Graduate Record Examination (GRE) is required of all applicants; a score on the written essay is recommended. 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 competitive scores on the verbal and quantitative sections of the GRE. See the department's web page or contact the Toulouse Graduate School for information concerning 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 Graduate School 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 denial 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 Graduate School.

Requirements

Master's candidates in sociology are required to take the following courses or their equivalents.

- SOCI 5150 - Contemporary Sociological Theory
- SOCI 5200 - Seminar on Research Methods and Design
- SOCI 5210 - Introduction to Social Statistics

Advisory committee

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 Graduate School upon recommendation of the student, department chair and graduate advisor.

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 30 hours for the master's degree, 24 hours must be graduate work in sociology.
2. A minor of 6 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 3 graduate hours may be earned in SOCI 5940 - Sociology Internship.
4. Satisfactory performance on the comprehensive examination completes the requirements for the non-thesis master's degree. The comprehensive examination, 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. Principally, the exams cover, but are not limited to, content from 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, have an approved degree plan and have completed 21 semester hours of graduate credit toward the degree. The examining board consists of the candidate's three-member advisory committee.

Doctorate

Sociology, PhD

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, social statistics and social research and may concentrate in a variety of substantive areas including (but not limited to) social inequality, health and illness, globalization and developing societies, sustainable societies and sociology of aging. UNT houses numerous academic departments such as anthropology, criminal justice, and public administration, providing doctoral students with the opportunity to concentrate in these additional areas of study. The sociology PhD program participates in a consortium with Texas Woman's University and Texas A&M University–Commerce called the Federation of North Texas Area Universities. Through the federation, doctoral students are able to take sociology courses at these institutions and apply them to their PhD degree, include faculty from the other universities on their doctoral advisory committee and participate in federation professional development programs and events. This further broadens the student's exposure to sociology faculty and substantive areas of study.

Admission requirements

Before being admitted to the doctoral program, the applicant must meet the requirements for admission to the Toulouse Graduate School specified in the Admission section of this catalog. Admission to the doctoral program in sociology is competitive, as available resources do not permit admission of all qualified applicants.

Applying is a two-part process. First, prospective applicants for the doctoral program must obtain and file an application for admission to the UNT Toulouse Graduate School. Second, applicants for the doctoral degree with a major in sociology must obtain and file a separate application for admission to the Department of Sociology. A competitive score on the general test of the Graduate Record Examination must be submitted at the time of the application and a score on the written essay is recommended.

The following requirements must be met for admission consideration.

1. For consideration of unconditional admission to the PhD program in sociology by applicants with a master's degree, applicants must have completed a minimum of 18 hours of sociology, at least 3 graduate semester hours in social research methods, 3 graduate semester hours in an acceptable course on social statistics and 3 graduate semester hours of social theory; have at least a 3.5 (B+) GPA for master's courses; and have competitive 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 Graduate School for contact the Toulouse Graduate School for information concerning admission test scores.
2. For possible consideration of conditional admission for applicants with a master's degree (requiring an appeal to the graduate school), the applicant must have 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 Graduate School 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 admission into the doctoral program. If admitted, a pass-through master's degree option is available.

The dean of the graduate school will notify the applicant of the admission decision to the sociology program. Applicants receiving acceptance for admission should consult with the department's graduate advisor prior to the first term/semester of enrollment to schedule courses.

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 the following:
 - a. A minimum of 12 semester hours in research methods and statistics, including one 3-hour course in each of the following: qualitative research methods, quantitative research methods, multivariate statistics and advanced statistics. All courses must be at the 6000 level, and a grade of B or better must be achieved for each.
 - b. A minimum of 6 semester hours in sociological theory at the 6000 level, including one 3-hour course in classical theory and one in contemporary theory. A grade of B or better must be achieved for each.
 - c. A minimum of 12 semester hours in one of the department's substantive concentrations (i.e., social inequality, health and illness, and globalization and developing societies), including at least 6 hours at the 6000 level. The core course for the concentration must be taken with the remaining three courses selected from a list of available concentration courses. The core course is **not** a prerequisite to taking one of the other concentration courses. Readings courses cannot be used to satisfy these requirements.
 - d. A minimum of 12 semester hours in a second sociology concentration or a related minor field. The second concentration may be one of the department concentrations or a concentration area selected by the student and approved by the student's advisory committee. The four courses taken for this concentration must be approved by the student's advisory committee. No more than one readings course may be taken to satisfy these requirements.
 - e. For students seeking the concentration in sociology of aging, a minimum of 24 semester hours of applied gerontology course work (rather than the 12 hours required in social inequality, health and illness, or globalization and developing societies and the 12 hours in a second concentration or related minor field as described in items c and d above). (See "Concentration in Sociology of Aging" for details.)
 - f. A minimum of 6 semester hours of electives.
 - g. A minimum of 12 semester hours of dissertation.
 - h. A tool requirement or proficiency in a foreign language. To satisfy the tool requirement, students must complete 9 graduate semester hours of course work. The tool courses must be recommended by the student's committee, approved by the chair of the department, and may include courses such as teaching sociology, grant writing, publishing, use of SPSS, etc. To satisfy the foreign language proficiency, the student must demonstrate 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.
2. Students may earn limited credit in cooperative education or in an internship as part of their PhD course work.
3. A student must carry a full load of 9 hours for any two consecutive semesters to fulfill the doctoral 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 at least three members, including the major professor or chair, all of whom must be from the full-time sociology faculty. A fourth faculty member may be from the Texas Woman's University faculty or may represent a second concentration within sociology or a minor outside the program. This committee is appointed by the dean of the graduate school upon recommendation of the student, department chair and graduate advisor. 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 prior to taking the concentration exams.
5. Concentration examinations are required of all students. Examinations are written for each of the student's two concentrations or, in the case of students pursuing the sociology of aging concentration, examinations are written for this single concentration. Each examination must be taken within one semester after the student has completed all course work for the 12-hour concentration or the 24-hour sociology of aging concentration. In the case of students completing two 12-hour concentrations, the examination for the department's concentration is prepared by the concentration's faculty committee and evaluated by those faculty contributing questions to the exam. The examination for the second concentration is prepared by the student's advisory committee and evaluated by those faculty contributing questions to the exam. All examinations are administered by the graduate advisor. Preparation for these exams includes, but is not limited to, course work, reading key literature and participation in study groups.

Students who intend to pursue careers in academic research may apply to their advisory committee for a "research paper option" in lieu of an examination covering the second concentration. The application must include:

- a. a proposed "publishable quality" paper based on a term paper for a 6000-level course in which the student received a grade of A;
- b. a description of the paper including title, specific research question(s), research method(s) to be used, source of data and names of three peer-reviewed journals appropriate for publication of the paper; and
- c. a signature approving the student's use of the term paper from the faculty member who taught the 6000-level course.

Approval of the application and subsequent paper is determined by the student's advisory committee. The paper must be between 6,000 and 8,000 words and must be completed within a six-month period. If the paper is not turned in on time or not approved by the advisory committee, the student must take a normal qualifying examination the following August or January.

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.

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 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.

7. Students can apply to their dissertation committee to take a research track. This track prepares the student for an academic position at a research university. Requirements include preparing three research papers in the student's primary concentration. One of the papers must be accepted for publication and solely authored by the student, a second must be submitted for publication and the third must be approved as near-ready for submission for publication. The three papers are organized within the dissertation format for submission to the graduate school.

Quality of work required

The Department of Sociology has the right to dismiss a graduate student from the master's or doctoral degree program for one or more of the following indicators of failure to make satisfactory progress:

1. The student earns two grades of C or below in sociology theory, methods, statistics or first concentration (track within sociology) course work that will count in these areas on the student's degree plan (for purposes of this rule, the first grade received in the course will be used).
2. The student has 6 or more hours of Incomplete grades that are more than one year old in sociology theory, methods, statistics, or first concentration (track within sociology) course work.
3. The student's overall GPA falls below 3.0 for two consecutive semesters or the student is suspended by the graduate school after being put on probation.
4. The doctoral student fails a comprehensive or concentration exam twice.
5. The student fails to make any progress toward the degree for at least one full calendar year (e.g., does not enroll, does not sit for the comprehensive exam, does not make progress on thesis or dissertation, etc.).
6. The student engages in an act of academic misconduct.

Sociology of Aging concentration

The concentration in sociology of aging stresses instruction and research contributing to the body of knowledge and application of knowledge for the identification, development, provision and evaluation of organizations, products and services responsive to the special needs of older people. Students in the sociology doctoral program with a sociology of aging concentration master the gerontological theories, knowledge and research techniques needed both to make policies and regulations consistent with such applications and to acquire the ability to be advocates for those policies and regulations.

Students seeking the concentration in sociology of aging must be accepted into the PhD in sociology program and enroll in 24 hours of applied gerontology course work (rather than taking a minimum of 12 semester hours in social inequality, health and illness, or globalization and developing societies and a minimum of 12 semester hours in a second concentration or related minor field as described in "Degree Requirements"). The concentration includes courses in theories of aging, formal organization of aging services, regulatory strategies in aging, and policy issues in aging. Students normally take the courses listed below. However, substitutions may be made in concurrence with the major advisor. Additionally, in consultation with the major advisor, students must select from groups of related courses in gerontology, health aspects in aging, and planning and administering services. Students must complete all other requirements for the degree as described under "Degree Requirements."

- AGER 6150 - Theories of Aging
- AGER 6500 - Regulatory Strategies
- AGER 6700 - Formal Organization of Aging Services
- AGER 6800 - Social Policy and Aging

Graduate Academic Certificate

Specialist in Aging certificate

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 Coalition for Leadership in Aging Services certification program jointly sponsored by the Department of Sociology and the American Association of Homes and Services for the Aging, the 3 elective hours will be waived.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tgs.unt.edu/certificatedisclosure.

College of Visual Arts and Design

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E-mail, Art Education and Art History: aeah@unt.edu
E-mail, Design: design@unt.edu
E-mail, Studio Art: studio@unt.edu

Web site: www.art.unt.edu

Robert W. Milnes, Dean

Jean K. Miller, Associate Dean for Administrative Affairs
Eric Ligon, Associate Dean for Academic and Student Affairs

The College of Visual Arts and Design, 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 college offers degrees in 14 major areas of study.

The College of Visual Arts and Design 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 College of Visual Arts and Design 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 College of Visual Arts and Design is organized into departments based on the following programs.

Art Education and Art History

The Department of Art Education and Art History offers the BA with majors in art history and in interdisciplinary art and design studies and a BFA degree with a major in 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 department offers a graduate academic certificate program in art museum education. Students interested in these degrees may contact the Department of Art Education and Art History in the College of Visual Arts and Design.

Design

The Department of Design offers the BFA degree with majors in communication design, fashion design and interior design, the MFA degree with a major in design and concentrations in fashion design, innovation studies and interior design, and the MA with a major in design and a concentration in innovation studies. Both the fashion design graduate curriculum and the interior design graduate curriculum focus on the development of creative scholarship. Students interested in these degrees may contact Cynthia Mohr, chair, Department of Design in the College of Visual Arts and Design.

Studio Art

The Department of Studio Art offers BFA and MFA degrees in studio art with concentrations in ceramics, drawing and painting, fibers, metalsmithing and jewelry, new media art, photography, printmaking, sculpture, and watercolor. Students interested in these degrees may contact Jerry Austin, chair, Department of Studio Art in the College of Visual Arts and Design.

Graduate students pursuing the MFA with a studio major may apply for individual studios.

Facilities

The College of Visual Arts and Design 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 fashion design, fibers, and the Texas Fashion Collection, comprising over 15,000 garments. Bain Hall houses additional graduate studios. Hickory Hall houses printmaking, graduate metals, computer electronic media labs and graduate watercolor.

Admission requirements

Applicants must meet admission requirements for the Toulouse Graduate School as well as the requirements for the area of study within the College of Visual Arts and Design. Detailed application procedures and requirements of the department are available through the web site www.art.unt.edu or by calling the department office. Admission deadlines are as follows:

- Fall term/semester: February 1
- Spring term/semester: October 1

Students are admitted to the MFA with a concentration in drawing and painting in fall terms/semesters only.

Degree programs

The college offers graduate programs leading to the following degrees:

- Master of Arts with majors in art education, art history, and design;
- Master of Fine Arts with majors in studio art and design; and
- Doctor of Philosophy with a major in art education.

Concentrations within the MFA are available in ceramics, drawing and painting, fashion design, fibers, innovation studies, interior design, metalsmithing and jewelry, new media art, photography, printmaking, sculpture, and watercolor.

Department of Art Education and Art History

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Denise Baxter, Chair

Generally speaking, the discipline of art education concerns itself with the theory and practice of teaching art to others. At the undergraduate level, a degree in visual arts studies prepares one for a career as an elementary, middle and/or high school art teacher and for careers in community art programs and other educational facilities. A master's degree in art education allows students to further their knowledge of art education practice and research and to focus on a specific type of art education (such as art museum education). Students pursue a doctorate in art education to research and develop new theories of art teaching and learning and to prepare themselves to be researchers and professors at colleges and universities.

Art historians research and publish to enhance understanding of art and its place within society. Studying the art and architecture of diverse world cultures and periods, art historians examine the historical, social and cultural significance of art works for their creators and users. As an interdisciplinary, liberal arts major, a degree in art history prepares students for varied careers in the art world and beyond. Holding an advanced degree allows students to pursue careers in museums, galleries and university teaching.

Research

The Department of Art Education and Art History is staffed by 15 full-time faculty who pursue a broad array of research questions using diverse methods of data collection and analysis. Faculty work closely with students on research projects and publications, providing valuable experience for developing scholars. Additionally, there is an active visiting artists/scholars program that exposes students to scholars from around the globe.

In art education, faculty research focuses on art museum education, art teacher preparation and placement, and arts leadership. Recent projects include studies of the legal issues affecting art teachers, pre-service teacher mentoring, the use of technology in the art classroom, training leaders in the arts, and art museum educators and social justice. The graduate art education program works closely with the North Texas Institute for Educators on the Visual Arts (NTIEVA), one of the six regional centers for excellence in visual arts education.

The research agendas of the art history faculty span the globe and address a broad chronology. Faculty research interests include Jain cave temples in India, Spanish and French Romanesque architecture, 18th-century French and British art, British art in the late 20th century, modern art in the Arab world, art history pedagogy, art of the Caribbean and African diaspora, and printmaking in colonial Mexico. Several art history faculty members participate in the women's studies, LGBT studies, the Contemporary Arab and Muslim Cultural Studies Institute (CAMCSI), and international studies programs. Teaching students how to become active researchers is a crucial component within the art history program, and students are encouraged to work independently and to collaborate with faculty.

Admission requirements

Applicants must meet requirements for admission to the Toulouse Graduate School. Applicants to the MA programs in art history and art education 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 or CD of recent artwork. All applicants should submit a statement of objectives, a minimum of two letters of recommendation (three letters of recommendation for the PhD program) and Graduate Record Examination scores.

Prospective applicants for graduate degree programs must obtain admission forms from the UNT graduate dean and information from the College of Visual Arts and Design at www.art.unt.edu. Admission deadlines are as follows:

- Fall term/semester: February 1
- Spring term/semester: October 1

Funding

Each term/semester the department is able to provide a limited number of area assistant/teaching assistant/teaching fellow positions for graduate students. If interested, the student should fill out an application and turn it in by the deadline listed on the college web site.

The Department of Art Education and Art History has a limited number of scholarships of up to \$1,000 each. Students interested in applying should consult the college web site.

Master's Degree

Art Education, MA

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 Graduate School, and to have submitted GRE scores. Additional background requirements depend on the option the applicant intends to pursue, as follows:

- **Option 1** 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 2** 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 3** is designed for those who wish to obtain EC-12 teacher certification in art while acquiring a graduate degree in art education. Option 3 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 2 and 3 include certification, required course work for these options may reach a maximum of 36 hours. Specific course requirements depend upon which option is pursued and whether or not the student pursues a thesis. Any student electing to pursue the non-thesis route must successfully complete AEAH 5799, MA Project, or additional course work in consultation with the MA advisor.

For detailed program information, see the program web site at www.art.unt.edu.

Art History, MA

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 AEAH 5848 - 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 AEAH 5849 - Art History Research Project, and participation in the graduate colloquium in the semester preceding enrollment in AEAH 5849.

For detailed program information, see the program web site at www.art.unt.edu.

Doctorate

Art Education, PhD

The Doctor of Philosophy (PhD) with a major in art education is designed for individuals who wish to teach pre-service art education or art museum education 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 minimum of 60 hours:

- 12 hours of doctoral core of art education classes
- 12 hours in a specialization (must be approved by major professor)
- 9 hours of research courses
- 6 hours of theoretical/conceptual framework courses (must be approved by major professor)
- 9 hours of electives
- 12 hours of dissertation

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 investigate 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 Graduate School, 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 College of Visual Arts and Design, Department 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 approved 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 department 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 department chair will notify the student of his or her dismissal in writing with a duplicate for the student's file and the Toulouse Graduate School. 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 certificate

In cooperation with the Toulouse Graduate School, the College of Visual Arts and Design and the Department of Art Education and Art History offer 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 College of Visual Arts and Design.

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 art, (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 art or related field. Contact the Department of Art Education and Art History for application information.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Arts Leadership certificate

The certificate in arts leadership is designed to provide graduate students in the visual arts and music with special preparation in arts leadership. Within a broad definition of leadership as “a process whereby an individual influences a group of individuals to achieve a common goal,” the certificate in arts leadership addresses four essential components: (a) opportunities to become a credible professional, (b) opportunities to become thoroughly grounded in the issues facing the arts and arts education, (c) opportunities to understand the broad spectrum of constituents with whom arts leaders must interact and (d) opportunities to develop specific leadership skills.

[Attribution: Peter G. Northouse, *Leadership: Theory and Practice*, 3rd ed. (Thousand Oaks, CA, Sage, 2004), 3.]

Admission requirements

Admission to the certificate in arts leadership requires an undergraduate degree in either visual arts or music, and either a master’s degree in visual arts or music or current enrollment in a master’s or doctoral degree program in visual arts or music at the University of North Texas.

Course requirements

- AEAH 5777 - Politics and Advocacy I
- AEAH 5778 - Politics and Advocacy II
- AEAH 6783 - Multimedia: Theory and Practice in the Arts
- ART 5450 - Professional Internship (6 hours)
- MUED 5100 - Music Supervision

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at tsgs.unt.edu/certificatedisclosure.

Department of Design

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Cynthia Mohr, Chair

The MFA in design with concentrations in fashion design, innovation studies and interior design seeks to effectively prepare individuals with professional experience to become specialists, managers and educators. The curriculum is divided into two separate, but related, sequences: pedagogy and studio/research. Through pedagogy course work and observation, MFA candidates learn basic educational practices such as the development of outcome objectives, grading criteria, and university practices. The studio/research sequence is designed to help candidates identify and develop a research agenda necessary for success both professionally and within the university environment.

Applicants for the Master of Fine Arts in the design department must hold an earned bachelor’s degree in a related field of study and have professional experience in the proposed area of concentration.

Research

Pursuing research in the Department of Design at the master’s level of study in the College of Visual Arts and Design challenges students to critically examine, analyze and derive knowledge from a variety of design processes and methodologies as a means to positively catalyze a wide variety of social, technological, environmental and political initiatives. Design research undertaken and conducted within the master’s programs in the Department of Design will not only facilitate knowledge creation and thought leadership that can be applied in both professional practice and academe.

MFA application requirements

1. Applicants must apply for and be granted admission to the Toulouse Graduate School (or to UNT-International as appropriate) and must also apply separately to and be accepted into either the concentration in fashion design, interior design or innovation studies.
2. Applicants for the MFA programs in design with concentrations in fashion design, interior design or innovation studies must hold a bachelor’s degree from an accredited U.S. institution or equivalent training at a foreign university in the specific area of design or in a closely related field, and two to three years of professional experience in their area of study.
3. Applicants must supply official GRE scores.
4. Applicants must submit a statement of purpose (500–750 words).
5. A professional resume, which should list all relevant work experience, affiliations, etc.
6. Applicants must submit at least three reference letters from persons familiar with their academic or professional work.
7. Applicants must submit a portfolio of work relevant to their concentration area that includes representative professional work that exhibits their design knowledge and skills. Applicant should identify their responsibility for any submitted work completed as part of a team.

MA application requirements

1. Applicants must apply for and be granted admission to the Toulouse Graduate School and must also apply separately to and be accepted into innovation studies.
2. Applicants for the MA program in design with a concentration in innovation studies must hold a bachelor’s degree from an accredited U.S. institution or equivalent training at a foreign university.

3. Applicants must supply official GRE scores.
4. Applicants must submit a statement of intent (500-750 words).
5. A professional resume, which should list all relevant work experience, affiliations, etc.
6. Applicants must submit at least two reference letters from persons familiar with their academic or professional work.
7. Applicants to the MA program in design with a concentration in innovation studies may submit either a portfolio of their work or two to three samples of their writing. Writing samples must include at least one research paper and one to two examples of scholarly or professional writing.

Funding

Each term/semester the department is able to provide a limited number of teaching assistant positions for graduate students. Applications are available in the department office and are due in early October for the spring semester and early March for the fall semester. Contact the department office for specific deadline dates. A limited number of scholarships are available for graduate students. Applications are due in January. Check online at www.art.unt.edu for specific dates, application forms and requirements.

Master's Degree

Design with a concentration in Fashion Design, MFA

Program requirements

The Master of Fine Arts may be taken with a concentration in fashion design, interior design, or innovation studies.

Fashion Design concentration, 60 hours

A minimum of 60 semester hours, including 30 hours of studio, with a minimum of 21–30 hours in the concentration area (independent study arranged through faculty advisement), plus

- 12 hours in art history
- 9–15 hours in the minor area
- 3 hours in research methods
- 6 hours of Problem in Lieu of Thesis

Candidates are expected to prepare an exhibition of their work for presentation to the public.

Additional requirements

All graduate students seeking the MFA in the design department 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.

Design with a concentration in Innovation Studies, MA

Program requirements

- ADES 5546 - Practicum in Innovation Studies I
- ADES 5548 - Practicum in Collaborative Innovation Studies II
- 9 credit hours of required interdisciplinary course electives
- Plus 21 hours in concentration

Innovation Studies concentration, 21 hours

- ADES 5515 - Critical Thinking
- ADES 5520 - Design Research Methods
- ADES 5521 - Applied Research I
- ADES 5523 - Applied Research II
- ADES 5525 - Applied Research III
- ADES 5526 - Collaborative Design Studio
- ADES 5530 - Design Research Theory

Design with a concentration in Innovation Studies, MFA

Program requirements

The Master of Fine Arts may be taken with a concentration in fashion design, interior design, or innovation studies.

Innovation Studies concentration, 60 hours

A minimum of 60 hours, including:

Major area, 21 hours

- ADES 5515 - Critical Thinking
- ADES 5520 - Design Research Methods
- ADES 5521 - Applied Research I
- ADES 5523 - Applied Research II
- ADES 5525 - Applied Research III
- ADES 5526 - Collaborative Design Studio
- ADES 5530 - Design Research Theory

Interdisciplinary courses, 9 hours

Required minor area, 9 hours

- ADES 5534 - Design Pedagogy
- ADES 5536 - University Citizenship and Tenure in Design
- ADES 5538 - Guided Teaching Internship

Practicum, 6 hours

- ADES 5546 - Practicum in Innovation Studies I
- ADES 5548 - Practicum in Collaborative Innovation Studies II

Free elective, 3 hours

Graduate art history, 12 hours

- AEAH 5842 - History of Graphic Design (required)
- 9 additional hours

Additional requirements

All graduate students seeking the MFA in the design department 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.

Design with a concentration in Interior Design, MFA

Program requirements

The Master of Fine Arts may be taken with a concentration in fashion design, interior design, or innovation studies.

Interior Design concentration, 60 hours

A minimum of 60 semester hours, including 30 hours of studio, with a minimum of 21–30 hours in the concentration area (independent study arranged through faculty advisement), plus

- 12 hours in art history
- 9–15 hours in the minor area
- 3 hours in research methods
- 6 hours of Problem in Lieu of Thesis

Candidates are expected to prepare an exhibition of their work for presentation to the public.

Additional requirements

All graduate students seeking the MFA in the design department 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.

Department of Studio Art

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Jerry Austin, Chair

Mission

The mission of the Department of Studio Art is to promote excellence in the visual arts through a comprehensive educational program in its nine disciplines: ceramics, drawing and painting, fibers, metalsmithing and jewelry, new media art, photography, printmaking, sculpture, and watercolor. The studio faculty transmit artistic heritage, lay a solid foundation of basic skills and concepts, foster critical thinking, and inspire creativity so that each student may find his/her own aesthetic voice.

Goals

The goals of the Department of Studio Art are to continue to provide exceptional art instruction through both traditional and innovative philosophies and strategies; to prepare students to visually interpret the world with both practical and conceptual skills; and to continue to research and develop collaborative programs that engage state, national, and international audiences.

The Department of Studio Art offers bachelor and master of fine arts degree programs that lead to sustainable studio practices in nine studio disciplines: ceramics, drawing and painting, fibers, metalsmithing and jewelry, new media art, photography, printmaking, sculpture, and watercolor. Through their individual artistic endeavors, the studio art faculty consistently achieve high levels of distinction at regional, national and international venues, and are dedicated to quality teaching, service and outstanding professional achievement. Through a comprehensive approach that is both critical and technical, students learn to develop their own individual aesthetic voices. There is an extensive visiting artist program, an active gallery program, dynamic faculty and a challenging environment for visual and intellectual research. The studio curriculum embraces a wide range of teaching methodologies and offers a focused path toward professional achievement.

Research

The faculty in the Department of Studio Art are actively engaged in a wide range of visual research in a wide array of media. They consistently distinguish themselves through their work at prestigious venues nationally and internationally.

Degree programs

The department offers the following degree:

- Master of Fine Arts with a major in studio art

Concentrations are available in ceramics, drawing and painting, fibers, metalsmithing and jewelry, new media art, photography, printmaking, sculpture or watercolor.

Admission requirements

1. The applicant must apply for and be granted admission to the Toulouse Graduate School and also apply separately to and be accepted by the faculty in the appropriate concentration.
2. The applicant must hold a bachelor's degree from an accredited U.S. institution.
3. Applicants must submit a statement of purpose (500–750 words) indicating the reasons for attending graduate school or pursuing advanced studies.

4. Applicants must submit a portfolio of artwork: 20 images as slides or as images on a disc.
5. Applicants must submit two letters of recommendation from persons familiar with their academic record.
6. Applicants must submit a resume.

Funding

Each term/semester the department is able to provide a limited number of teaching assistant/teaching fellow positions for graduate students. If interested, the student should complete an application and submit it to the department by the deadline for each term/semester: February 1 for fall and October 1 for spring.

New graduate students have the opportunity to apply for a limited number of \$1,000 scholarships when they apply to the MFA program. See the college web site for additional information about these opportunities.

Master's Degree

Studio Art, MFA

Program requirements

For the Master of Fine Arts degree, students fulfill the 60 hours of degree requirements and mount an MFA exhibition of their work.

- Studio Courses, 30 hours (24 hours must be in the concentration area)
- Art History Courses, 9 hours
- ASTU 5010 - Professional Practices of the Studio Artist
- ASTU 5015 - Creative Project
- ASTU 5020 - MFA Exhibition
- Elective Courses, 12 hours (Elective course work can be from outside the College of Visual Arts and Design)

Additional requirements

A student seeking the Master of Fine Arts must have completed the equivalent of the Bachelor of Fine Arts as offered at UNT.

Students may pursue a concentration in one of the following: **ceramics, drawing and painting, fibers, metalsmithing and jewelry, new media art, photography, printmaking, sculpture or watercolor.**

All graduate students on the MFA track in the studio art department are required to participate in graduate reviews every long term/semester they are enrolled in a studio course until they pass and are admitted to candidacy.

Honors College

Main Office
Chilton Hall, Room 211

Mailing address:
1155 Union Circle #310529
Denton, TX 76203-5017
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 enriching the undergraduate academic experience for talented, motivated and well-prepared students. Through the challenging and supportive environment of honors classes and special programming, members of the Honors College find that they are part of an exciting community of talented scholars pursuing academic and intellectual growth. The goal of the Honors College is to help honors students build a broad educational foundation in preparation for studying at the graduate level, establishing a career, and meeting the demands of responsible citizenship.

UNT/UNT Health Science Center cooperative program

Graduate faculty of the Graduate School of Bio-medical Sciences and the School of Public Health at the University of North Texas Health Science Center at Fort Worth (UNTHSC) 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 *Graduate Catalog* for UNTHSC graduate faculty listings.

Graduate School of Biomedical Sciences

University of North Texas Health Science Center at Fort Worth (UNTHSC)

Education and Administration Building, Room 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/gsbs

Jamboor Vishwanatha, Dean of the Graduate School of Biomedical Sciences

Graduate Advisors:

Robert Wordinger, Cell Biology and Anatomy

Laszlo Prokai, Biochemistry and Molecular Biology

Johnny He, Biomedical Sciences

Patricia Gwartz, Clinical Research Management, Biotechnology, Medical Sciences

Tom Cunningham, Integrative Physiology

Rance Berg, Microbiology and Immunology

Nathalie Sumien, Pharmacology and Neuroscience

des Anges Cruser, Clinical Research and Education (Osteopathic Manipulative Medicine Specialty)

John Williamson and Joseph Warren, Forensic Genetics

Alakananda Basu, Cancer Biology

Abbot Clark, Visual Sciences

Rusty Reeves, Structural Anatomy

Michael Forster, Neurobiology of Aging

Doctoral degrees culminate with a specialization in cell biology, biochemistry and molecular biology, biomedical sciences, microbiology and immunology, pharmacology and neuroscience, integrative physiology, cancer biology, clinical research and education, physical medicine, cardiovascular sciences, visual sciences or structural anatomy. Master's degrees are also offered in these areas, as well as in the areas of biotechnology, forensic genetics, clinical research management and medical sciences.

Joint degrees (DO/MS, DO/PhD, MPAS/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.

To obtain further information, please call 817-735-2560 or 800-511-GRAD [511-4723], e-mail gsbs@hsc.unt.edu, or visit www.hsc.unt.edu/gsbs.

School of Public Health

University of North Texas Health Science Center at Fort Worth (UNTHSC)

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

Richard S. Kurz, Professor and Dean of the School of Public Health

Chairs:

David Sterling, Chair, Department of Epidemiology

David Sterling, Chair, Department of Environmental and Occupational Health

Sumi Suzuki, Interim Chair, Department of Biostatistics

Dennis Thombs, Chair, Department of Behavioral and Community Health

Jose Pagan, Chair, Department of Health Management and Policy

Christine Moranetz, Associate Dean for Academic Affairs

Matthew Adrignola, Associate Dean for Administration and Student Services

Elizabeth Trevino-Dawson, Assistant Dean for Curriculum

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 48 semester credit hour (SCH) program that includes a core curriculum of five courses (totaling 15 credit hours), in which public health students are provided an overview in biostatistics, community health, epidemiology, environmental health, and health management and policy. MPH students are required to complete 24–30 credit hours in their chosen concentration, 3 hours of public health practice experience and a culminating experience (thesis or comprehensive exam option).

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.

The school is currently implementing PhD programs in many of the public health disciplines. For additional information, refer to the School of Public Health web site at www.hsc.unt.edu.

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 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 Sciences

Environmental and Occupational Health Sciences (MPH): Designed to train students to acquire up-to-date knowledge and competency in this area based on sound scientific theory and methodology in the field of environmental and occupational health sciences, this concentration provides students with the unique opportunity to immediately begin to translate the knowledge acquired in the classroom or laboratory, into practical applications in the real world setting through participating in faculty cutting-edge research; internships in industry, state or national agencies; or site visits to these establishments.

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.

Department of Biostatistics

Biometry (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.

Department of Health Management and Policy

Health Management and Policy (MPH): The health management and policy concentration is designed to prepare students with competencies needed for careers in health management policy analysis and policy development. The curriculum addresses health systems, quantitative methods, health economics and finance, managed care, private and public sector management, state and national policy, and health law. The concentration provides instruction in professional competencies commonly found in schools of business, management, public administration and public policy.

Master of Health Administration (MHA): The MHA program is designed to prepare students with competencies needed to assume management positions in health services organizations throughout the world. The 60 credit hour program is designed for aspiring and committed professionals who are interested in careers in health services administration in such settings as hospitals, managed care organizations, medical group practices, ambulatory, long-term care, insurance and pharmaceutical companies, consulting firms, government agencies, for profit organizations and nonprofit sector organizations. Emphasis is placed on theoretical bases in three areas: organization and operations, economics and finance, and policy analysis. Through an internship and a final integrative experience, students are asked to incorporate, synthesize and apply their knowledge within both an operational and a community context. The result is an organizational perspective that encourages students to integrate knowledge from a range of management disciplines while emphasizing accountability for effective performance.

Department of Behavioral and Community Health

Community Health (MPH): The community health concentration prepares professionals from a variety of backgrounds (nursing, medicine, dentistry, allied health, social work, health education, nutrition, psychology, anthropology, sociology) for public health careers. This concentration uses a multidisciplinary approach to identify community, family, social, and behavioral factors in both the onset of and solution to public health problems through disease prevention, health promotion, or health care. This concentration also prepares students to take the Certified Health Care Education Specialists (CHES) exam. Traditionally, program graduates have assumed positions in public health departments, health and human service agencies, and other health care settings.

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.

Medical Anthropology (MS in Applied Anthropology/MPH in Community Health): 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. The School of Public Health and the Department of Anthropology at the University of North Texas have developed a cooperative agreement that allows students to pursue the MPH and a graduate degree in anthropology. The dual degree program in applied anthropology and public health offers an opportunity to strengthen collaboration in public health, anthropology and social science research and practice. Medical anthropology is a field that uses anthropological theories as a framework to understand public health issues. Its emphasis on social and cultural influences on health, illness and healing are central to the shared goals of improving health and social justice to eliminate local and global disparities. Students interested in this dual degree program must concurrently apply to the School of Public Health and UNT's Toulouse Graduate School. 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.

Department of Public Health Education

The PhD in public health services prepares professionals for research, teaching and service with the overall objective of improving the health of populations. To meet this objective, all students in the program pursue excellence in conducting research and disseminating knowledge. The primary focus is on research that advances knowledge and facilitates discovery regarding etiology, interventions and policies that promote health at the individual, population, societal and/or global levels.

Doctor of Public Health (DrPH): The Doctor of Public Health (DrPH) degree in public health practice is an indication of distinguished scholarly accomplishment in the professional field. The goal of the DrPH program is to provide advanced training in public health leadership for individuals who will serve in a variety of roles within government, private and not-for-profit organizations. The DrPH program requires a minimum of 60 semester credit hours (SCH) and is offered on a full-time or part-time basis.

The DrPH curriculum will serve to integrate the five core areas of public health, emphasizing work experience relevant to this advanced degree and addressing learning methods in the context of public health practice. To develop leadership skills, students will interact and collaborate with senior public health practitioners through a variety of courses and the residency. Program content and learning experiences will address the public health competencies identified by the Association of Schools of Public Health (ASPH).

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

MPH and doctoral applicants are required to complete the SOPHAS online application for schools of public health, which is available on their web site at www.sophas.org. In addition, applicants are required to submit official transcripts of all prior college-level course work, GRE scores from the Educational Testing Service www.ets.org, three letters of evaluation by individuals in a position to comment on the applicant's potential as a student and future professional, resume or curriculum vitae, and any other documentation that may be required to expedite the student's application to SOPHAS. Frequently asked questions are located at sophas.org.

- **Master of Health Administration applicants** can complete the school's online application or an application via SOPHAS.
- **Dual Degree applicants** are required to complete the UNTHSC-SPH Online Application

- **Non-Degree applicants** are required to complete the UNTHSC-SPH Online Application
- Students at the University of North Texas (UNT) requesting enrollment for classes to transfer to UNT for their degree programs should e-mail their request to sph@hsc.unt.edu rather than completing an application.

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. Applicants must file the following official credentials with the Schools of Public Health Online Application Service (SOPHAS).

- application fee;
- complete official transcripts from all colleges and universities attended;
- international applicants with foreign transcripts must also include an official WES or ECE transcript evaluation report listing course by course U.S. grade point equivalencies;
- official scores from all required entrance exams or tests (may include one or more of the following: GRE, GMAT, MCAT, etc.);
- three letters of evaluation by individuals in a position to comment on the applicant's potential as a student and future professional;
- an essay of personal career goals (referencing a desired concentration); and
- a current curriculum vitae or resume.

The University of North Texas Health Science Center at Fort Worth is accredited by the Southern Association of Colleges and Schools Commission on Colleges (1866 Southern Lane, Decatur, GA 30033-4097; telephone number 404-679-4501) to award master's and doctoral degrees.

Courses of instruction

All Courses of Instruction are located in the UNTHSC catalog, or available online at www.hsc.unt.edu.

Courses of Instruction

Course Numbering System

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.

Special Problems Courses (2900, 2910, 4900 and 4910) 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.

Honors College Capstone Thesis (4951) allows a student in the Honors College to complete an honors thesis as a course within the student's major. The Honors College Capstone Thesis is a major research project prepared by the student with the mentorship of a faculty member in the student's major department. An oral defense is required for successful completion of the thesis.

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 the 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.

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 online schedule of classes at www.unt.edu/registrar.

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 (or "other") 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 every term/semester or even every year. Consult the *Schedule of Classes* online (www.unt.edu/registrar) 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:

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.

Prerequisite(s): Consent of college.

Corequisite(s): MUAG 5410.

Same as [MUMH 5420](#).

Explanation of Example:

MUAG is 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. **Prerequisite(s): Consent of college** explains that the consent of the college must be obtained prior to enrolling in MUAG 5420. **Corequisite(s): MUAG 5410** shows that MUAG 5410 must be completed before or while enrolled in MUAG 5420. **Same as MUMH 5420** indicates that MUAG 5420 and MUMH 5420 are cross-listed. Cross-listed courses are the same course, offered under two different prefixes.

Course Descriptions

Accounting

ACCT 5020 - Accumulation and Analysis of Accounting Data

3 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 management; preparation and interpretation of financial reports.

Prerequisite(s): None.

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. May not be taken for credit if ACCT 2010 and ACCT 2020 or the equivalent has been taken and a grade of C or better was earned.

ACCT 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 4300 and ACCT 4400. Acceptance into either the MBA or MS program.

ACCT 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.

ACCT 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, DSCI 5010. MATH 1190 or MATH 1400 or MATH 1710.

For students not seeking a BS or MS with a major in accounting.

ACCT 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 3120, ACCT 3270 or ACCT 5130.

May not be taken for credit if ACCT 4140 or the equivalent has been taken.

ACCT 5150 - The Development of Accounting Theory

3 hours. 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.

ACCT 5160 - 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 4400. Admission to the MS in accounting or MS in taxation program.

ACCT 5180 - Topics in Financial Accounting

3 hours. Seminar in new topics and areas of current interest to students of financial accounting.

Prerequisite(s): Consent of department.

May be repeated for credit.

ACCT 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. 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 ACCT 5130.

ACCT 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 ACCT 5130.

May not be taken for credit if ACCT 4270 or equivalent has been taken.

ACCT 5300 - Federal Taxation of Income

3 hours. Comprehensive introduction to the U.S. federal income tax system. Emphasizes the taxation of individuals but many topics also apply to business entities. Coverage includes technical tax rules and motivations behind these rules, as well as tax planning opportunities and limitations.

Prerequisite(s): ACCT 4400. Graduate standing.

May not be taken for credit if ACCT 4300 or equivalent has been taken for credit.

ACCT 5310 - Tax Research and Administrative Procedure

3 hours. Objectives are to develop the technical and research skills needed to address contemporary tax issues. Students learn to identify tax issues, formulate research questions and develop the research skills needed to address them. Upon completion of this course, students are able to use the major tax services, evaluate the relevant authorities and communicate their findings in a professionally written research memorandum. Familiarizes students with federal tax policies and procedures and the authorities that govern tax practice by tax professionals.

Prerequisite(s): ACCT 5300 or ACCT 4300; ACCT 4400, and acceptance into either the MBA or MS program.

MS-Taxation students should enroll in this course at the first opportunity after beginning their graduate course work.

ACCT 5320 - Taxation of Flow-Through Entities

3 hours. Comprehensive study of federal income taxation of partnerships, S corporations, fiduciaries and their owners/beneficiaries.

Prerequisite(s): ACCT 5310 (may be taken concurrently).

ACCT 5330 - Taxation of C Corporations

3 hours. Comprehensive study of federal income taxation of C corporations and their shareholders. Emphasis placed on reading and interpreting tax laws to determine the tax consequences of completed transactions and generate tax planning strategies.

Prerequisite(s): ACCT 5310 or ACCT 5110 (either may be taken concurrently).

ACCT 5340 - Oil and Gas Taxation

3 hours. Focuses on tax problems relative to the oil and gas industry. Topics may include acquisition, operation and disposition of natural resource properties; preproduction expenditures, depletion, depreciation and ad valorem taxes; tax planning for natural resource investments; or other topics.

Prerequisite(s): ACCT 5300 or ACCT 4300.

ACCT 5360 - Advanced Topics in Federal Taxation

3 hours. Provides the opportunity for thorough coverage of selected topics that vary depending on the needs of students, changes in tax policy and practice, and faculty resources. Topics may include state and local taxation, multinational income taxation, tax policy, advanced topics in the taxation of C corporations, advanced topics in the taxation of flow-through entities, taxation of tax-exempt entities, financial accounting for income taxes, or other topics.

Prerequisite(s): ACCT 5310.

ACCT 5330 must be taken first if the topic includes advanced topics in the taxation of C corporations, and ACCT 5320 must be taken first if the topic includes advanced topics in the taxation of flow-through entities.

ACCT 5370 - Family Tax Planning

3 hours. Comprehensive study of federal estate and gift taxation, as well as advanced family tax planning issues.

Prerequisite(s): ACCT 5310, ACCT 5320 .

ACCT 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.

ACCT 5430 - Auditing — Special Problems

3 hours. 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.

ACCT 5440 - IT Auditing

3 hours. 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 ACCT 4400; or consent of department.

ACCT 5450 - Seminar in Internal Auditing

3 hours. 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 ACCT 4400; or consent of department.

ACCT 5470 - Auditing — Advanced Theory

3 hours. 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.

ACCT 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.

ACCT 5630 - Accounting Systems and Controls

3 hours. 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 ACCT 5130, ACCT 4100; or consent of department.

ACCT 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.

ACCT 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): None.

Students should complete a packet of materials prior to the first day of class. Contact the department for materials.

ACCT 5710 - Oil and Gas Accounting

3 hours. Introduction to the oil and gas industry and the specialized financial accounting procedures associated with the industry. Areas emphasized include accounting for exploration, development, production, depreciation, depletion and amortization; conveyances, joint operations, asset impairment and retirement obligations; and disclosures and reserves. Successful efforts and full cost accounting methods are covered.

Prerequisite(s): ACCT 3120, and ACCT 3270 or ACCT 5130.

ACCT 5760 - Accounting, Business Analysis and Valuation

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 or ACCT 5310, and ACCT 5120.

ACCT 5800 - Internship

1–3 hours. 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 not be taken for academic credit if student has received 3 hours of credit for ACCT 4800. May be counted only as a non-accounting elective and does not count as part of the accounting GPA. May not be used to meet professional field requirements. Pass/no pass only.

ACCT 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. 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 3270 or ACCT 5130.

May not be taken for credit if ACCT 4420 or equivalent has been taken for credit.

ACCT 5900 - Special Problems

3 hours. Topic chosen by the student and developed through conference and activities under the direction of the instructor. Course activities include required regular participation in a specified 4000-level class and additional assignments by the instructor.

Prerequisite(s): Approved applications for special problems/independent research must be submitted to the CoB Graduate Programs Office prior to registration.

A maximum of 3 semester hours of Special Problems may be applied toward a degree. Course credit might not count in fulfilling CPA exam requirements.

ACCT 5910 - 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 conference and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research must be submitted to the CoB Graduate Programs Office prior to registration.

A maximum of 3 semester hours of 5000-level special problems course work may be applied toward the degree. Course can be counted only as an elective or in special circumstances as a required course. Might not count in fulfilling CPA exam requirements. Graded or pass/no pass.

ACCT 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.

ACCT 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.

ACCT 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.

ACCT 6390 - Seminar on Capital Markets-Based Accounting Research

3 hours. Presents a synthesis of capital markets research in accounting. Covers "classic" papers in the major research areas within the field, methodological issues, and emerging issues in financial accounting.

Prerequisite(s): Doctoral status and consent of instructor.

ACCT 6490 - Independent Research Paper I

3–4 hours. Major paper, independently prepared, that presents results of an intensive and critical review of accounting research that focuses on a topic of interest to the student. The paper concludes with an assessment of research opportunities, if any, in the area examined.

Prerequisite(s): Doctoral status and consent of instructor.

ACCT 6590 - Independent Research Paper II

3–4 hours. Major empirical research paper, independently prepared, that presents results of an empirical analysis. Students specializing in archival research conduct an empirical analysis using archival data (i.e., stock prices, accounting numbers, analyst forecasts, management forecasts, etc.). Students specializing in behavioral research conduct a pilot study. The paper includes discussion of the research problem, its importance, and all other aspects of the research design (i.e., assumptions, theory, hypotheses, potentially relevant explanatory variables that need to be controlled for, etc.). Students present their papers to accounting faculty and doctoral students in a research workshop.

Prerequisite(s): Doctoral status and consent of instructor.

ACCT 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 CoB Graduate Programs Office prior to registration.

ACCT 6910 - 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 CoB Graduate Programs Office prior to registration.

ACCT 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 CoB Graduate Programs Office prior to registration.

ACCT 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 CoB Graduate Programs Office prior to registration.

May be repeated for credit.

Anthropology**ANTH 5000 - Seminar in Cultural Anthropology**

3 hours. Survey of anthropological attempts to understand and explain the similarities and differences in culture and human behavior.

Prerequisite(s): None.

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 5000 or 12 hours of anthropology.

For students taking the online version of ANTH 5010, attendance at the orientation for the Department of Anthropology's online master's students is also required.

ANTH 5021 - 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.

ANTH 5031 - 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.

Prerequisite(s): None.

ANTH 5032 - Ethnographic and Qualitative Methods for Non-Majors

3 hours. Designed to teach non-majors the basics of ethnographic and qualitative methods. Students develop the skills necessary to conduct qualitative research through reviewing and applying the relationship of research to theory, research ethics, project design, data collection (observation, interviewing and focus groups), coding, analysis of data through the use of computer software, and presentation of findings.

Prerequisite(s): None.

ANTH 5041 - 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.

Prerequisite(s): None.

ANTH 5050 - Preparation for Practice and the Applied Thesis

3 hours. Emphasis on planning the applied thesis project, professional development, and bringing students into the community of practice of applied/practicing anthropologists. Students learn skills in client development, project design, proposal writing, informational interviews, how to obtain a job, how to succeed in the workplace, and networking.

In addition, students are exposed to contested issues in the field and career trajectories of practitioners. A number of practitioners are invited as guest speakers.

Prerequisite(s): None.

ANTH 5100 - Organizational Anthropology

3 hours. Anthropologists have developed numerous tools for analyzing culture and culture change. Many of these can be put to use in studying business organizations. This course is a look at business organizations from an anthropological point of view. Often an organization's productivity or lack thereof is directly related to the degree to which its strategy and culture mesh. Methods used in anthropology can aid in defining the specific culture of an organization and in providing strategies for change within it. This course explores those anthropological tools that can be useful in increasing productivity in business organizations.

Prerequisite(s): None.

ANTH 5110 - Design Anthropology

3 hours. Fundamentals of the field of design anthropology. Students collaborate on an applied project, practice applied research methods and video ethnography. Students learn to engage in collaborative analysis and work with customers to translate their research into practical applications. In addition to hands-on experience, students conduct readings on topics relevant to the project and to design anthropology in general.

Prerequisite(s): None.

ANTH 5201 - Medical Anthropology

3 hours. Perspectives in contemporary medical anthropology, with a focus on the biocultural basis of health and sociocultural variations in illness and healing (ethnomedicine). Study of comparative health systems, political-economic and ethical issues in health and care, health professions and patients' views of illness.

Prerequisite(s): None.

ANTH 5210 - Anthropology of Public Health

3 hours. Introduction to the contributions of anthropology to public health. Highlights the socio-cultural perspective on the fundamentals of public health, including but not limited to international health, domestic health, epidemiology, infectious disease, child survival, women's and men's health, and health policy.

Prerequisite(s): None.

ANTH 5220 - 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.

Prerequisite(s): None.

Same as AGER 5420.

ANTH 5300 - Migrants and Refugees

3 hours. Focuses on the factors embedded in people's displacement, either through migration or refugee movements. Aims at identifying the cultural processes that promote displacement and those emanating from the consequences of displacement. Emphasizes the human factor encapsulated in the phenomenon of displacement.

Prerequisite(s): None.

ANTH 5400 - Environmental Anthropology

3 hours. Emphasis on theory, major environmental questions, problems, issues, and possible solutions illustrated by case studies from different parts of the world. Examination of environmental issues pertaining to land/sea and natural resources, food production systems, deforestation, population problems, poverty and environmental justice, natural hazards and risks, resource conflicts and warfare, over-fishing, economic development, globalization and transnationalism, mineral and oil extraction, landscapes, biodiversity conservation, the commons, ecofeminism, and valuation of nature. Course goals are to provide a global sample of the literature in environmental anthropology; a survey of concepts, issues, theories, methods and practices in environmental anthropology; and an in-depth acquaintance with a particular topic in environmental anthropology through an individual research project. Prerequisite(s): Consent of instructor.

ANTH 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. Prerequisite(s): None. Same as EDCI 5620.

ANTH 5700 - Topics in Applied Anthropology

3 hours. Applied ethnographic investigation, analysis and discussion of a significant, contemporary topic of interest to students in various graduate programs. Prerequisite(s): None. May be repeated for credit as topics vary.

ANTH 5710 - Symbolic/Cognitive Anthropology

3 hours. Anthropological consideration of symbolism provides a unique view of cultural beliefs and values as stamped in the process of policy making. Attention is given to how symbols are used to give meaning to social life and how symbols define and create belief systems, including traditional anthropological concerns with religion, kinship, politics, economics, business and advertising. Prerequisite(s): None.

ANTH 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 placement is planned in cooperation with the student to meet specialized career goals. Prerequisite(s): ANTH 5010, ANTH 5021, ANTH 5031, ANTH 5041, ANTH 5050.

ANTH 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. 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, ANTH 5021, ANTH 5031, ANTH 5041, ANTH 5050, ANTH 5800.

ANTH 5900 - Special Problems

1–3 hours. Prerequisite(s): None.

ANTH 5910 - Special Problems

1–3 hours. Prerequisite(s): None.

ANTH 5950 - Applied Thesis

3 or 6 hours. To be scheduled with consent of department. 6 hours 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): ANTH 5010, ANTH 5021, ANTH 5031, ANTH 5041, ANTH 5050. May be repeated for credit.

Applied Economics**AECO 5010 - Interdisciplinary Seminar**

1–6 hours. Prerequisite(s): None.

AECO 5050 - Seminar in Contemporary Applied Economic Problems

3 hours. Analysis and discussion of significant contemporary issues in economics and public policy. Prerequisite(s): None. May be repeated for credit.

AECO 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.

AECO 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.

AECO 5900 - Special Problems

1–3 hours. Open to advanced students capable of doing independent research in economic education, and labor and industrial relations under the direction of the instructor. Prerequisite(s): None.

AECO 5910 - Special Problems

1–3 hours. Open to advanced students capable of doing independent research in economic education, and labor and industrial relations under the direction of the instructor. Prerequisite(s): None.

AECO 5920 - Research Problems in Lieu of Thesis

6 hours. 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. Prerequisite(s): None. Required of all Master of Science candidates.

AECO 5930 - Research Problems in Lieu of Thesis

6 hours. 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.

Prerequisite(s): None.

Required of all Master of Science candidates.

AECO 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): None.

May be repeated for credit.

Applied General Music**MUAG 5000 - Choral Techniques**

3 hours. Choral organizations, singing, conducting, performing, repertoire and history. Actual experience in a model a cappella choir.

Prerequisite(s): None.

May be repeated for credit.

MUAG 5210 - Vocal Literature

3 hours. Advanced song literature from all national styles from 1750. Stylistics analysis and historical significance.

Prerequisite(s): MUAG 4210 or equivalent.

Meets with MUAG 4210.

Offered spring semester, odd-numbered years.

MUAG 5215 - Advanced Vocal Diction

2 hours. Advanced Italian, French and German diction. Phonetics and pronunciation.

Prerequisite(s): MUAG 1906, MUAG 1907, MUAG 1909, or consent of instructor.

MUAG 5220 - Advanced Singing-Acting Techniques

1 hour. Working with the techniques of H. Wesley Balk, the course develops singing/acting skills that integrate the full system of each student. An experiential learning course in which the student applies the techniques to his or her individual operatic repertoire or assigned scenes from opera.

Prerequisite(s): Acceptance into the graduate program or artist's certificate. Must have at least three operatic arias in personal repertoire. Highly recommended to be taken before MUAG 5640.

MUAG 5260 - Piano Collaboration (Vocal)

3 hours. Skills and techniques of vocal collaboration through study and performance with soloists of art song and vocal repertoire with orchestral reduction; study of relevant reference works; sight-reading, transposition, coaching and teaching collaborative skills.

Prerequisite(s): Consent of instructor.

MUAG 5261 - Vocal Repertoire Master Class

3 hours. Intensive study and performance of art song with piano and other vocal repertoire with orchestral reduction.

Prerequisite(s): MUAG 5260, MUAM 5503, or consent of instructor.

May be repeated for credit.

MUAG 5270 - Piano Collaboration (Instrumental)

3 hours. Fundamentals of instrumental collaboration; rehearsal techniques; score reading (transposition and clefs); orchestral reductions and thorough bass realization; instrumental repertoire; work with soloists.

Prerequisite(s): Consent of instructor.

MUAG 5271 - Instrumental Repertoire Master Class

3 hours. Intensive study and performance of sonata and other instrumental literature.

Prerequisite(s): MUAG 5270 or consent of instructor.

May be repeated for credit.

MUAG 5275 - Survey of Instrumental Collaborative Literature with Piano

3 hours (2;0;1)

Comprehensive study of standard repertoire for piano (or keyboard) with one other instrument.

Prerequisite(s): None.

MUAG 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 5001, MUTH 5002 and MUTH 5003.

MUAG 5290 - History of Organ Style and Design

2 hours. Survey of national styles of organ building 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).

MUAG 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MUAG 5450 - Introduction to Music and Medicine

3 hours. 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.

MUAG 5550 - Basso Continuo

3 hours (0;0;3)

General knowledge of figured bass and study of basso continuo sources from 1600 to present.

Prerequisite(s): Consent of instructor.

May be repeated for credit.

MUAG 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 MUAG 4270, or equivalent.

Field experience required.

MUAG 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 MUAG 4270, or equivalent.
Field experience required.

MUAG 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.

MUAG 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.

MUAG 5640 - Operatic Acting

1–3 hours. Analysis and preparation of roles, exercises in pantomime, improvisation, visualization and concentration.
Prerequisite(s): None.
May be repeated for credit.

MUAG 5650 - Opera Stage Direction

3 hours. Prerequisite(s): MUAG 5640 or MUEN 3040 (two terms/semesters), and consent of college.
May be repeated for credit.

MUAG 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.
Prerequisite(s): None.
May be repeated for credit as topics vary.

MUAG 5701 - Master's Recital

1 hour. The master's recital is the culmination of study in the performance degree. A public performance is given and evaluated. Specific requirements are provided by each area.
Prerequisite(s): MUAM 5503.
May be repeated for credit as MUAG 5702 in piano and collaborative piano only.

MUAG 5702 - Master's Recital

1 hour. The master's recital is the culmination of study in the performance degree. A public performance is given and evaluated. Specific requirements are provided by each area.
Prerequisite(s): MUAM 5503.
May be repeated for credit as MUAG 5702 in piano and collaborative piano only.

MUAG 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.
May be repeated for credit.

MUAG 5810 - Choral Literature I

3 hours. Music from 1600–1750. Score study, listening, performance practice, technical demands and rehearsal requirements.
Prerequisite(s): None.
May be repeated for credit.

MUAG 5811 - Choral Literature II

3 hours. Music from 1750–1900. Score study, listening, performance practice, technical demands and rehearsal requirements.
Prerequisite(s): None.

MUAG 5812 - Choral Literature III

3 hours. Music from 1900 to the present. Score study, listening, performance practice, technical demands and rehearsal requirements.
Prerequisite(s): None.

MUAG 5815 - Symphonic Literature I

3 hours. Broad spectrum study of major symphonic works by major composers of the 18th, 19th and 20th centuries.
Prerequisite(s): Consent of instructor.

MUAG 5820 - Symphonic Literature II

3 hours. Broad spectrum study of works in the following categories: shorter and minor works by major composers, concerti, choral/orchestral works, solo vocal works for orchestra, opera.
Prerequisite(s): None.
May be repeated for credit as topics vary.

MUAG 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. May be repeated for credit.

MUAG 5851 - Fundamentals of Score Reading

2 hours. Designed for conducting majors. Intense application of score study, interpretation, and analysis utilizing aural skills.
Prerequisite(s): Admittance to graduate major in instrumental or choral conducting.

MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical

3 hours. Comprehensive survey and study of the important wind repertoire for large and smaller instrumental ensembles, from ancient times through the Classical Period. Topics include programming, analysis, interpretation, rehearsal problems and performance style.
Prerequisite(s): None.
May be repeated for credit.

MUAG 5861 - Symphonic Literature of the Wind Band II—French Revolution through Present

3 hours. Comprehensive survey and study of the important wind repertoire for large and smaller instrumental ensembles, from the French Revolution to the present. Topics include programming, analysis, interpretation, rehearsal problems and performance style.
Prerequisite(s): None.

MUAG 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.
Prerequisite(s): None.
May be repeated for credit.

MUAG 5900 - Special Problems

1–3 hours. Prerequisite(s): None.

MUAG 5910 - Special Problems

1–3 hours. Prerequisite(s): None.

MUAG 6260 - Piano Literature

3 hours. Baroque and classical periods; recordings and student performances.

Prerequisite(s): None.

MUAG 6270 - Piano Literature

3 hours. Romantic period to present; recordings and student performances.

Prerequisite(s): None.

MUAG 6280 - Vocal Literature

3 hours. Seminar in song literature from 1500 to 1750 in all national styles, the Lied from 1750 to the present; stylistic analysis and historical significance.

Prerequisite(s): MUAG 5210 or equivalent.

Offered fall semester, odd-numbered years.

MUAG 6290 - Vocal Literature

3 hours. Seminar in song literature from 1750 to present from the French, British, American, and nationalistic repertoire; stylistic analysis and historical significance.

Prerequisite(s): MUAG 5210 or equivalent.

Offered fall semester, even-numbered years.

MUAG 6360 - Instrumental Literature

3 hours. Solo works for the student's major instrument.

Prerequisite(s): None.

MUAG 6370 - Instrumental Literature

3 hours. Chamber and orchestral works for the student's major instrument.

Prerequisite(s): None.

MUAG 6380 - Organ Literature

3 hours. To 1750.

Prerequisite(s): None.

MUAG 6390 - Organ Literature

3 hours. From 1750 to present.

Prerequisite(s): None.

MUAG 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.

MUAG 6840 - Advanced Score Reading

2 hours. Analysis of works of various styles and periods to determine interpretive dimensions, rehearsal and baton techniques.

Prerequisite(s): Consent of instructor.

Restricted course approval required. Contact department.

MUAG 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. Course content varies each term/semester.

Prerequisite(s): Examination and consent of college.

May be repeated for credit.

MUAG 6900 - Special Problems

1–3 hours. Prerequisite(s): None.

MUAG 6910 - Special Problems

1–3 hours. Prerequisite(s): None.

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.

Prerequisite(s): None.

AGER 5250 - Topics in Gerontology

1–3 hours. In-depth analysis and discussion of significant subjects in aging.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AGER 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.

Prerequisite(s): None.

AGER 5350 - Basic Mediation Skills in Aging

3 hours. Utilizes negotiation and mediation principles and techniques to meet 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.

Prerequisite(s): None.

AGER 5400 - Health Delivery Systems

3 hours. 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.

Prerequisite(s): None.

Same as SOCI 5400.

AGER 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.

Prerequisite(s): None.

Same as ANTH 5220.

AGER 5550 - 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.

Prerequisite(s): None.

AGER 5560 - Seminar on Minority Aging

3 hours. 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.

Prerequisite(s): None.

AGER 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.

Prerequisite(s): None.

AGER 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.

Prerequisite(s): None.

Same as SOCI 5700.

May be repeated for credit as topics vary.

AGER 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.

Prerequisite(s): None.

AGER 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.

Prerequisite(s): None.

AGER 5750 - Processes of Aging

1–3 hours. Advanced seminar in social gerontology with emphasis upon psychosocial changes associated with aging.

Prerequisite(s): None.

AGER 5770 - Program Evaluation in Aging Services

3 hours. 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.

Prerequisite(s): None.

AGER 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.

Prerequisite(s): None.

AGER 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.

Prerequisite(s): None.

AGER 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.

Prerequisite(s): None.

AGER 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.

Prerequisite(s): None.

AGER 5840 - Internship in Administration of Programs in Aging

3 hours. Five-hundred-clock-hour practicum in approved agency serving the aged.

Prerequisite(s): None.

Credit awarded only upon completion of internship. Pass/no pass only.

AGER 5850 - Internship in Administration of Programs in Aging

3 hours. Five-hundred-clock-hour practicum in approved agency serving the aged.

Prerequisite(s): None.

Credit awarded only upon completion of internship. Pass/no pass only.

AGER 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.

Prerequisite(s): None.

Same as PSYC 5860.

AGER 5880 - Ethical Issues in an Aging Society

3 hours. 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.

Prerequisite(s): None.

AGER 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. Prerequisite(s): None. Same as PSYC 5890.

AGER 5900 - Special Problems

1–3 hours. Individual study assigned with consent of major professor and instructor. Prerequisite(s): None.

AGER 5910 - Special Problems

1–3 hours. Individual study assigned with consent of major professor and instructor. Prerequisite(s): None.

AGER 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. Prerequisite(s): None.

AGER 5960 - Studies in Aging Institute

1–3 hours. Scheduled regularly for participants in institutes. Prerequisite(s): None. May be repeated for credit. No more than 6 hours allowed for regular students.

AGER 5970 - Studies in Aging Institute

1–3 hours. Scheduled regularly for participants in institutes. Prerequisite(s): None. May be repeated for credit. No more than 6 hours allowed for regular students.

AGER 6150 - Theories of Aging

3 hours. 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 AGER 5700, or equivalent.

AGER 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 instructor.

AGER 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 instructor.

AGER 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.

AGER 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.

AGER 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.

AGER 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. Prerequisite(s): None.

AGER 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 department. Limited-offering basis; may be repeated for credit.

AGER 6900 - Special Problems

1–9 hours. Research by doctoral students in a field of special interest. Includes projects, research studies and intensive reading programs. Prerequisite(s): None.

AGER 6910 - Special Problems

1–9 hours. Research by doctoral students in a field of special interest. Includes projects, research studies and intensive reading programs. Prerequisite(s): None.

AGER 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.

Prerequisite(s): None.

May be repeated for credit.

Applied Technology, Training and Development**ATTD 5010 - Performance Assessment**

3 hours. 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.

Prerequisite(s): None.

ATTD 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.

Prerequisite(s): None.

ATTD 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.

Prerequisite(s): None.

ATTD 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.

Prerequisite(s): None.

ATTD 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.

Prerequisite(s): None.

ATTD 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.

Prerequisite(s): None.

ATTD 5140 - Developing Work-Based Experiences in Career and Technical Education

3 hours. Designed to address all aspects of work-based learning. Basic standards and the development of educational training opportunities are included.

Prerequisite(s): None.

ATTD 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.

ATTD 5320 - Research Seminar in Applied Technology, Training and Development

3 hours. 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.

Prerequisite(s): None.

ATTD 5340 - Research Techniques in Applied Technology and Training

3 hours. 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.

Prerequisite(s): None.

This course should be taken in the last 15 semester hours of the program.

ATTD 5360 - Evaluation Seminar

3 hours. 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.

Prerequisite(s): ATTD 5340.

Scheduled during last resident registration.

ATTD 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.

ATTD 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.

Prerequisite(s): None.

ATTD 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.

Prerequisite(s): None.

ATTD 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.

Prerequisite(s): None.

May be repeated for credit.

ATTD 5900 - Special Problems

1–3 hours. Open to graduate students who are capable of developing a problem independently.

Prerequisite(s): None.

Open only to resident students.

ATTD 5910 - Special Problems

1–3 hours. Open to graduate students who are capable of developing a problem independently.

Prerequisite(s): None.

Open only to resident students.

ATTD 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.

Prerequisite(s): None.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

ATTD 6030 - Practicum, Field Problem or Internship

3 hours. Supervised professional activities in vocational education.

Registration is on an individual basis.

Prerequisite(s): None.

May be repeated for credit.

ATTD 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.

Prerequisite(s): None.

ATTD 6200 - Leadership Development in Applied Technology and Training

3 hours. 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.

Prerequisite(s): None.

ATTD 6210 - Trends and Issues in Applied Technology, Training and Development

3 hours. 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.

Prerequisite(s): None.

ATTD 6450 - Needs Analysis and Curriculum Development

3 hours. Study of learning outcomes, including goals, general objectives and performance objectives. Emphasis on curriculum derivation utilizing a competency-based curriculum system.

Prerequisite(s): None.

ATTD 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.

Prerequisite(s): None.

ATTD 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.

Prerequisite(s): None.

ATTD 6480 - Research Seminar

3 hours. 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.

Prerequisite(s): None.

This course should be taken in the last 15–18 semester hours of the program.

ATTD 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.

Prerequisite(s): None.

ATTD 6910 - 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.

Prerequisite(s): None.

ATTD 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): None.

May be repeated for credit.

Archaeology**ARCH 5260 - Topics in Archaeology**

3 hours. Selected topics of interest and significance in archaeology. Subjects such as historic archaeology, Texas archaeology, New World archaeology, Old World archaeology, and Meso-American archaeology are potential topics offered during different terms/semesters. Course includes the graduate equivalent of ARCH 4620 as well as graduate-only classes. Combined undergraduate/graduate courses have different course requirements for graduate students.

Prerequisite(s): ARCH 2800 or consent of department.

May be repeated for credit as topics vary.

Art**ART 5200 - Contemporary Architecture**

3 hours. Biological, structural and social problems of human shelter; analysis of achievement in contemporary architecture.

Prerequisite(s): None

ART 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.

ART 5700 - Seminar in University Art Teaching

3 hours. Study of problems unique to university art faculty; professional practices in various fields of art teaching.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ART 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 college.

All may be repeated for credit.

ART 5813 - Digital Art Studio

3 hours (2;4)

Topics classes, focusing on new and experimental subject matter in the digital media environment.

Prerequisite(s): None.

ART 5900 - Special Problems

1–3 hours. Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): None.

Not to be registered for except when other graduate courses are not available. Registration permitted only with consent of college. A maximum of 3 semester hours of credit for each course.

ART 5910 - Special Problems

1–3 hours. Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): None.

Not to be registered for except when other graduate courses are not available. Registration permitted only with consent of college. A maximum of 3 semester hours of credit for each course.

ART 5920 - Research Problems in Lieu of Thesis

3 hours. Research dealing with significant problems in the field of art. Student must mount an MFA exhibition as part of course requirements.

Prerequisite(s): None.

Course open to MFA students who are doing a project in lieu of a thesis.

ART 5930 - Research Problems in Lieu of Thesis

3 hours. Research dealing with significant problems in the field of art. Student must mount an MFA exhibition as part of course requirements.

Prerequisite(s): None.

Course open to MFA students who are doing a project in lieu of a thesis.

ART 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 graduate dean. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

ART 6900 - Special Problems

1–3 hours. Conference courses for doctoral students. Directed reading and research in fields of special interest.

Prerequisite(s): None.

ART 6910 - Special Problems

1–3 hours. Conference courses for doctoral students. Directed reading and research in fields of special interest.

Prerequisite(s): None.

ART 6950 - Doctoral Dissertation

3, 6 or 9 hours. To be scheduled only with 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.

Prerequisite(s): None.

May be repeated for credit.

Art Education and Art History**AEAH 5750 - Theory and Practice of Teaching Elementary and Secondary Art**

3 hours. Examines 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 (half in an elementary art classroom, half in a secondary art classroom) of observation at 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 required paperwork/criminal history forms.

AEAH 5753 - Contemporary Trends 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.

Prerequisite(s): Admission to a graduate program in art education or consent of instructor.

AEAH 5757 - History and Philosophy 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.

Prerequisite(s): Admission to a graduate program in art education or consent of instructor.

AEAH 5760 - Seminar in Art Education

3 hours. Selected problems in art education, theory and practice.

Prerequisite(s): Admission to a graduate program in art education or consent of instructor.

May be repeated for credit as topics vary.

AEAH 5763 - Theories in Criticism and Aesthetics

3 hours. Examination of aesthetics in the visual arts through visual discrimination and critical thinking in relationship to the historical and socio-political influences. Application of the theories of aesthetics and criticism to curriculum development.

Prerequisite(s): AEAH 5750 or consent of instructor.

AEAH 5767 - 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 of and manipulation of knowledge and imagery.

Prerequisite(s): AEAH 5750 or consent of instructor.

AEAH 5773 - Curriculum and Assessment in Art Education

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.

Prerequisite(s): None.

AEAH 5777 - Politics and Advocacy I

3 hours. Introduces students to the importance of effective advocacy and political action in relation to the arts with a focus on the local level, e.g., local arts agencies, school boards and city government. Students examine important issues in the arts and arts education worthy of advocacy and political action at this level; review the literature, print and electronic, related to advocacy and political action; and identify exemplary advocacy efforts in the arts and arts education by local groups. Students develop skills in identifying and analyzing issues and public policy in the arts, understanding constituencies with whom advocates must work and developing advocacy plans.
Prerequisite(s): Admission to the graduate program in art education or consent of instructor.

AEAH 5778 - Politics and Advocacy II

3 hours (0;0;3)
Builds on Politics and Advocacy I, continuing to involve students in effective advocacy and political action in relation to the arts with an emphasis on state and federal groups. Students continue to examine important issues in the arts and arts education, especially those with a state or national focus that are worthy of advocacy and political action. Students review the literature, print and electronic, related to advocacy and political action at the state and national levels and identify exemplary advocacy efforts in the arts and arts education by state and national groups. Students develop skills in tracking legislation, identifying and analyzing issues and public policy in the arts, understanding constituencies with whom advocates must work, grant writing, and developing advocacy plans and accompanying tool kits.
Prerequisite(s): AEAH 5777 or consent of instructor.

AEAH 5780 - 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.
Prerequisite(s): Admission to the graduate program in art education or consent of instructor.

AEAH 5787 - Introduction to Research in Art Education

3 hours. Study of research techniques and their applications in the field of art education; preparation of a prospectus.
Prerequisite(s): Admission to the graduate program in art education or consent of instructor.

AEAH 5788 - Advanced Research Methods in Art Education

3 hours. Students conduct an in-depth investigation of a research methodology used by art education and education researchers, including epistemological, methodological, and ethical issues and debates that surround it.
Prerequisite(s): AEAH 5787.
May be repeated for credit as topics vary.

AEAH 5790 - Art Institute

1–3 hours. For students accepted by the university as participants in special institute programs.
Prerequisite(s): None.

AEAH 5799 - MA Project

6 hours. Practice-oriented investigation on a problem in the field of art or museum education, which is acted upon, studied, and relayed in an oral presentation and written formal report.
Prerequisite(s): AEAH 5787. Completion of all other master's degree program courses.
Course open to MA students in art education.

AEAH 5800 - Methodologies of Art History and Visual Culture

3 hours. Examination of methodologies associated with art history and visual culture studies. Taught as a seminar, with emphasis on readings, oral presentations, and written assignments.
Prerequisite(s): Admission to the MA in art history.
Required of MA art history students. May not be repeated.

AEAH 5801 - Topics in Art History

3 hours. Research and study in selected topical areas in art history.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5805 - Seminar in Medieval Art

3 hours. Selected problems in Medieval art.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5806 - Seminar in Renaissance Art

3 hours. Selected problems in Renaissance art.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5807 - Seminar in Seventeenth-Century Art

3 hours. Selected problems in 17th-century art.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5809 - Seminar in Eighteenth-Century Art

3 hours. Selected problems in 18th-century art.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5811 - Seminar in Nineteenth-Century Art

3 hours. Selected problems in 19th-century art.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5813 - Seminar in Twentieth- and Twenty-First-Century Art

3 hours. Selected problems in 20th- and 21st-century art.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5817 - Seminar in American Art

3 hours. Selected problems in American art.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5818 - Seminar in Latin American Art

3 hours. Selected problems in Latin American art.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5819 - Seminar in Native American Art

3 hours. Selected problems in native North American art.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5821 - Seminar in Pre-Columbian Art

3 hours. Arts of the Pre-Columbian cultures of Mesoamerica.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5824 - Seminar in Asian Art

3 hours. Selected problems in the arts of Asia.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5825 - Seminar in Islamic and/or Middle Eastern Cultures

3 hours. Selected problems in the arts of the Islamic and/or Middle Eastern cultures.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5840 - History of Crafts

3 hours. Ceramics, metalwork, weaving and other craft media from the Paleolithic era to the present.
Prerequisite(s): None.

AEAH 5842 - History of Graphic Design

3 hours. Provides economic, political, social and technological perspectives on the work that has been created and disseminated by designers of visual communications, particularly over the course of the last 125 years, in a manner that makes their endeavors relevant to the design world of today and to contemporary society. Students gain an understanding of the major movements, styles and figures in the world of visual communication design that have emerged around the world since the latter portion of the 19th century.
Prerequisite(s): None.

AEAH 5843 - History of Photography

3 hours. Selected problems in the history of photography.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5844 - History of Prints

3 hours. Selected problems in the history of prints.
Prerequisite(s): None.
May be repeated for credit as topics vary.

AEAH 5848 - Seminar in Art History

3 hours. Research and study in selected topical areas of art history.
Prerequisite(s): None.
For art history majors only. May be repeated for credit as topics vary.

AEAH 5849 - Art History Research Project

6 hours. Research and writing on a significant problem in the field of art history.
Prerequisite(s): AEAH 5800. Successful completion of at least 21 hours of master's degree program courses; department language requirement satisfied.
Course open to MA students in art history.

AEAH 5935 - Proseminar in Art Education and Art History

1.5 hours. Study of correspondence in the histories, methodologies, theories and practices of art education and art history, with an emphasis on visiting lecturers, readings, discussion, and individual and collaborative presentations and written assignments. Course topic changes annually.
Prerequisite(s): Admission to the MA in either art education or art history, the doctoral program in art education, or consent of instructor.
May not be repeated.

AEAH 5940 - 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 museums required.
Prerequisite(s): None.

AEAH 5942 - 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): Admission to an art graduate degree and museum certification program, or consent of instructor.

AEAH 5945 - 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): AEAH 5942, or consent of instructor.

AEAH 6700 - Orientation to Graduate Studies in Art Education

3 hours. Orientation to both the research and professional skills necessary for students of art education to proceed through their graduate studies.
Prerequisite(s): None.
Required course for doctoral students in art education.

AEAH 6750 - Issues in Pre-Service Art Education

1–3 hours. Investigation of issues relevant to pre-service education in art at the university level.
Prerequisite(s): Admission to the doctoral program in art education or consent of instructor.

AEAH 6783 - Multimedia: Theory and Practice in the Arts

3 hours. Explores new media in the arts, both in theory and in practice, particularly as it can be used in arts leadership.
Prerequisite(s): Admission to the doctoral program in art education or consent of instructor.

Behavior Analysis**BEHV 5000 - Observation and Measurement of Behavior and Environment**

3 hours. 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.
Prerequisite(s): None.

BEHV 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.
Prerequisite(s): None.

BEHV 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.
Prerequisite(s): None.

BEHV 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.

Prerequisite(s): None.

Corequisite(s): Behavior analysis majors must take BEHV 5810 concurrently with BEHV 5028.

BEHV 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.

Prerequisite(s): BEHV 5028, BEHV 5810. Behavior analysis majors must have received an A in BEHV 5810 and BEHV 5028.

Corequisite(s): Behavior analysis majors must take BEHV 5815 (second practicum) concurrently with BEHV 5029.

BEHV 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.

BEHV 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.

Prerequisite(s): None.

BEHV 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.

Prerequisite(s): None.

The course sequence has been designed to meet minimum course content specified by the Behavior Analysis Certification Board as part of the requirements for certification.

BEHV 5140 - Research Methods in Behavior Analysis

3 hours. 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.

Prerequisite(s): None.

BEHV 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.

Prerequisite(s): None.

BEHV 5170 - Research and Applications in Behavior Analysis

3 hours. 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.

Prerequisite(s): BEHV 5130, BEHV 5150.

The course sequence has been designed to meet minimum course content specified by the Behavior Analysis Certification Board as part of the requirements for certification.

BEHV 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.

Prerequisite(s): None.

BEHV 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.

Prerequisite(s): None.

BEHV 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.

Prerequisite(s): None.

BEHV 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.

Prerequisite(s): None.

BEHV 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.

Prerequisite(s): None.

BEHV 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.

Prerequisite(s): None.

BEHV 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.

Prerequisite(s): BEHV 5810.

May be repeated for credit.

BEHV 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, BEHV 5815.

BEHV 5900 - Special Problems

1–3 hours. 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.

Prerequisite(s): None.

BEHV 5910 - Special Problems

1–3 hours. 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.

Prerequisite(s): None.

BEHV 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.

Prerequisite(s): None.

May be repeated for credit.

BEHV 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.

Prerequisite(s): None.

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 of bilingual 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.

EDBE 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 process; 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.

EDBE 5580 - Curriculum for EC–8 Bilingual Education

3 hours. Study of methods, approaches and materials to teach the core content subjects of English language arts, mathematics, science and social studies in a bilingual classroom. Languages of instruction are Spanish and English. Thirty hours of field experiences in bilingual classrooms are required.

Prerequisite(s): EDBE 5560 or consent of department.

Designed for bilingual, post-baccalaureate teacher certification students.

EDBE 5582 - Curriculum for EC–8 ESL Education

3 hours. Includes the study of subject-specific instructional methods, approaches and materials to teach mathematics, science, English language arts and social studies to EC–8 students for whom English is a second language. Thirty hours of field experiences in ESL classrooms are required for students seeking certification in ESL education.

Prerequisite(s): EDBE 5560.

EDBE 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. Minimum of 10 hours of observation in authentic bilingual classroom.

Prerequisite(s): EDBE 5560.

Placement through departmental Spanish proficiency test.

EDBE 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.

Biochemistry

BIOC 5340 - Biochemistry and Molecular Biology of the Gene

3 hours. Mechanisms and regulation of genetic expression, chromosome replication, mutagenesis and DNA repair, and gene cloning in prokaryotic and eukaryotic systems.

Prerequisite(s): At least one of the following: BIOL 3510/BIOL 3520, BIOL 3451/BIOL 3452, BIOC 3621, BIOC 4540. Meets with BIOC 4570/BIOL 4570.

Same as BIOL 5340.

BIOC 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.

BIOC 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.

BIOC 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.

BIOC 5580 - Molecular Biology and Biotechnology Laboratory

2 hours. Experiments in recombinant DNA techniques, gene regulation and other areas of molecular biology.

Prerequisite(s): BIOC 5340 or BIOL 5340 (may be taken concurrently).

Same as BIOC 4580 and BIOL 5580.

BIOC 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.

BIOC 5900 - Special Problems

1–3 hours. Independent study or laboratory research for the master's level. Problem must be approved by the major professor.

Prerequisite(s): None.

BIOC 5910 - Special Problems

1–3 hours. Independent study or laboratory research for the master's level. Problem must be approved by the major professor.

Prerequisite(s): None.

BIOC 5940 - Seminar in Current Biochemistry

1 hour. Study of current literature; current research emphasized.

Prerequisite(s): None.

May be repeated for credit.

BIOC 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): Approved thesis proposal must be filed with department graduate office prior to enrollment.

May be repeated for credit.

BIOC 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.

Prerequisite(s): None.

May be repeated for credit.

BIOC 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; bio-chemical manipulation and characterization of genetic macromolecules.

Prerequisite(s): BIOL 4570 or BIOL 5340 or equivalent.

Same as BIOL 6600.

BIOC 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/BIOC 5550 or consent of department.

BIOC 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/BIOL 3520 or equivalent, or consent of department.

Same as BIOL 6620.

BIOC 6630 - Protein Structure and Function

3 hours. 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 BIOC 5550.

BIOC 6640 - Biochemical Regulation and Signal Transduction

3 hours. 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 BIOC 5550, or consent of department.

BIOC 6650 - Plant Biochemistry and Biotechnology

3 hours. Contemporary plant biochemistry, with a focus on the major pathways for carbon and nitrogen metabolism and the acquisition of mineral nutrients, is integrated with plant physiology. The biotechnology component focuses on metabolic engineering and secondary metabolites (also called natural products) that help plants cope with their environments and provide compounds that improve quality of life for humans.

Prerequisite(s): Consent of department.

BIOC 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.

BIOC 6900 - Special Problems

1–3 hours. Independent study or laboratory research for doctoral students. Problem must be approved by the major professor.

Prerequisite(s): None.

BIOC 6910 - Special Problems

1–3 hours. Independent study or laboratory research for doctoral students. Problem must be approved by the major professor.

Prerequisite(s): None.

BIOC 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.

Prerequisite(s): None.

BIOC 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.

Prerequisite(s): Approved dissertation research proposal must be filed with department graduate office prior to registration.

May be repeated for credit.

BIOC 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 5003 - Contemporary Topics in Neuroscience

1–3 hours. Contemporary topics in neuroscience and physiology. Topics vary from semester to semester and may include neuro-physiology, computational neuroscience, neurotransmitters, central nervous system trauma.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 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.

Prerequisite(s): None.

BIOL 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 5045 - Teaching Life Sciences

2 hours. Introduces graduate students interested in teaching at the undergraduate level as teaching assistants or teaching fellows, future college professors, science education specialists, etc. to the relationship between learning science and teaching science. Challenges students to bring to teaching the same critical thinking, rigor, creativity and spirit of experimentation that is brought to research. Covers a variety of topics essential to a successful graduate experience and a career in the current world of science.

Prerequisite(s): None.

BIOL 5050 - Foundations of Ecological Theory

3 hours. Background and concepts of ecological theory are reviewed through the survey of both original and current literature.

Prerequisite(s): Statistics and ecology or consent of instructor.

BIOL 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.

BIOL 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.

BIOL 5053 - Subantarctic Biocultural Conservation

3 hours. In-depth study of the relationship between subantarctic ecosystems and cultures of southern South America including geography, climate, ethnography, history and ecology, which exposes students to both the practical and theoretical aspects of biocultural conservation, including its interdisciplinary character integrating the sciences and humanities.

Prerequisite(s): None.

Meets with BIOL 4053/PHIL 4053. Same as PHIL 6780.

BIOL 5054 - Tracing Darwin's Path

3 hours. Annual in-depth field course that explores sub-Antarctic biota, geography, history, cultures and ecosystems of the Cape Horn Biosphere Reserve, integrating ecological science and field environmental ethics approaches to the study and conservation of biocultural diversity.

Prerequisite(s): Consent of instructor. BIOL 5350 or PHIL 6780 recommended.

Same as PHIL 6781.

BIOL 5060 - Electron Microscopy

4 hours (2;6)

Theory and application of scanning and transmission electron microscopy, including sample preparation and analytical techniques.

Prerequisite(s): None.

BIOL 5070 - Insect Biology

4 hours (3;3)

Morphology, physiology, ethology, classification and control of insects and related arthropods.

Prerequisite(s): 6 hours of biology.

BIOL 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.

Prerequisite(s): None.

BIOL 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.

Prerequisite(s): None.

BIOL 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.

BIOL 5120 - Environmental Chemistry

3 hours. Presents a scientific overview of environmental contaminants, their occurrence, sources and impact on humans and the environment.

Prerequisite(s): 8 hours of chemistry.

Meets with BIOL 4120.

BIOL 5130 - Biostatistics I

3 hours. Introduction to statistical methods, experimental design, data presentation and hypothesis testing in biological research. Statistical inference includes tests for normality, skewness, kurtosis, and two-sample data sets for goodness of fit, contingency, means, medians and non-parametric methods. Introduces probability and SAS software.

Prerequisite(s): MATH 1100.

BIOL 5140 - Biostatistics II

3 hours. Continuation of Biostatistics I. Statistical methods and experimental designs in biological research. Coverage of parametric and non-parametric correlation, multi-sample inference tests (ANOVA) including one-way, block, nested and factorial designs; multiple range (comparison) analyses; simple linear, non-linear and multiple regressions; ANCOVA. Introduces multiple variable approaches including discriminate, factor and cluster analysis.

Prerequisite(s): MATH 1100, BIOL 5130.

BIOL 5150 - Pharmacology: The Biological Basis of Drug Action

3 hours. 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.

Prerequisite(s): None.

BIOL 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.

BIOL 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 4570/BIOC 4570, or BIOL 5340, or consent of instructor.

BIOL 5200 - Environmental Health

3 hours. 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.

Prerequisite(s): None.

BIOL 5220 - Neuropsychopharmacology

3 hours. 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.

Prerequisite(s): None.

BIOL 5221 - Experimental Methodologies in Neuropsychopharmacology

1 hour. Critical examination of scientific methodologies in studying the effectiveness of psychotropic medicine in treating mental disorders and other mental conditions. Students discuss and apply the methodologies to test hypotheses and present research findings reviewed in neuropsychopharmacological literature.

Prerequisite(s): BIOL 5220 or consent of instructor.
Meets with BIOL 4221.

BIOL 5250 - Advanced Human Physiology

3 hours. Physiological mechanisms in humans, with emphasis on medical physiology.

Prerequisite(s): None.

BIOL 5260 - Principles of Evolution

3 hours. Genetic, systematic, ecological, historical and geographical concepts of evolution.

Prerequisite(s): Consent of department.

BIOL 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.

BIOL 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.

BIOL 5290 - Marine Biology

3 hours. Covers the basics of marine biology with a global approach, using examples from numerous regions and ecosystems worldwide. Highlights interactions of physical and chemical factors and habitat diversity with the biological components of the world's oceans. Environmental topics such as fisheries, mariculture, pollution and conservation.

Prerequisite(s): 8 hours each of biology and chemistry.
Meets with BIOL 4290.

BIOL 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.

Prerequisite(s): None.

BIOL 5310 - Experimental Design in Biology

3 hours. Optimizing the design of field and laboratory experiments to aid in data analysis. Develops concepts of statistical power, efficiency, and univariate and multivariate tools of use in biological sampling programs.

Prerequisite(s): BIOL 5130 or equivalent or consent of department.
Meets with BIOL 4310.

BIOL 5330 - Developmental Biology

3 hours. Mechanisms of development, differentiation, and growth in animals at the molecular, cellular, and genetic levels. Areas of emphasis include transcriptional control mechanisms, embryonic patterning, cell-cell interactions, growth factors and signal transduction, and

regulatory hierarchies. Includes the roles that environmental factors play in development, the medical applications of our knowledge of development, and the roles that development plays in evolution.

Prerequisite(s): 16 hours of biology or consent of department.
Meets with BIOL 4330.

BIOL 5340 - Biochemistry and Molecular Biology of the Gene

3 hours. Mechanisms and regulation of genetic expression, chromosome replication, mutagenesis and DNA repair, and gene cloning in prokaryotic and eukaryotic systems.

Prerequisite(s): At least one of the following: BIOL 3510/BIOL 3520, BIOL 3451/BIOL 3452, BIOC 3621, BIOC 4540.

Meets with BIOC 4570/BIOL 4570. Same as BIOC 5340.

BIOL 5370 - General Toxicology

3 hours. Introduction to the basic principles of toxicology. Focus on absorption, distribution, metabolism and elimination of toxicants; target organ toxicity; mechanisms of toxic action; carcinogenesis; and risk assessment.

Prerequisite(s): 8 hours each of biology and chemistry.
Meets with BIOL 4370.

BIOL 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.

Prerequisite(s): None.

BIOL 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.

Prerequisite(s): None.

BIOL 5420 - Industrial Microbiology

3 hours. Use of micro-organisms and microbial processes in the pharmaceutical, chemical and food industries.

Prerequisite(s): Biochemistry.

BIOL 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.

BIOL 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, BIOL 3452, BIOL 3510, BIOL 3520.
Molecular biology or biochemistry suggested (may be taken concurrently).

BIOL 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.

BIOL 5490 - Cytology and Cytogenetics

3 hours. Cell structure and function in plants and animals with emphasis on genetic and chromosomal aberrations.

Prerequisite(s): Consent of department.

BIOL 5501 - Bacterial Diversity and Physiology

3 hours. Comparative survey of bacteria. Growth, ecology, metabolism, energy transformations, differentiation and adaptive mechanisms.

Prerequisite(s): None.

BIOL 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).

BIOL 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.

Prerequisite(s): None.

BIOL 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.

BIOL 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.

BIOL 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.

BIOL 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 5340 or BIOC 5340 (may be taken concurrently). Same as BIOC 5580.

BIOL 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.

BIOL 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.

BIOL 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.

BIOL 5701 - Biotechnology and Society

3 hours. Survey of major advances in biotechnology. Emphasis on the development of the technology, underlying biological principles, historical context, current practices and societal implication.

Prerequisite(s): Genetics or biochemistry or consent of department.

BIOL 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.

BIOL 5751 - Neuroscience I: Cells and Circuits

3 hours. Neuroscience research strategies, neurons and glia, synaptic transmission, neurotransmitters, developmental brain anatomy, sensory and motor systems.

Prerequisite(s): 12 hours of biology or consent of department.

Meets with BIOL 4751.

BIOL 5752 - Neuroscience II: Brain and Plasticity

3 hours. Brain basis of motivation, sex, emotion, sleep, mental illness, memory; plasticity in developing and adult brains.

Prerequisite(s): 12 hours of biology or consent of department. BIOL 5751 recommended.

Meets with BIOL 4752.

BIOL 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.

BIOL 5800 - Microbial Genetics

3 hours. Genetic structure, inheritance and gene expression in microorganisms and their viruses.

Prerequisite(s): Consent of department.

BIOL 5810 - Biocomputing

3 hours. Introduction to computational problems inspired by the life sciences and overview of available tools. Methods to compute sequence alignments, regulatory motifs, phylogenetic trees and restriction maps. Prerequisite(s): CSCE 3810 or consent of instructor. Meets with BIOL 4810 and CSCE 4810. Same as CSCE 5810.

BIOL 5820 - Computational Epidemiology

3 hours. Application of computational methods to problems in the fields of public health. Design and implementation of disease outbreak models. Prerequisite(s): None. Meets with BIOL 4820 and CSCE 4820. Same as CSCE 5820.

BIOL 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.

BIOL 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.

BIOL 5860 - Biological Sciences Seminar Series

1 hour. Weekly seminar series covering a broad range of biological research topics. Invited speakers are prominent local, regional or national researchers. Prerequisite(s): None. May be repeated for credit. Pass/no pass only.

BIOL 5880 - Environmental Sciences Seminar Series

1 hour. Weekly seminar series covering a broad range of environmental research topics. Invited speakers are prominent local, regional or national researchers. Prerequisite(s): None. May be repeated for credit. Pass/no pass only.

BIOL 5900 - Special Problems

1–3 hours. Independent study or laboratory research for the master's level. Problem must be approved by the major professor. Prerequisite(s): None. No more than 6 hours can be counted toward a master's degree.

BIOL 5910 - Special Problems

1–3 hours. Independent study or laboratory research for the master's level. Problem must be approved by the major professor. Prerequisite(s): None. No more than 6 hours can be counted toward a master's degree.

BIOL 5920 - Research Problems in Lieu of Thesis

3 hours. Prerequisite(s): None.

BIOL 5930 - Research Problems in Lieu of Thesis

3 hours. Prerequisite(s): None.

BIOL 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): Approved thesis proposal must be filed with department graduate office prior to enrollment. May be repeated for credit.

BIOL 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.

BIOL 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.

BIOL 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.

BIOL 6080 - Current Advances in Pharmacology

3 hours. Covers the latest advances in pharmacology on a rotating basis, with emphasis on neuropharmacology, autonomic pharmacology and biochemical/molecular pharmacology. Prerequisite(s): None. May be repeated up to a total of three times to cover all aspects.

BIOL 6150 - Communication in Scientific Teaching and Research

3 hours. 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. Prerequisite(s): None.

BIOL 6200 - Bioinstrumentation and Analytical Techniques

4 hours (3;0;1)
Current research instrumentation and techniques in biological sciences. Prerequisite(s): Consent of department.

BIOL 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.

BIOL 6320 - Remote Sensing

4 hours (3;3)
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(s): GEOG 5170 is recommended.

BIOL 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.

BIOL 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, CHEM 1430, CHEM 1420, CHEM 1440.

BIOL 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.

Prerequisite(s): None.

BIOL 6400 - Ecological Risk Assessment

3 hours. 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.

BIOL 6460 - Cellular Neuroscience

3 hours. Detailed examination of the nervous system, specifically neuroanatomy, neurophysiology, neurochemistry and sensory transduction.

Prerequisite(s): Consent of department.

BIOL 6480 - Systems Neuroscience

3 hours. 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.

BIOL 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 BIOL 6480 or equivalent is recommended.

BIOL 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 BIOL 6460 or equivalent, and one term/semester of undergraduate biochemistry are recommended.

BIOL 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 macro-molecules.

Prerequisite(s): BIOL 4570 or BIOL 5340 or equivalent.

Same as BIOC 6600.

BIOL 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/BIOL 3520 or equivalent, or consent of department.

Same as BIOC 6620.

BIOL 6810 - Advanced Topics in Computational Life Science

3 hours. Current research topics related to computational life sciences such as bioinformatics, computational epidemiology and population models.

Prerequisite(s): None.

Same as CSCE 6810.

May be repeated for credit as topics vary.

BIOL 6900 - Special Problems

1–3 hours. Independent study or laboratory research for doctoral students. Problem must be approved by major professor.

Prerequisite(s): None.

No more than 6 hours may be counted toward a degree.

BIOL 6910 - Special Problems

1–3 hours. Independent study or laboratory research for doctoral students. Problem must be approved by major professor.

Prerequisite(s): None.

No more than 6 hours may be counted toward a degree.

BIOL 6940 - Individual Research

1–12 hours. Doctoral research of independent nature.

Prerequisite(s): None.

Number of hours counted toward the PhD determined by major professor and graduate advisory committee. Pass/no pass only.

BIOL 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.

Prerequisite(s): Approved dissertation research proposal must be filed with department graduate office prior to registration.

May be repeated for credit.

Business, 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. Includes the use of lectures, case analysis and special topics.

Prerequisite(s): None.

Must be taken in the student's last term/semester of course work.

Restricted to College of Business majors.

BUSI 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 instructor.

BUSI 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.

Prerequisite(s): None.

Corequisite(s): FINA 5170

BUSI 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.

Prerequisite(s): BUSI 5410.

Corequisite(s): ACCT 5130

BUSI 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.

Prerequisite(s): BUSI 5420.

Corequisite(s): BCIS 5120

BUSI 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.

Prerequisite(s): BUSI 5430.

Corequisite(s): DSCI 5180

BUSI 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 CoB Graduate Programs Office prior to registration.

BUSI 5920 - Problems in Lieu of Thesis

3 hours. Prerequisite(s): None.

BUSI 5930 - Problems in Lieu of Thesis

3 hours. Prerequisite(s): None.

BUSI 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.

Prerequisite(s): None.

BUSI 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).

BUSI 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.

BUSI 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, BUSI 6450. BUSI 6240 (may be taken concurrently). 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.

BUSI 6450 - Business Research Methods

3 hours. Designed to introduce doctoral students to the methods and measurements of business research, including scientific method, research design and measurement. Focus on topics that provide doctoral students with a better understanding of theoretical frameworks used in research. Form and structure of explanations, laws and theories used in research are examined and discussed.

Prerequisite(s): DSCI 5180 or equivalent.

BUSI 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.

BUSI 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 CoB Graduate Programs Office prior to registration.

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.
Prerequisite(s): None.

BCIS 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 department.

BCIS 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.

BCIS 5110 - Structure of Programming Languages

3 hours. Introduces graduate students to new approaches in programming business applications. Makes use of visual programming tools such as VB.NET as well as traditional programming tools such as JAVA. Problem-solving techniques and structured programming are covered early and used throughout the course.
Prerequisite(s): BCIS 5090 or equivalent or consent of department.

BCIS 5120 - Information Systems Development

3 hours. 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.

BCIS 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.

BCIS 5420 - Foundations of Database Management Systems

3 hours. 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): Consent of department.

BCIS 5510 - Information Technology Resource Management

3 hours. Investigates the major concepts and techniques using information technology to meet the needs of an organization. Includes skills management, hardware and software portfolio management, outsourcing partnering, return on investment of IT projects, and flexibility in dealing with environmental change.
Prerequisite(s): BCIS 5120 or consent of department.

BCIS 5520 - Information Technology Service Management

3 hours. Provides a standards-based framework to structure IT-related activities and approaches for supporting and delivering IT services; to enhance the interactions of IT technical personnel with business customers and users; and to increase the quality, reliability and flexibility of IT services. Investigates the relationships of ITSM processes (e.g., ITIL, COBIT, COSO) with other business process improvement approaches (e.g., TQM, Six Sigma, Business Process Management, CMMI, SOX), frameworks and methodologies.
Prerequisite(s): BCIS 5120 or consent of department.

BCIS 5600 - Visual Information Technologies

3 hours. 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.

BCIS 5610 - Executive and Decision Support Technologies

3 hours. 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.

BCIS 5620 - Networking and Telecommunications

3 hours. Examines strategic impact on the business organization of the convergence of telecommunications and computer topics. Includes the design and organizational restructuring issues associated with new technologies in telecommunications.
Prerequisite(s): BCIS 5120 or consent of department.

BCIS 5630 - Information Technology Security

3 hours. Examines technical and managerial issues associated with the design, development and deployment of security of client/server and other computer systems. Topics include security and privacy issues associated with architectures, platform connectivity and networks.
Prerequisite(s): BCIS 4630 (or equivalent) or consent of department.

BCIS 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 BCIS 5420, or consent of department.

BCIS 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 5090 or consent of department.

BCIS 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 5090 or consent of department.

BCIS 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.

BCIS 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 or consent of department.

BCIS 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.

BCIS 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.

BCIS 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.

BCIS 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 CoB Graduate Programs Office prior to registration.

BCIS 5910 - 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 CoB Graduate Programs Office prior to registration.

BCIS 6010 - Seminar in Business Administration

3 hours. Covers one or more special fields.
Prerequisite(s): None.
May be repeated for credit. Two or more sections may be taken concurrently.

BCIS 6100 - Seminar in Instructional Practices in Information Systems

1 hour. Study of instructional methods used in information systems and management science. Intended to be a rigorous course that exposes doctoral students in information systems and management science to an array of topics in teaching methodologies. Focuses on those topics that provide doctoral students with practical teaching tips to help them become more effective in the classroom. Different learning styles are addressed, and frameworks, theories and teaching models are presented that help doctoral students continually improve their teaching throughout their career.
Prerequisite(s): Consent of department.

BCIS 6650 - Seminar in General Systems Theory

3 hours. Study of computer information systems in the context of their interaction with the environment in which they operate, including the human decision maker and how the information system is supported or inhibited by the orientation and design of the environment in which it operates.
Prerequisite(s): None.

BCIS 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.

BCIS 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.

BCIS 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 CoB Graduate Programs Office prior to registration.

BCIS 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 fields involved.
Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

BCIS 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 CoB Graduate Programs Office prior to registration.

BCIS 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 CoB Graduate Programs Office prior to registration.
May be repeated for credit.

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.
Prerequisite(s): None.

BLAW 5400 - Law for Accountants and Managers

3 hours. 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.
Prerequisite(s): None.

BLAW 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.
Prerequisite(s): None.
May be repeated for credit as topics vary.

BLAW 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.

BLAW 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.
Prerequisite(s): None.

BLAW 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.
Prerequisite(s): None.

BLAW 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 CoB Graduate Programs Office prior to registration.

Chamber Music**MUCM 5510 - String Chamber Music**

1 hour (0;2)
Prerequisite(s): None.
May be repeated for credit.

MUCM 5520 - Woodwind Chamber Music

1 hour (0;2)
Prerequisite(s): None.
May be repeated for credit.

MUCM 5530 - Brass Chamber Music

1 hour (0;2)
Prerequisite(s): None.
May be repeated for credit.

MUCM 5540 - Percussion Chamber Music

1 hour (0;2)
Prerequisite(s): None.
May be repeated for credit.

MUCM 5550 - Jazz Chamber Music

1 hour (0;2)
Prerequisite(s): None.
May be repeated for credit.

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.
Prerequisite(s): Graduate standing in the chemistry department.
Required for all full-time first-year graduate students.

CHEM 5200 - Physical Chemistry

3 hours. 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.

CHEM 5210 - Advanced Physical Chemistry

3 hours. 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.

CHEM 5380 - Organic Chemistry

3 hours. 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.

CHEM 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.

CHEM 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.

Prerequisite(s): None.

Credit: 1 semester hour per module. May be repeated for credit as topics vary. Laboratory fee when laboratory involved.

CHEM 5460 - Surveys of Modern Analytical Chemistry

3 hours. 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.

CHEM 5500 - Physical Organic Chemistry

3 hours. Mechanisms of organic reactions and the effect of reactant structures on reactivity.

Prerequisite(s): Pass exemption examination in organic chemistry, or CHEM 5380.

CHEM 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.

CHEM 5560 - Inorganic Chemistry

3 hours. 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.

CHEM 5570 - Advanced Analytical Chemistry

3 hours. 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.

CHEM 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.

CHEM 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.

CHEM 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.

CHEM 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.

CHEM 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.

CHEM 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.

CHEM 5710 - Advanced Inorganic Chemistry

3 hours. 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.

CHEM 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.

CHEM 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.

CHEM 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.

Prerequisite(s): None.

CHEM 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.

Prerequisite(s): None.

CHEM 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.

Prerequisite(s): None.

CHEM 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.

Prerequisite(s): None.

CHEM 5910 - 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.

Prerequisite(s): None.

CHEM 5920 - Research Problems in Lieu of Thesis

3 hours. 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.

Prerequisite(s): None.

CHEM 5930 - Research Problems in Lieu of Thesis

3 hours. 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.

Prerequisite(s): None.

CHEM 5940 - Seminar in Current Chemistry

1 hour. Colloquia covering current topics in chemistry.

Prerequisite(s): Senior standing.

Required of all full-time graduate students in each term/semester of graduate residence. May be repeated for credit. Pass/no pass only.

CHEM 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): None.

May be repeated for credit.

CHEM 5960 - Science Institute

1–6 hours. Courses for students accepted by the university for enrollment in special institute courses.

Prerequisite(s): None.

May be repeated for credit, not to exceed a total of 6 hours in each course.

CHEM 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.

Prerequisite(s): None.

May be repeated for credit. Six credit hours required.

CHEM 6900 - Special Problems

1–3 hours. 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.

Prerequisite(s): None.

CHEM 6910 - Special Problems

1–3 hours. 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.

Prerequisite(s): None.

CHEM 6940 - Individual Research

1–12 hours. Doctoral research of independent nature.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

CHEM 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): None.

May be repeated for credit.

CHEM 6990 - Individual Research

1–3 hours. 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.

CHEM 6991 - Individual Research

1–3 hours. 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.

Communication Studies

COMM 5080 - Introduction to Graduate Study and Research in Communication Studies

3 hours. Broad perspective on communication studies content areas.
Prerequisite(s): None.

COMM 5085 - Pedagogy and Communication

3 hours. Study of pedagogy and communication. Examines philosophical, theoretical and practical issues faced by university instructors.
Prerequisite(s): None.

COMM 5180 - Qualitative Research Methods in Communication

3 hours. Qualitative research methodologies for communication studies research.
Prerequisite(s): None.

COMM 5185 - Quantitative Research Methods in Communication

3 hours. Experimental and quantitative techniques usable in research in communication.
Prerequisite(s): None.

COMM 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.
Prerequisite(s): None.

COMM 5221 - Crisis and Disaster Communication

3 hours. Theoretical and practical examination of communication during crises and/or disasters. The role of communication in crisis/disaster planning, real-time crisis response, and post-crisis recovery and sensemaking.
Prerequisite(s): None.

COMM 5223 - Communication and Aging

3 hours. Examination of the role of communication in the aging process. Theories related to communication and aging are explored in a variety of contexts including intergenerational interactions, interpersonal relationships, family relationships, health care interactions, the workplace, mass media, political communication and cultural contexts.
Prerequisite(s): None.

COMM 5225 - Interpersonal Communication

3 hours. Contemporary research and theory in the study of communication patterns found at various stages of normal interpersonal interactions.
Prerequisite(s): None.

COMM 5226 - Seminar in Health Communication

3 hours. Introduction of communication theories and approaches related to health care in interpersonal, organizational and mass communication settings.
Prerequisite(s): None.

COMM 5227 - Seminar in Intercultural Communication

3 hours. Provides an opportunity to explore existing and emerging issues, theories and practices in intercultural communication.
Prerequisite(s): None.

COMM 5240 - Rhetoric and Mediated Culture

3 hours. Rhetorical consequences of mediated discourse on American culture. May include critical and cultural approaches for theorizing the rhetorical creation and maintenance of political identity, social movements, campaign or war rhetoric, theories of mediated persuasion and political influence, ideological and feminist criticism of media, the rhetorical aspects of popular culture, and theories of aesthetic rhetorics.
Prerequisite(s): None.

COMM 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.
Prerequisite(s): None.

COMM 5265 - Performance Methods

3 hours. Survey of 20th- and 21st-century performance methods. Examination of performance methods as critical discourses and how they impact teaching, performance and the means of writing about performance.
Prerequisite(s): None.

COMM 5325 - Communication Theory

3 hours. Survey of scientific and humanistic perspectives on the communication process and social contexts in which it occurs.
Prerequisite(s): None.

COMM 5340 - Rhetorical Methods

3 hours. Use of critical and rhetorical theories in the investigation and evaluation of rhetorical acts and artifacts.
Prerequisite(s): None.

COMM 5345 - Rhetorical Theory

3 hours. Examination of significant rhetorical theories and theorists.
Prerequisite(s): None.

COMM 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.
Prerequisite(s): None.

COMM 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.
Prerequisite(s): None.

COMM 5420 - Seminar in Computer-Mediated Communication

3 hours. Examination of communication in technologically mediated environments through principles derived from cognitive and social psychology. Emphasis on theory and research in computer-mediated communication with special emphasis on CMC as an area leading to original research.
Prerequisite(s): None.

COMM 5440 - Public Address Studies

3 hours. Research and theory in the critical interpretation and assessment of public discourse.
Prerequisite(s): None.

COMM 5445 - Feminist Criticism

3 hours. Examination of research and theories of feminist criticism in communication studies focusing on themes, traditions and touchstones of gender communication from a critical perspective.

Prerequisite(s): None.

COMM 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.

Prerequisite(s): None.

COMM 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.

Prerequisite(s): None.

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.

COMM 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.

COMM 5485 - Topics in Gender and Communication

3 hours. Examination of research and theory in gender and communication, investigating how communication structures gender and how gender affects communication.

Prerequisite(s): None.

May be repeated once for credit as topic varies; course may be taken for 3 hours credit as Critical/Cultural Approaches to Gender and for 3 hours credit as Social Scientific Approaches to Gender.

COMM 5540 - Freedom of Expression

3 hours. Theories, statutes and cases involving the First Amendment guarantee of freedom of speech.

Prerequisite(s): None.

COMM 5545 - Race and Public Culture

3 hours. Studies the functionality of race in public culture. Introduction to core theoretical concepts related to critical race studies. An examination of case studies related to race, racialization and racism in public discourse in the United States.

Prerequisite(s): None.

COMM 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.

Prerequisite(s): None.

COMM 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.

Prerequisite(s): None.

COMM 5640 - Classical Rhetoric

3 hours. Study of classical rhetorical texts, authors and concepts. Emphasis on philosophical, theoretical and pedagogical principles as the foundation for Western thought and education.

Prerequisite(s): None.

COMM 5740 - Visual Rhetoric

3 hours. Study of the effect and effectiveness of images in a number of contexts. An introduction to studies on visual culture, which includes topics such as iconography, memory studies, photojournalism and democracy, desire and the image, archiving, body politics, and spectatorship and the politics of viewing.

Prerequisite(s): None.

COMM 5820 - Seminar in Communication Processes

3 hours. Contemporary research and theory in communication processes. Rotating topics.

Prerequisite(s): None.

May be repeated for credit as topics vary.

COMM 5840 - Seminar in Rhetorical Studies

3 hours. Contemporary research and theory in oral rhetorical studies. Rotating topics.

Prerequisite(s): None.

May be repeated for credit as topics vary.

COMM 5860 - Seminar in Performance Studies

3 hours. Contemporary research and theory in performance studies. Rotating topics.

Prerequisite(s): None.

May be repeated for credit as topics vary.

COMM 5880 - Seminar in Communication Studies and Research

3 hours. Rotating topics.

Prerequisite(s): None.

May be repeated for credit as topics vary.

COMM 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 department director.

Prerequisite(s): None.

COMM 5910 - 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 department director.

Prerequisite(s): None.

COMM 5920 - Research Problems in Lieu of a Thesis

3 hours. Prerequisite(s): None.

COMM 5930 - Research Problems in Lieu of a Thesis

3 hours. Prerequisite(s): None.

COMM 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): None.

May be repeated for credit.

Community Service

COMS 5100 - Social Evolution of Contemporary Volunteerism

3 hours. 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.

Prerequisite(s): None.

Students who have received credit for COMS 4100 may not take COMS 5100 for credit toward a degree.

COMS 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.

Prerequisite(s): None.

COMS 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.

Prerequisite(s): None.

Students who have received credit for this course at the undergraduate level may not retake it for graduate credit.

COMS 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.

Prerequisite(s): None.

Students who have received credit for this course at the undergraduate level may not retake it for graduate credit.

COMS 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.

Prerequisite(s): None.

COMS 5600 - Volunteer Program Planning and Evaluation

3 hours. Seminar designed to provide students with the basic skills necessary to systematically design and plan volunteer programs and to evaluate their effectiveness. Special emphasis is given to measuring program outcomes.

Prerequisite(s): None.

Students who have received credit for this course at the undergraduate level may not retake it for graduate credit.

COMS 5610 - Topics in Volunteer Management

3 hours. Graduate seminar devoted to the investigation, analysis and discussion of issues in contemporary volunteerism.

Prerequisite(s): None.

COMS 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 are 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.

COMS 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.

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.

Prerequisite(s): None.

CECS 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): None.

CECS 5030 - Foundations of Learning Technologies

3 hours. Describes and demonstrates the technologies and theories of learning technologies. Ideologies, principles and philosophies behind learning technologies are examined as students explore a variety of technology tools.

Prerequisite(s): None.

CECS 5100 - Advanced Web and Media Development

3 hours. Study of advanced web and media development. Focuses on the concepts and skills required to develop advanced interactive web and media products. Topics include programming/scripting, database interaction, dynamic content and interface design. Language/systems used may vary.

Prerequisite(s): CECS 5030.

CECS 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 5030.

CECS 5111 - Introduction to Video Technology

3 hours. Basic skills in the production of audio and video materials for multi-media 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 5030.

CECS 5120 - Authoring Learning Games, Sims and Virtual Environments

3 hours. Study and use of authoring systems for the creation of instructional systems that integrate presentation of materials with the monitoring of student performance. Focuses on the use of current tools to develop representative systems. The instructor chooses the environment to be used during the course.

Prerequisite(s): CECS 5030.

CECS 5130 - Instructional Software Development

3 hours. Examines the theories and principles of instructional software development. Student demonstrates theories and principles through project-based activities. Students develop an instructional software project.

Prerequisite(s): CECS 5030, CECS 5100, CECS 5420, or equivalent.

CECS 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.

Prerequisite(s): None.

CECS 5210 - Instructional Systems Design I

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.

Prerequisite(s): None.

CECS 5211 - Instructional Systems Design II

3 hours. Advanced study and application of instructional design principles and models for real world settings. Covers the development of instruction ranging from face-to-face training to digital and online learning technology systems. Builds upon theory and research studied in Instructional Systems Design. Also covered is group management of instructional design processes.

Prerequisite(s): CECS 5210.

CECS 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.

Prerequisite(s): None.

CECS 5300 - Learning and Cognition

3 hours. 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. Students are also exposed to the wide array of instructional theories that shape modern instructional design.

Prerequisite(s): None.

CECS 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.

CECS 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.

Prerequisite(s): CECS 5030.

CECS 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.

CECS 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.

Prerequisite(s): None.

CECS 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.

Prerequisite(s): None.

CECS 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.

CECS 5510 - Technology-Based Learning Environments

3 hours. Focuses on the process of design, implementation and evaluation of the content and context of teaching and learning in technology-based learning environments. Covers an array of technology-based learning environments that may include web-based learning management systems, 3D immersive environments and others.

Prerequisite(s): CECS 5030.

CECS 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.

Prerequisite(s): CECS 5030.

CECS 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.

Prerequisite(s): Consent of department.

CECS majors must take this course during the last 6 hours.

CECS 5600 - Technology Applications Assessment

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, CECS 5030, CECS 5100, CECS 5111.

CECS 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.

CECS 5800 - Studies in 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.

Prerequisite(s): Consent of department.

Limited-offering basis; may be repeated for credit.

CECS 5810 - Studies in 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.

Prerequisite(s): Consent of department.

Limited-offering basis; may be repeated for credit.

CECS 5900 - Special Problems

1–3 hours. Independent study and research.

Prerequisite(s): Consent of department and instructor.

May be repeated for credit.

CECS 5910 - Special Problems

1–3 hours. Independent study and research.

Prerequisite(s): Consent of department and instructor.

May be repeated for credit.

CECS 5960 - Education Institute

1–6 hours. For students accepted as participants in special institute courses.

Prerequisite(s): Consent of department.

CECS 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.

Prerequisite(s): None.

CECS 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.

Prerequisite(s): None.

CECS 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.

CECS 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.

CECS 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.

CECS 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): None.

CECS 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, CECS 5210.

CECS 6210 - Theory of Design of Interactive Multimedia Systems

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): CSCE 5420, or equivalent course.

CECS 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.

CECS 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, CECS 5260, CECS 5420 or equivalent technical production expertise.

CECS 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.

CECS 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, CECS 6210.

CECS 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.

Prerequisite(s): None.

CECS 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): EPSY 6010, EPSY 6020 and EPSY 6300 strongly encouraged, or other relevant research experience as approved by the faculty.

CECS 6511 - Introduction to Research in Learning Technologies

3 hours. Introduction to research in the field of learning technologies. Students survey introductory research and analysis in these fields of study.

Prerequisite(s): None.

CECS 6512 - Analysis of Qualitative Research in Learning Technologies

3 hours. Analysis of qualitative research in learning technologies as a tool for understanding the unique characteristics of technology and information based research activities in the fields. Special consideration given to research approaches that examine learning technologies. Students identify potential dissertation research topics and prepare preliminary reports that are critiqued in class in preparation for creating the dissertation.

Prerequisite(s): CECS 6510.

CECS 6514 - Seminar on Advanced Research Topics in Learning Technologies and Information Sciences

3 hours. Students examine and analyze advanced research topics in learning technologies. The range of research analysis topic(s) to be covered is determined by the instructor.

Prerequisite(s): CECS 6510.

May be repeated for credit as topics vary.

CECS 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.

Prerequisite(s): None.

CECS 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.

CECS 6900 - Special Problems

3 hours. 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.

Prerequisite(s): None.

May be repeated for credit.

CECS 6910 - Special Problems

3 hours. 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.

Prerequisite(s): None.

May be repeated for credit.

CECS 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): None.

May be repeated for credit.

Computer Science and Engineering**CSCE 5011 - Introduction to Computer Applications**

2 hours (2;0;1)

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.

Prerequisite(s): None.

Introduction to programming may not count toward a major in computer science.

CSCE 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.

CSCE 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.

CSCE 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.

Prerequisite(s): None.

Required of all full-time graduate students in their first fall term/semester of graduate study. Pass/no pass only.

CSCE 5050 - Introduction to Cryptography

3 hours. Educates graduate students about the fundamentals of cryptography. Cryptography is the fundamental building block of any computer security solution. Introduces various cryptographic algorithms and their applications. Enables students to apply these cryptographic algorithms to design better security solutions.

Prerequisite(s): CSCE 2050 and MATH 1780 or consent of the instructor.

CSCE 5100 - 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.

CSCE 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.

CSCE 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 CSCE 5150.

CSCE 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 CSCE 4110 or equivalent, or consent of instructor.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 5216 - Pattern Recognition

3 hours. Study of the fundamentals of pattern recognition techniques including Bayesian decision and estimation, non-parametric methods, multi-class classifiers and feature selection methods.

Prerequisite(s): CSCE 3110 or equivalent.

CSCE 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. One term/semester of linear algebra.

CSCE 5225 - Digital Image Processing

3 hours. Study of the fundamentals of digital image processing techniques, including image formation, filtering and image enhancement, restoration, region and edge segmentation, and image coding.

Prerequisite(s): CSCE 3110 or equivalent.

CSCE 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.

CSCE 5250 - Introduction to Game Programming

3 hours. 2D game programming techniques, including real-time, event-driven and multimedia programming. Graphics, sound and input programming.

Prerequisite(s): CSCE 3110 or equivalent, or consent of instructor.

CSCE 5260 - 3D Game Programming

3 hours. 3D programming techniques, including real-time 3D graphics programming, shaders, terrain rendering, level of detail, collision detection, particle engines, 3D sound and character animation.

Prerequisite(s): CSCE 5250, or CSCE 4210 or equivalent, or consent of department.

CSCE 5265 - Advanced Topics in Game Development

3 hours. Advanced topics in game development from various areas of computer science, including but not limited to graphics, networking, and software development. Readings and discussion of articles from the recent academic and technical literature on game development and

related material from relevant computer science areas.

Prerequisite(s): CSCE 5260 or CSCE 4220.

May be repeated for credit as topics vary.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 5370 - Distributed and Parallel Database Systems

3 hours. Consists of two parts: distributed database systems and parallel database systems. Provides fundamental and advanced concepts and techniques of these systems which have become important issues not only in academia, but also in industries for the study and development of large scale database systems. Prepares students for research in the area of database systems. In addition to lectures which provide a broad base for understanding strategic concepts and technologies, each student performs a study on specific topics of his or her choice.

Prerequisite(s): CSCE 4350 or equivalent.

CSCE 5380 - Data Mining

3 hours. Introduction to data mining which includes main data mining tasks, e.g. classification, clustering, association rules, and outlier detection, and some of the latest developments, e.g. mining spatial data and web data.

Prerequisite(s): CSCE 4350 or equivalent.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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, CSCE 5610.

CSCE 5610 - Computer System Architecture

3 hours. 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, CSCE 3600.

CSCE 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, CSCE 3610.

CSCE 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.

CSCE 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.

CSCE 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, CSCE 3730.

CSCE 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.

CSCE 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.

CSCE 5810 - Biocomputing

3 hours. Introduction to computational problems inspired by the life sciences and overview of available tools. Methods to compute sequence alignments, regulatory motifs, phylogenetic trees and restriction maps.
Prerequisite(s): None.
Same as BIOL 5810. Meets with CSCE 4810.

CSCE 5820 - Computational Epidemiology

3 hours. Application of computational methods to problems in the field of public health. Design and implementation of disease outbreak models.
Prerequisite(s): None.
Same as BIOL 5820. Same as GEOG 5960. Meets with CSCE 4820.

CSCE 5900 - Special Problems

1–3 hours. 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.

CSCE 5910 - Special Problems

1–3 hours. 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.

CSCE 5920 - Research Problem in Lieu of Thesis

2–4 hours. 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.

CSCE 5930 - Research Problem in Lieu of Thesis

2–4 hours. 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.

CSCE 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.

CSCE 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.

CSCE 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 CSCE 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.

CSCE 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): None.

May be repeated for credit.

CSCE 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 CSCE 5160.

CSCE 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.

CSCE 6213 - Advanced Modeling and Simulation

3 hours. Current research issues in both simulation methodology and applications are discussed. Distributed simulation, simulation support tools, object-oriented simulation, and artificial intelligence and simulation.

Prerequisite(s): CSCE 5213 or consent of department.

CSCE 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.

CSCE 6230 - Advanced Scientific Computing

3 hours. Numerical computation, graphics and mathematical software.

Prerequisite(s): Consent of department.

CSCE 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.

CSCE 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.

CSCE 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 3D 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.

CSCE 6350 - Advanced Topics in Database Systems

3 hours. Topics in database theory and application. Data models, distributed databases, spatial databases, spatio-temporal databases, statistical databases, database machines, knowledge bases, database design theory and self-documenting databases.

Prerequisite(s): None.

May be repeated for credit as topics vary.

CSCE 6370 - Multimedia Database Systems

3 hours. Deals with issues in multimedia (audio, images and video); multimedia compression; multimedia operating systems; multimedia communications; multimedia indexing, querying and retrieving; and web database systems, which have experienced growth recently, and play important roles in the areas of business, entertainment, medicine and education. The goal of this course is to give in-depth understandings to media themselves with emphases on other issues related to DBMS, operating systems and communications.

Prerequisite(s): CSCE 4350 or equivalent.

CSCE 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 and engineering; human performance engineering; and software configuration management and control.

Prerequisite(s): CSCE 5420 or consent of department.

CSCE 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.

CSCE 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.

CSCE 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.

CSCE 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.
Prerequisite(s): CSCE 5510 or CSCE 5520.
May be repeated for credit.

CSCE 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.

CSCE 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.

CSCE 6640 - Advanced Operating Systems

3 hours. Current research issues and advanced topics involving both the principles and pragmatics of operating systems specification, design and implementation.
Prerequisite(s): CSCE 5640 or consent of department.

CSCE 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.

CSCE 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.

CSCE 6730 - 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.

CSCE 6810 - Advanced Topics in Computational Life Science

3 hours. Current research topics related to computational life sciences such as bioinformatics, computational epidemiology and population models.
Prerequisite(s): None.
Same as BIOL 6810.
May be repeated for credit as topics vary.

CSCE 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.

CSCE 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.

CSCE 6940 - Individual Research

1–6 hours. To be scheduled by the doctoral candidate engaged in research.
Prerequisite(s): None.
May be repeated for credit.

CSCE 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): None.
May be repeated for credit.

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, COUN 5740 and COUN 5690 or consent of instructor. COUN 5690 may be taken concurrently.

COUN 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 COUN 5710, or consent of department.

COUN 5290 - Ethical, Legal and Professional Issues in Clinical Mental Health Counseling

3 hours. History and philosophy of counseling and clinical mental health counseling and ethical, legal, professional, and emerging issues specific to clinical mental health counseling.
Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.
COUN 5680 and COUN 5710 may be taken concurrently.

COUN 5300 - Systems, Leadership and Program Development in Clinical Mental Health Counseling

3 hours. Principles and practices of counseling in clinical mental health settings with special attention to counselor functions, services, leadership, program development, and program evaluation.
Prerequisite(s): COUN 5290, COUN 5680 and COUN 5710, or consent of department.

COUN 5400 - Planning and Organizing Comprehensive Career Programs

3 hours. 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.
Prerequisite(s): None.

COUN 5410 - History and Current Trends in Comprehensive Career Counseling Programs

3 hours. 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, COUN 5710.

COUN 5420 - Vocational Student Identification, Placement and Follow-up

3 hours. 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.
Prerequisite(s): None.

COUN 5460 - Program Development, Leadership and Ethics in School Counseling

3 hours. Introduction to the school counseling profession. Covers ethical standards, leadership and advocacy strategies, and development and management of the comprehensive developmental guidance program.
Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.
COUN 5680 and COUN 5710 may be taken concurrently.

COUN 5470 - Career Development and Information Resources

3 hours. Survey of career development and counseling with emphasis on the occupational, career and educational information service.
Prerequisite(s): None.

COUN 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.
Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.

COUN 5490 - Crisis Intervention Counseling

3 hours. In-depth study of crisis theory, crisis intervention models, and practical skills for effective crisis intervention. Attention to crises related to suicide, violence, victimization, psychiatric illness, chemical dependency, individual or family-level trauma, and community-wide disasters. Emphasis on the counselor's development of crisis assessment, management, and short-term intervention skills.
Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.

COUN 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.

COUN 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.

COUN 5550 - Biofeedback and Relaxation Therapy

3 hours. Introduction to the use of biofeedback technology for the control of psychophysiological functions. Covers 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 COUN 5710, or consent of instructor.

COUN 5560 - Practicum in Biofeedback

3 hours. Experiential training and practice utilizing biofeedback interventions and instrumentation in counseling. Requires personal experience in using therapeutic biofeedback methods for self and others.
Prerequisite(s): COUN 5550 or consent of instructor.

COUN 5561 - Advanced Practicum in Biofeedback

3 hours. Experiential training and practice utilizing biofeedback and neurofeedback interventions and instrumentation in counseling settings. Requires personal experience in using therapeutic biofeedback and neurofeedback methods for self and others.
Prerequisite(s): COUN 5550, COUN 5560 or consent of instructor.
Offered once per year.

COUN 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.
Prerequisite(s): None.

COUN 5580 - Family Counseling

3 hours. Application of family systems theory to the study of family dynamics, family development and the resolution of family conflicts. Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.

COUN 5590 - Couple Counseling

3 hours. Application of relationship counseling theory to the study of individual development, interpersonal relationships, marital systems and conflict resolution. Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.

COUN 5600 - Counseling in Secondary Schools

3 hours. Principles and practices of individual counseling, group counseling, guidance and consultation in the secondary school as part of the overall comprehensive developmental guidance program. Prerequisite(s): COUN 5460.

COUN 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, COUN 5710.

COUN 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, COUN 5710 .

COUN 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, COUN 5710 .

COUN 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 5690, COUN 5700 and COUN 5740 or consent of instructor. COUN 5690 may be taken concurrently.

COUN 5660 - Advanced Counseling Skills

3 hours. 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 5680 and COUN 5710 and 12 additional hours in counseling, or consent of department.

COUN 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. Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.

COUN 5680 - Basic Counseling Skills

3 hours. Study of selected basic techniques of counseling. Prerequisite(s): None. Course should be taken concurrently with COUN 5710.

COUN 5690 - Practicum in Counseling

3 hours. Provides actual counseling experience with a variety of clients and problems. Requires a minimum of 100 total hours in counseling-related activities including a minimum of 40 direct client contact hours. Prerequisite(s): All required degree courses in counseling program except second specialty track course (COUN 5300, COUN 5600, COUN 5770, COUN 5780); COUN 5720 and COUN 5721. COUN 5740 may be taken concurrently. With the exception of COUN 5700, students may take an elective concurrently.

COUN 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): EPSY 5123 or COUN 5670, COUN 5680 and COUN 5710, or consent of instructor.

COUN 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. Prerequisite(s): None. Course should be taken concurrently with COUN 5680.

COUN 5720 - Internship in Counseling I

3–5 hours. Supervised experience in counseling in schools, colleges or agencies. Requires a minimum of 300 total hours in counseling-related activities including a minimum of 120 direct client contact hours. Prerequisite(s): COUN 5690.

COUN 5721 - Internship in Counseling II

3–5 hours. Supervised experience in counseling in schools, colleges or agencies. Requires a minimum of 300 total hours in counseling-related activities including a minimum of 120 direct client contact hours. Prerequisite(s): COUN 5720.

COUN 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 COUN 5710, or consent of department.

COUN 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 5660 or consent of department.

COUN 5750 - Professional Orientation, Ethics and College Student Development Theories

3 hours. History and philosophy of professional counseling and ethical, legal, professional and emerging issues specific to student affairs and college counseling. Study of student development theory as it relates to students in higher education and student affairs practice. Prerequisite(s): COUN 5680 and COUN 5710 or consent of department. COUN 5680 and COUN 5710 may be taken concurrently.

COUN 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 COUN 5710, or consent of department.

COUN 5770 - Counseling in the Elementary School

3 hours. Principles and practice of individual counseling, group counseling, guidance, and consultation in the elementary school as part of the overall comprehensive developmental guidance program.

Prerequisite(s): COUN 5460.

COUN 5780 - The Student in Higher Education

3 hours. 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.

COUN 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 COUN 5710, or consent of department.

COUN 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.

Prerequisite(s): None.

COUN 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.

Prerequisite(s): None.

May be repeated for credit.

COUN 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 department chair.

Prerequisite(s): None.

COUN 5910 - 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 department chair.

Prerequisite(s): None.

COUN 5930 - Research Problems in Lieu of Thesis

3 hours. Research dealing with significant problems in the field of counseling.

Prerequisite(s): None.

COUN 6033 - Advanced Teaching Internship in Counselor Education

3 hours. Internship experience designed to give doctoral students the opportunity to gain advanced professional experiences specific to students' career goals. Students gain experience teaching a counseling class under the direct supervision of counseling program faculty.

Prerequisite(s): COUN 6021, COUN 6651, COUN 6652.

COUN 6060 - Personal Growth Laboratory

3 hours. 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. Consent of instructor.

COUN 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, COUN 5740. Consent of instructor.

COUN 6080 - Seminar in Group Procedures and Group Counseling

3 hours. 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. Consent of instructor.

COUN 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 master's-level students in a clinical counseling course.

Prerequisite(s): COUN 6220, COUN 6651, COUN 6680.

Corequisite(s): Taken concurrently with COUN 6230.

COUN 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.

COUN 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): EPSY 6010, EPSY 6020 and all doctoral core classes except COUN 6260. Strongly encouraged to have completed at least one other research tool course.

COUN 6140 - Advanced Multicultural Counseling

2 hours. Study of advanced practice of multicultural counseling and of implications for counselor preparation and supervision.

Prerequisite(s): COUN 6240, COUN 6653 and admission to doctoral program in counseling or consent of instructor; concurrent enrollment in COUN 6150.

COUN 6150 - Advanced Crisis Counseling

1 hour. Study of advanced practice related to crisis, disaster and trauma-causing events and of implications for counselor preparation and supervision.

Prerequisite(s): COUN 6240, COUN 6653 and admission to doctoral program in counseling or consent of instructor; concurrent enrollment in COUN 6140.

COUN 6210 - Counseling Principles and Process I

3 hours. Principles and supervised practice of advanced skills in counseling for counselor educators, including consistent implementation of counseling theory.

Prerequisite(s): Admission to doctoral program in counseling.

COUN 6220 - Counseling Principles and Process II: Consultation Emphasis

3 hours. Principles and supervised practice of advanced skills in counseling and consultation for counselor educators, including consistent implementation of counseling theory.

Prerequisite(s): COUN 6210.

COUN 6230 - Counseling Principles and Process III: Systems Emphasis

3 hours. Principles and supervised practice of advanced skills in counseling and systems theory for counselor educators, including consistent implementation of counseling theory.

Prerequisite(s): COUN 6220, COUN 6651, COUN 6680.

COUN 6240 - Counseling Principles and Process IV: Career Emphasis

3 hours. Principles and supervised practice of advanced skills in counseling and career development for counselor educators, including consistent implementation of theory.

Prerequisite(s): COUN 6090, COUN 6230.

COUN 6250 - Counseling Principles and Process V: Group Emphasis

3 hours. Principles and supervised practice of advanced skills in counseling and group approaches for counselor educators, including consistent implementation of counseling theory.

Prerequisite(s): COUN 6240, COUN 6653.

COUN 6260 - Counseling Principles and Process VI: Program Evaluation Emphasis

3 hours. Principles and supervised practice of advanced skills in counseling and program evaluation for counselor educators, including consistent implementation of theory.

Prerequisite(s): COUN 6250.

COUN 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.

COUN 6651 - Advanced Theories of Counseling

3 hours. In-depth study of the major theories of counseling, including the philosophical and psychological assumptions that underlie them.

Prerequisite(s): COUN 6210 and admission to doctoral program in counseling or consent of instructor.

COUN 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): COUN 6220, COUN 6651, COUN 6680 and admission to doctoral program in counseling.

COUN 6653 - Counselor Identity: Integration of Theory and Practice

3 hours. Study of emerging theories of and approaches to counseling, and integration with personal and professional knowledge and experience, culminating in each student's identification and articulation of one's guiding theory of counseling and counselor education.

Prerequisite(s): COUN 6090, COUN 6230.

COUN 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 6210 and admission to doctoral program in counseling or consent of instructor.

COUN 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. Problems must be approved in advance by instructor and department chair.

Prerequisite(s): None.

COUN 6910 - 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. Problems must be approved in advance by instructor and department chair.

Prerequisite(s): None.

COUN 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): None.

May be repeated for credit.

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.

Prerequisite(s): None.

CJUS 5050 - Criminals and Substance Abuse

3 hours. Investigation, analysis and discussion of the relationships between substance abuse and criminal and juvenile offenders.

Prerequisite(s): None.

CJUS 5100 - Information Warfare, Security and Risk Analysis

3 hours. In-depth examination of information warfare, the management of information security and the analysis of risk within organizational contexts.

Prerequisite(s): None.

CJUS 5120 - Cybercrime and Digital Forensics

3 hours. Examination of crimes using computers and the Internet as their primary medium, with practical analyses of evidence of these crimes.

Prerequisite(s): None.

CJUS 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.

Prerequisite(s): None.

CJUS 5200 - Legal Aspects of the Criminal Justice System

3 hours. Examination of the legal process and procedures of the criminal justice system, including investigation, arrest, prosecution and sentencing.

Prerequisite(s): None.

CJUS 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.

Prerequisite(s): None.

CJUS 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.

Prerequisite(s): None.

CJUS 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.

Prerequisite(s): None.

CJUS 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.

Prerequisite(s): None.

CJUS 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.

Prerequisite(s): None.

CJUS 5470 - Seminar on Juvenile Delinquency

3 hours. Problems of definition and measurement, etiological theories, processing of delinquents, and treatment and prevention.

Prerequisite(s): None.

Same as SOCI 5470.

CJUS 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.

Prerequisite(s): None.

CJUS 5600 - Advanced Criminological Theory

3 hours. Examination of the major theoretical explanations of criminality, the distribution of crime, and the behavior of justice agencies.

Prerequisite(s): None.

Same as SOCI 5600.

CJUS 5620 - Seminar in Victimology

3 hours. 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.

Prerequisite(s): None.

Same as SOCI 5620.

CJUS 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.

Prerequisite(s): None.

CJUS 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.

Prerequisite(s): None.

CJUS 5800 - Topics in Criminal Justice

3 hours. Content varies as course covers specific issues of current interest and concern in criminal justice and criminology.

Prerequisite(s): None.

May be repeated for credit as topics vary.

CJUS 5850 - Directed Studies

3 hours. Individual research and writing on selected topics under faculty supervision.

Prerequisite(s): None.

CJUS 5900 - Special Problems

1–6 hours. Prerequisite(s): Consent of instructor.

CJUS 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**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.

Prerequisite(s): None.

DANC 5200 - Improvisation as a Basis for Choreography

3 hours. 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.

Prerequisite(s): None.

DANC 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, DANC 2400 or DANC 3400.

Lecture and movement 3 hours per week plus a minimum of 60 clock hours in a movement laboratory.

DANC 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.

Prerequisite(s): None.

DANC 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, DANC 1410, DANC 2400 or DANC 2410.

Lecture and movement 3 hours weekly plus a minimum of 60 clock hours in a movement laboratory.

DANC 5400 - Survey of Performing Arts Management

3 hours. 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.

Prerequisite(s): None.

DANC 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.

Prerequisite(s): None.

May be repeated for credit.

DANC 5900 - Special Problems

1–3 hours. Problems must be approved by department chair.

Prerequisite(s): None.

DANC 5910 - Special Problems

1–3 hours. Problems must be approved by department chair.

Prerequisite(s): None.

Decision Sciences**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.

DSCI 5180 - Introduction to the Business Decision Process

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.

DSCI 5210 - Model-Based Business Intelligence

3 hours. Explains how model-based business intelligence systems aid managerial decision processes. Attention is paid to the how and why such models are used in a business intelligence systems environment. Topics include the use of mathematical, statistical and business models that are embedded in business intelligence decision 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 are illustrated to analyze real-life situations.

Prerequisite(s): DSCI 5010 or equivalent.

DSCI 5220 - Survey Analytics

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.

DSCI 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.

DSCI 5240 - Data Mining

3 hours. A survey of data mining techniques and software is presented. Topics include extracting information from large databases and designing data-based decision support systems. Decision making in a case-embedded business environment is emphasized. Topics include latest advances in data mining research.

Prerequisite(s): None.

DSCI 5250 - Statistical Techniques in Simulation

3 hours. 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.

DSCI 5260 - Business Process Analytics

3 hours. Utilization of problem-solving techniques applied to the functional areas of business under risk and uncertainty. Business process analysis concepts, methodologies and tools are utilized in solving real problems in the business, government and academic settings. The foundations for this are business process analysis employing business process software, six sigma analysis and state-of-the-art statistical software. Students will develop and present solutions to the problems chosen for analysis. Emphasis is placed on problem structuring, creating solutions and presentations of solutions.

Prerequisite(s): DSCI 5010 or consent of department.

DSCI 5310 - Risk and Life-Data Analysis

3 hours. Estimation of competing risks (likelihoods and consequences) using predictive survival analysis and failure models. Applications consider timing of events (occurrences of economic events, bankruptcies, introduction of competing products, for example) and their dependency on time dependent covariates (changing demographics, business requirements). Topics include robust methodology allowing for stratification across varying levels of risks.
Prerequisite(s): DSCI 5180 or consent of department.

DSCI 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.

DSCI 5330 - Enterprise Applications of Business Intelligence

3 hours. Current issues in the utilization of business intelligence (BI) in business, government, academia and innovation. Topics include the concepts, methodologies and tools to efficiently and effectively implement business intelligence endeavors. Emphasis is placed on current direction of BI as it is relevant to projects underway in business, government and academia across all levels of their value chains. A semester project in the area of BI relevant to a functional area of business is an important component of this course.
Prerequisite(s): DSCI 5010 or consent of department.

DSCI 5340 - Predictive Analytics and Business Forecasting

3 hours. Covers major topics used in developing predictive modeling and applied statistical forecasting models that are of major interest to business, government and academia. These include exploring the calibration of models, the estimation of seasonal indices and the selection of variables to generate operational business forecasts. Topics assist business professionals in utilizing historical patterns to build a more constructive view of their future. Overview of how these topics can be used with data capture, integration and information deployment capabilities to ensure more productive decisions and more accurate planning. Modern forecasting techniques are covered for the evaluation of sophisticated business models used to make intelligent decisions in marketing, finance, personnel management, production scheduling, process control, facilities management and strategic planning.
Prerequisite(s): DSCI 5010 or consent of department.

DSCI 5690 - Topics in Decision Sciences

3 hours. Current issues dealing with the development and use of decision science models in business.
Prerequisite(s): DSCI 5180 or consent of department.
May be repeated for credit as topics vary.

DSCI 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 CoB Graduate Programs Office prior to registration.

DSCI 5910 - 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 CoB Graduate Programs Office prior to registration.

Design**ADES 5510 - Processes and Methodology for Innovation**

3 hours. Students explore and utilize a variety of processes and visual techniques that inform and guide ideation as a means to create a common language that allows them to communicate effectively across disciplinary backgrounds. The knowledge they gain from these experiences allows them to develop and actualize the kinds of visual solutions necessary for future programmatic and career-based success.
Prerequisite(s): Admission to the MA/MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5515 - Critical Thinking

3 hours. Introduces the five methodologies for engaging in intellectually rigorous, eclectically informed approaches to thinking and writing critically about how and why particular designed artifacts, systems, experiences, and processes create change among select populations. Class discussions, as well as historical and analytical research, inform specific writing assignments. Includes knowledge and skills acquisition to better understand and proactively affect how design thinking catalyzes social, environmental, economic, political, and technological change. Students choose to analyze and evaluate topics under the broadcast definitions of design and designing. Students formulate and explore eclectically guided arguments about how and why design is manufactured and disseminated for humans and meets human needs and desires.
Prerequisite(s): Students enrolled in the MA and MFA programs in design with concentrations in innovation studies must complete and pass ADES 5520 and ADES 5530 in order to be admitted into this course. Students enrolled in other graduate courses of study at UNT who wish to enroll in this course must obtain permission from the instructor to gain admission.

ADES 5520 - Design Research Methods

3 hours. Students are immersed in learning experiences that challenge them to develop and then expand knowledge about how design research processes and methods can be utilized to connect design theory effectively with practice as a means to advance their ability to make sound critical judgments and formulate effective and appropriate strategies.
Prerequisite(s): Admission to the MA/MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5521 - Applied Research I

3 hours. Students apply research methods and theory acquired in ADES 5520 and ADES 5530 to individual and collaborative research projects and/or ongoing research for select DRC research initiatives. Student immersion in these research projects and/or streams provides them with the opportunity to apply previously learned knowledge in concrete ways, and demonstrate and hone their skills as design researchers.
Prerequisite(s): Open to MA and MFA students in the innovation studies concentration who complete ADES 5520 and ADES 5530 and/or consent of instructor.

ADES 5522 - Brand and Brand Experience

3 hours. Seminar-based course. Nature of brands and brand experiences are analyzed through a variety of economic, social and cultural lenses. Students are expected to comprehend and articulate, in writing and oral presentations, knowledge they gain regarding the essential nature of brands as they influence and are influenced by business and marketing trends, globalization, modern social psychology and cultural dynamics.
Prerequisite(s): Admission to the MA/MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5523 - Applied Research II

3 hours. Students continue individually and/or collaboratively on one or more research projects and/or ongoing research streams secured by select CVAD faculty in association with the Design Research Center (DRC). Students successfully fuse commonly understood, design-led research theory and methods as part of their ongoing research for and work on select DRC research initiatives. Students apply knowledge in concrete ways to demonstrate and hone their skills as design researchers and to further ongoing DRC research.

Prerequisite(s): Open MA and MFA students in the innovation studies concentration who complete ADES 5520 and ADES 5530 and/or consent of instructor.

ADES 5524 - Design and Its Social Ramifications

3 hours. Seminar-based course. Design process, its artifacts and their agency are examined from a broad array of socio-cultural perspectives.

Prerequisite(s): Admission to the MA/MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5525 - Applied Research III

3 hours. Students continue individually and/or collaboratively on one or more research projects and/or ongoing research streams secured by select CVAD faculty in association with the Design Research Center (DRC). Students successfully fuse commonly understood, design-led research theory and methods as part of their ongoing research for and work on select DRC research initiatives.

Prerequisite(s): Open to MA and MFA students in the innovation studies concentration who complete ADES 5520 and ADES 5530 and/or consent of instructor.

ADES 5526 - Collaborative Design Studio

3 hours. Studio-based course. Collaborative, interdisciplinary teams apply the processes and methodologies introduced in ADES 5510 and ADES 5520 to identify, reframe (when necessary) and develop problems suitable for further theoretical and applied exploration. These problems are ones typically considered to be outside the domain of contemporary design practice.

Prerequisite(s): Admission to the MA/MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5530 - Design Research Theory

3 hours. Immersive introduction to a diverse set of means to broaden understanding and to explain how and why design research can be formulated to foster and facilitate design processes that yield socially, economically and culturally relevant, innovative and sustainable outcomes. Design research presented is informed by a conceptual paradigm that is epistemologically broad in scope and as such capable of affecting the development of several types of theoretical models that are both practically applicable and that can effectively guide rigorous analytical processes. Introduces the developmental history of design research as a systematically rigorous, academically sound foundation upon which the continued revolution of design as a vital scholarly endeavor depends.

Prerequisite(s): Admission to the MA/MFA in design with a concentration in innovation studies, or consent of instructor.
Corequisite(s): ADES 5520.

ADES 5532 - Design Pedagogy: Analysis and Processes

3 hours. Major emphasis on helping each student formulate a rationale/philosophy about the role of design/designers in the 21st century and his or her own role as a design educator; analysis/evaluation of effective undergraduate teaching methodologies for communication design education.

Prerequisite(s): Admission to the MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5534 - Design Pedagogy

3 hours. Seminar-based course examines the role of a design faculty member working within a collegial environment in the complete development of curricula for a new or revised program area.
Prerequisite(s): Admission to the MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5536 - University Citizenship and Tenure in Design

3 hours. Seminar-based course examines the role of a design faculty member in the larger university setting, including but not limited to school/college structures, committee work—both in the college and at the university level—budgeting, advising, scheduling courses, expectations for a designer/faculty member in a college and university environment.

Prerequisite(s): Admission to the MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5538 - Guided Teaching Internship

3 hours. Each student is assigned to a professor in an undergraduate course. The student is expected to participate in the undergraduate course through assignment writing, presentation, critique, grading, handout preparation, advising and observation.

Prerequisite(s): Admission to the MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5540 - Communication Design Studio

3 hours (0;6)

For students qualified to develop professional competence in special areas of studio work.

Prerequisite(s): None.

May be repeated for up to a total of 12 hours of credit.

ADES 5545 - Communication Design Lecture Topics

3 hours. Developing additional competence in special areas.

Prerequisite(s): Consent of instructor. Specific courses may require additional prerequisites.

All may be repeated for credit.

ADES 5546 - Practicum in Innovation Studies I

3 hours. In a two semester-long project, interdisciplinary teams identify a single problem and solve various social, economic, cultural or market based issues that ultimately manifest themselves in a visual expression of one form or another. Emphasis is placed on conceptual problem solving, exploration of multiple hypotheses, and the development of innovative solutions.

Prerequisite(s): Admission to the MA/MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5548 - Practicum in Collaborative Innovation Studies II

3 hours. Continuation and culmination of the problem developed in ADES 5546. Documentation and presentation of this project are required.

Prerequisite(s): ADES 5546. Admission to the MA/MFA in design with a concentration in innovation studies.

ADES 5580 - Parallels in Art, Culture and Fashion

3 hours. Concentrated overview of developments in 20th-century fashion and the relationships between movements in art, design and popular culture.

Prerequisite(s): None

ADES 5590 - Fashion Design Studio

3 hours (0;6)

For students qualified to develop professional competence in special areas of studio work.

Prerequisite(s): None.

May be repeated for credit.

ADES 5595 - Fashion Design Topics Seminar

3 hours. Research and study in selected topical areas of fashion design.

Prerequisite(s): Admission to the MFA in Design with a concentration in fashion design or consent of the instructor. Specific courses may require additional prerequisites.

All may be repeated for credit as topics vary.

ADES 5605 - Interior Design Studio

3 hours. 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 college.

May be repeated for credit.

ADES 5730 - Research in Design

3 hours. Study of research techniques and their applications in the field of design; preparation of prospectus.

Prerequisite(s): None.

Early Childhood Education**EDEC 5013 - Research Strategies in Early Childhood Studies**

3 hours. Applications of research methods to the broad field of early childhood studies including education, public policy, community supports for young children, and early childhood activism.

Prerequisite(s): None.

EDEC 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.

Prerequisite(s): None.

Registration is on an individual basis and student must have prior consent of professor.

EDEC 5470 - Constructions of Guidance in Early Childhood Classrooms

3 hours. Explorations of theories of guidance, classroom organization, and pedagogical consistency that can be used in learning environments for young children and the diverse perspectives that are represented by those theories. Emphasizes familiarity with children and their diverse life experiences throughout the early years (birth to 8 years of age) as a foundation for the construction of quality learning environments for those who are older (ages 5–8 years) in elementary school kindergarten through grade 3 classrooms. Fifteen (15) hours of observation are required.

Prerequisite(s): None.

EDEC 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. Requires involvement in early childhood setting.

Prerequisite(s): None.

EDEC 5523 - Early Childhood Studies Seminar

3 hours. Graduate seminar and related readings and scholarly activity featuring special workshops and/or guest lectures by visiting researchers in early childhood studies.

Prerequisite(s): None.

EDEC 5613 - Curriculum Theory in Early Childhood Studies

3 hours. Curriculum theory as applied to early childhood studies and educational practices with young children. Explores research related to knowledge organization strategies, including emergent curriculum, content selection, planning, and evaluation, as well as knowledge diversity and the influence of public policy on curricular practices.

Prerequisite(s): None.

EDEC 5623 - Environments and Programs for Young Children

3 hours. Recommended for individuals entering the early childhood education profession. Emphasizes the direct application of diverse early childhood learning theories on classroom practices including behavioral, developmental, and reconceptualist/critical perspectives. Includes curricular decision making, instructional planning, and strategies for construction and implementation of learning environments for young children.

Prerequisite(s): None.

EDEC 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.

Prerequisite(s): None.

EDEC 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.

Prerequisite(s): None.

EDEC 5653 - Making the Literacy Connection: Language to Reading

3 hours. 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.

Prerequisite(s): None.

Same as EDRE 5653.

EDEC 5800 - Special Topics in Early Childhood Studies

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

EDEC 5900 - Special Problems

1–3 hours. Open to graduate students capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and department chair.

Prerequisite(s): None.

EDEC 5910 - Special Problems

1–3 hours. Open to graduate students capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and department chair.
Prerequisite(s): None.

EDEC 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): None.
May be repeated for credit.

EDEC 6030 - Practicum, Field Problem or Internship

3 hours. Mentored professional activities in early childhood studies.
Prerequisite(s): None.
Registration is based on approval of student's committee. May be taken once for credit.

EDEC 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.
Prerequisite(s): None.

EDEC 6523 - History and Philosophy of Early Childhood Studies

3 hours. Examines the multiple philosophies and histories that have influenced the field of early childhood studies focusing on circumstances, societal conditions, and educational contexts in which they were manifested.
Prerequisite(s): None.

EDEC 6533 - Current Readings and Research in Early Childhood Studies

3 hours. Critical readings of historical and current research in early childhood studies. Contributes to students' roles as professionals in the field by involving students in determination of research application to practice. Students lead discussions on self-directed readings.
Prerequisite(s): None.

EDEC 6543 - Contemporary Critical Issues in Early Childhood Studies

3 hours. Examines contemporary critical issues influencing early childhood studies and public policy affecting young children. Issues include contemporary discourses, societal institutions, educational supports, and cultures/families/communities as well as societal and educational equity.
Prerequisite(s): None.

EDEC 6613 - Social Change and Leadership in Early Childhood Studies

3 hours. Assists early childhood professionals in developing leadership skills, vision and the ability to conceptualize and promote social change. The diverse roles of individuals, organizations, societal institutions, and communities are explored.
Prerequisite(s): None.

EDEC 6623 - Advocacy/Activism in Early Childhood Studies

3 hours. Critically examines the rationale, political agendas, evidence perspectives, and program and policy issues involved in early childhood initiatives and service systems. Readings and discussions focus on the ways that emerging policies and programs strengthen or inhibit supports for young children.
Prerequisite(s): None.

EDEC 6800 - Special Topics in Early Childhood Studies

3 hours. Organized classes designed to accommodate the needs of students and demands of program development not met by regular offerings. Condensed courses (meeting 3 hour credit requirements but offered with nontraditional meeting schedule) and workshops on specific topics are offered on a limited basis, to be repeated upon demand.
Prerequisite(s): None.
May be repeated for credit as topics vary.

EDEC 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.
Prerequisite(s): None.

EDEC 6910 - 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.
Prerequisite(s): None.

EDEC 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): None.
May be repeated for credit.

Economics**ECON 5000 - Economic Concepts**

3 hours. Theory of the firm under different market structures; demand theory, the Keynesian model and the money system.
Prerequisite(s): None.

ECON 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, GDP, industrial productivity and inflation.
Prerequisite(s): ECON 3550 and ECON 3560 or consent of department.

ECON 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-ECON 1110 or ECON 5000.
Usually offered fall and spring terms/semesters and 5W1 (summer session).

ECON 5040 - Macroeconomic Analysis

3 hours. National income determination and measurement, macroeconomic stabilization policy and macroeconomic theory.
Prerequisite(s): ECON 1100-ECON 1110 or ECON 5000.
Usually offered fall and spring terms/semesters and 5W2 (summer session).

ECON 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.

ECON 5070 - Comparative Economic Systems

3 hours. 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-ECON 1110 or consent of department.

Students may not receive credit for both ECON 4100 and ECON 5070.

Usually offered spring term/semester.

ECON 5090 - Seminar on the History of Economic Thought

3 hours. Development of economic thought since the Middle Ages.

Prerequisite(s): ECON 1100-ECON 1110 or consent of department.

Students may not receive credit for both ECON 4510 and ECON 5090.

Usually offered spring term/semester.

ECON 5100 - Seminar on Contemporary Economic Thought

3 hours. Development of economic thought since 1900.

Prerequisite(s): 6 semester hours of advanced economics.

ECON 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 ECON 5030.

Students may not receive credit for both ECON 4140 and ECON 5140.

Usually offered spring term/semester.

ECON 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 3550.

Students may not receive credit for both ECON 4150 and ECON 5150.

Usually offered fall and spring terms/semesters and 5W2 (summer session).

ECON 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 ECON 5600.

ECON 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).

ECON 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.

Prerequisite(s): None.

Students may not receive credit for both ECON 4180 and ECON 5180.

Usually offered fall term/semester.

ECON 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.

ECON 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.

ECON 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.

Prerequisite(s): None.

ECON 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.

ECON 5330 - Advanced Macroeconomic Theory

3 hours. Rigorous theoretical and empirical analysis of a wide range of issues in macroeconomics, including economic growth, economic fluctuations, incomplete nominal adjustments, expectations formation, consumption, investment, unemployment, inflation, monetary policies, budget deficits and fiscal policies.

Prerequisite(s): ECON 3560 or ECON 5040; ECON 4870 or ECON 5640; and ECON 5600, or consent of department.

Usually offered fall semesters.

ECON 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 ECON 5030 and ECON 5600, or consent of department.

Usually offered spring term/semester.

ECON 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.

ECON 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.

ECON 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-ECON 1110 or consent of department.

Students may not receive credit for both ECON 4440 and ECON 5440.

Usually offered fall term/semester.

ECON 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 ECON 5460.

Usually offered spring term/semester.

ECON 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.

ECON 5560 - Economic Damages in Litigation

3 hours. Advanced course designed to study the growing role of economics in assessing damages in corporate litigation proceedings—typically termed forensic economics. Particular emphasis is given to case studies developed from recent industry activity in which students serve as the residing economic expert and are responsible for issuing an expert report setting forth their damages estimates and analyses.

Prerequisite(s): ECON 3550, ECON 3560, ECON 4630 or equivalent.

ECON 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.

ECON 5630 - Research Methods

3 hours. Research methodology for business and the social sciences. Topics include descriptive statistics, basic probability theory, discrete continuous probability distributions, hypothesis testing and introductory regression techniques. Emphasis is placed on economics applications.

Prerequisite(s): MATH 1100.

Usually offered fall and spring semesters.

ECON 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.

Prerequisite(s): MATH 1710 and ECON 5630 or consent of department.

Usually offered fall and spring terms/semesters.

ECON 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.

ECON 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 endogenous regressors; models with qualitative and limited dependent variables; and models with panel data.

Prerequisite(s): ECON 5600 and ECON 5640 or consent of department.

Usually offered spring term/semester.

ECON 5655 - Econometric Analysis of Panel Data

3 hours. Focuses on econometric methods for analyzing panel data in economics and business-related fields. Analysis of linear panel data models by fixed effects and random effects. Topics include advanced methods for single equation analysis and some nonlinear panel data models. Model assumptions, specification, estimation, interpretation and interference are emphasized.

Prerequisite(s): ECON 5640 or equivalent.

ECON 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.

Prerequisite(s): ECON 5640 or consent of department.

Usually offered spring term/semester.

ECON 5670 - Applied 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.

ECON 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-ECON 1110 or consent of department. Students may not receive credit for both ECON 4600 and ECON 5700. Usually offered spring term/semester.

ECON 5750 - Urban 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 ECON 5750.

ECON 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-ECON 1110 or consent of department. Students may not receive credit for both ECON 4850 and ECON 5850.

ECON 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 ECON 5180.

ECON 5900 - Special Problems

1–3 hours. 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.

Prerequisite(s): None.

ECON 5910 - Special Problems

1–3 hours. 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.

Prerequisite(s): None.

ECON 5920 - Research Problems in Lieu of Thesis

3 hours. Optional for Master of Science candidates majoring in economic research. Students write a significant research paper on an original idea with an emphasis on empirical analysis.

Prerequisite(s): Consent of department.

ECON 5930 - Research Problems in Lieu of Thesis

3 hours. Optional for Master of Science candidates majoring in economic research. Students write a significant research paper on an original idea with an emphasis on empirical analysis.

Prerequisite(s): Consent of department.

ECON 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): None.

May be repeated for credit.

ECON 5960 - Economics Institute

1–6 hours.

For students accepted by the university as participants in special institute courses.

Prerequisite(s): None.

May be repeated for credit, but not to exceed a total of 6 hours.

ECON 5970 - Economics Institute

1–6 hours.

For students accepted by the university as participants in special institute courses.

Prerequisite(s): None.

May be repeated for credit, but not to exceed a total of 6 hours.

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/advisor is assigned.

Prerequisite(s): None.

EDAD 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.

Prerequisite(s): None.

EDAD 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.

Prerequisite(s): None.

EDAD 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.

Prerequisite(s): None.

EDAD 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 advisor. Internship requires 125 hours of experience at either a secondary, middle, elementary, or alternative school site. Prerequisite(s): EDAD 5300, EDAD 5330, EDAD 5390, EDAD 5400. Required for Texas professional certificate for school administration. Not applicable to degree programs.

EDAD 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. Prerequisite(s): None.

EDAD 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): EDAD 5300, EDAD 5330, EDAD 5390, EDAD 5400.

EDAD 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; and integrating the actions and attitudes of an organization with those of its public. Prerequisite(s): EDAD 5300, EDAD 5330, EDAD 5390, EDAD 5400.

EDAD 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): EDAD 5300, EDAD 5330, EDAD 5390, EDAD 5400.

EDAD 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): EDAD 5300, EDAD 5330, EDAD 5390, EDAD 5400.

EDAD 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, EDAD 5330, EDAD 5390, EDAD 5400.

EDAD 5670 - Leading and Sustaining Communities for Professional Learning

3 hours. Investigates how school leaders design, implement and sustain successful learning cultures which result in improved practice and student achievement. Students study five relevant dimensions: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions. These dimensions, combined with intentional and collaborative application of instructional strategies, contribute to successful teaching and learning for all. Prerequisite(s): None.

EDAD 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): EDAD 5300, EDAD 5330, EDAD 5390, EDAD 5400.

EDAD 5700 - Practicum in Educational Administration

3 hours. 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, EDAD 5330, EDAD 5390, EDAD 5400.

EDAD 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 on specific topics are offered on a limited basis, to be repeated only upon demand. Prerequisite(s): None. May be repeated for credit.

EDAD 5810 - 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 on specific topics are offered on a limited basis, to be repeated only upon demand. Prerequisite(s): None. May be repeated for credit.

EDAD 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. Prerequisite(s): None.

EDAD 6031 - Practicum, Field Problem or Internship

3 hours. Internship Under Practicing School Administrator. Prerequisite(s): None. Required for Texas professional certificate for school administration. Not applicable to degree programs.

EDAD 6032 - Practicum, Field Problem or Internship

3 hours. Practicum or Field Problem. An elective for doctoral candidates in administrative leadership.

Prerequisite(s): None.

EDAD 6033 - Practicum, Field Problem or Internship

3 hours. Internship Under School Superintendent.

Prerequisite(s): None.

Required for Texas professional certificate for superintendent. Not applicable to degree programs.

EDAD 6100 - Theories of Organizational Development and Reform

3 hours. Study of major theories of organizational development and change that provide foundations for educational administration and leadership. Connections are made among theory, research and practice.

Prerequisite(s): Any one of EPSY 5050, EPSY 5210, EPSY 6120, and EPSY 6020, or consent of instructor.

EDAD 6110 - Advanced Theory and Research in Administration

3 hours. Contemporary inquiry in educational administration. Examines the impact of positivism, subjectivism and functionalism and their critics on recent research on school organization and administration.

Prerequisite(s): None.

EDAD 6160 - Professional Learning Communities: Research and Practice

3 hours. Use of current research and practice to investigate the characteristics of professional learning community (PLC) theory and application in EC–12 school settings. Students examine current learning community literature and analyze available practical application strategies in schools. Also addresses adult learning theory and applies that to collaborative real world education context for the purpose of school improvement and student achievement.

Prerequisite(s): None.

EDAD 6200 - Current Issues in Educational Administration

3 hours. Doctoral seminar on issues of policy and practice in educational administration. Addresses value orientations, relevant research and policy considerations that shape decisions.

Prerequisite(s): None.

EDAD 6310 - Research Practicum

3 hours. Students conduct a research project designed to generate or test theory.

Prerequisite(s): EDAD 6110 and consent of instructor.

May be repeated for credit.

EDAD 6400 - Politics of Educational Administration

3 hours. 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.

Prerequisite(s): None.

EDAD 6450 - Public School Finance, Business Management, and Facilities

3 hours. Provides students an overview of the interrelated aspects of school finance, business management, and facilities development. Relates concepts from the fields of economics, business, law, and political science to the public school environment. As future

superintendents, students use real-world situations to apply skills in budgeting, school business management, and facilities management, including new school construction.

Prerequisite(s): EDAD 5400.

EDAD 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 complex issues as the role of the state in education, parental rights, school choice and vouchers, privatization, religion on campus, and legal liability for constitutional wrongs. Topics vary, depending upon the current school reform agenda. Underlying concerns that drive the development of legal mandates in schooling are explored.

Prerequisite(s): EDAD 5390 or equivalent.

EDAD 6520 - Personnel Administration in the Public Schools

3 hours. Principles and practices of personnel administration. Emphasis on recruitment, selection, deployment, evaluation, staff development, manpower planning and employee relations in the public schools.

Prerequisite(s): None.

EDAD 6530 - Educational Facilities

3 hours. 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.

Prerequisite(s): None.

EDAD 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.

Prerequisite(s): None.

EDAD 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 5400 or consent of instructor.

EDAD 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 5400 or consent of instructor.

EDAD 6580 - Administration and Supervision of the Instructional Program

3 hours. Major issues, problems and trends in the EC–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 EDAD 5680, EDCI 5320, and EDEE 5400/EDSE 5400, or consent of instructor.

EDAD 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.

EDAD 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.

Prerequisite(s): None.

EDAD 6910 - 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.

Prerequisite(s): None.

EDAD 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): None.

May be repeated for credit.

Educational Curriculum and Instruction**EDCI 5070 - Geo-Spatial Technologies for Educational Environments**

3 hours. Application of geo-spatial technologies for visualization and analysis in K–12 educational settings. Emphasis on applications such as Geographic Information Systems, Global Positioning System and Internet-based interactive mapping, and digital globes for geo-spatial inquiry in formal and informal educational environments.

Prerequisite(s): None.

Same as GEOG 5070.

EDCI 5100 - 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 quantitative and qualitative data generation, analysis and interpretation.

Prerequisite(s): EDCI 5710 and EDCI 5130 or consent of instructor.

Same as EPSY 5100.

EDCI 5130 - Philosophy and Principles of Multicultural Education

3 hours. 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.

EDCI 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.

EDCI 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. 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.

EDCI 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.

Prerequisite(s): None.

Same as ANTH 5620.

EDCI 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.

Prerequisite(s): None.

Should be taken upon first residence registration in the curriculum and instruction MEd program.

EDCI 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.

Prerequisite(s): EDCI 5130, EDCI 5320, EDCI 5360, EDCI 5710, EDSP 5755.

Should be taken during the last resident registration in the curriculum and instruction MEd program.

EDCI 5800 - Studies in Education

1–3 hours. 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.

Prerequisite(s): None.

Same as EDEE 5800. Same as EDSE 5800.

May be repeated for credit with departmental approval.

EDCI 5810 - Studies in Education

1–3 hours. 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.

Prerequisite(s): None.

Same as EDEE 5810. Same as EDSE 5810.

May be repeated for credit with departmental approval.

EDCI 5900 - Special Problems

1–3 hours. Open to master's 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.
Prerequisite(s): None.

EDCI 5960 - Education Institute

1–6 hours. For students accepted as participants in special institute courses on a range of topics relevant to the development of teacher leaders.
Prerequisite(s): None.
Same as EDEE 5960.

EDCI 5970 - Education Institute

1–6 hours. For students accepted as participants in special institute courses on a range of topics relevant to the development of teacher leaders.
Prerequisite(s): None.
Same as EDEE 5970.

EDCI 6030 - Practicum, Field Problem or Internship

3 or 6 hours. Provision of supervised professional activities in education by the student's major advisor.
Prerequisite(s): None.
Registration is on an individual basis.

EDCI 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.
Prerequisite(s): None.
Required entry course for doctoral program in curriculum and instruction.

EDCI 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.

EDCI 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 EDCI 6220, or consent of instructor.

EDCI 6280 - Qualitative Research in Education

3 hours. Focuses on the knowledge and skills necessary for naturalistic research; observation, interviewing and other qualitative data generation techniques, as well as data analysis and interpretation.
Prerequisite(s): Consent of instructor.
Same as EPSY 6280.

EDCI 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 with special focus on constant comparative/grounded theory for data analysis. Use of computer software programs for qualitative data analysis. Students complete a qualitative study consisting of at least 45 hours of field work during the term/semester.
Prerequisite(s): EPSY 6280 or EDCI 6280.
Same as EPSY 6285.

EDCI 6340 - Conceptual Models of Learning and Instruction

3 hours. Study of the research base and the learning theory underlying major current models of teaching.
Prerequisite(s): EDCI 6110, EDCI 6220 and EDCI 6230, or consent of instructor.

EDCI 6350 - Research and Practice of Teaching

3 hours. Focuses on research in teaching; the selection, implementation and evaluation of strategies and models; and conceptual models of improving instruction.
Prerequisite(s): EDCI 6110, EDCI 6220, EDCI 6230, and EDCI 6340, or consent of instructor.

EDCI 6360 - Critical Issues in Curriculum Studies

3 hours. Critical examination of current topics and issues in the field of curriculum studies. Students analyze trends in U.S. and international education in terms of social transformation and globalization.
Prerequisite(s): EDCI 6220, EDCI 6230, EDCI 6340, or consent of instructor.

EDCI 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, EDCI 6220, EDCI 6230, EDCI 6340 and EDCI 6350, or consent of instructor.

EDCI 6800 - Topics in Education

3 hours. Organized classes specifically designed to accommodate the needs of doctoral students and the demands of the doctoral program development that are not being met by the regular offerings. Short courses and workshops on specific topics organized on a limited offering basis, to be repeated only upon demand.
Prerequisite(s): None.
May be repeated for credit as topics vary.

EDCI 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.
Prerequisite(s): None.

EDCI 6910 - 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.
Prerequisite(s): None.

EDCI 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): None.
May be repeated for credit.

Educational Foundations

EDUC 6040 - Traditions of Inquiry

3 hours. History, theoretical assumptions and methodological issues associated with major traditions of inquiry in educational studies.
Prerequisite(s): None.

EDUC 6050 - Culture, Identity and Education

3 hours. Examination of conceptions of culture and notions of multiculturalism, interculturalism and transculturalism in education. Attention is on related concepts, especially social identity, and on the conduct of research in various sociocultural contexts.
Prerequisite(s): None.

EDUC 6120 - Theoretical Foundations for Educational Studies

3 hours. Theoretical perspectives of major importance in educational studies today. Attention is given to the contexts in which the theories have developed, to the major claims that are made and to the means by which the claims are supported.
Prerequisite(s): None.

EDUC 6220 - Issues of Educational Law and Policy

3 hours. Consideration of current issues of educational law and policy that are of concern to the general public as well as to policymakers and educators. Emphasis is on such issues as educational reform and accountability, language, management and equality of educational opportunity. Attention goes to historical background of the issues and to different approaches to policy analysis.
Prerequisite(s): None.

EDUC 6950 - Doctoral Dissertation

3, 6 or 9 hours. To be scheduled only with consent of department. 9 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): None.
May be repeated for credit.

Educational Psychology

EPSY 5000 - Introduction to Educational Psychology

3 hours. Review of theories and applications of educational psychology; basic concepts in learning, cognition, development and their applications to teaching and learning context.
Prerequisite(s): None.

EPSY 5010 - Human Learning

3 hours. Theoretical and empirical knowledge base of the learning process; applications to teaching and learning contexts.
Prerequisite(s): EPSY 5000.

EPSY 5033 - Practicum, Field Experience or Internship

3–6 hours. Mentored professional activities, including consultation, clinical intervention or conducting research.
Prerequisite(s): Consent of instructor.
Registration is on an individual basis. May be repeated for credit.

EPSY 5040 - Post-Baccalaureate Student Teaching

3 hours. Teaching under supervision. Designed for UNT post-baccalaureate teacher certification candidates. Supervision is provided by UNT faculty and support from a school-based mentor teacher.
Prerequisite(s): Consent of department.
May be repeated for credit.

EPSY 5041 - Post-Baccalaureate Student Teaching

3 hours. Teaching under supervision. Designed to meet the needs of post-baccalaureate candidates in the Department of Educational Psychology. Supervision is provided by UNT faculty with support from school-based mentors.
Prerequisite(s): Consent of department.

EPSY 5050 - Foundations of Educational Research Methodology

3 hours. Overview of the process of conducting research, from formulating research questions to sampling, data collection, analysis and drawing inferences. The main focus is on being able to understand, evaluate and utilize published research, both qualitative and quantitative. Final product is a detailed critique of published research.
Prerequisite(s): None.

EPSY 5100 - Field Research in Educational Psychology and Special Education

3 hours. Design and conduct and applied/action research project; basic concepts in reviewing literature, collecting and analyzing data in designated professional setting.
Prerequisite(s): EPSY 5050 or equivalent.

EPSY 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.
Prerequisite(s): EPSY 5000.

EPSY 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.
Prerequisite(s): EPSY 5000.

EPSY 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.
Prerequisite(s): EPSY 5000.

EPSY 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.
Prerequisite(s): EPSY 5000 and EPSY 5350.

EPSY 5123 - Human Development Across the Life Span

3 hours. 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.
Prerequisite(s): EPSY 5000.

EPSY 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. Prerequisite(s): EPSY 5105.

EPSY 5133 - Infant and Child Development

3 hours. Findings and implications of current theory and research in emotional, social, cognitive, language, physical and perceptual development from birth through infancy and older childhood. Prerequisite(s): EPSY 5123.

EPSY 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. Prerequisite(s): None.

EPSY 5240 - Survey Research Methods in Education

3 hours. History of surveys, information needs, sampling design, instrumentation data collection, data processing and report generation. Prerequisite(s): EPSY 5050.

EPSY 5250 - Grant Proposal Writing Techniques

3 hours. Investigation of state and federal grant funding sources. Introduction to and application of grant proposal writing techniques. Prerequisite(s): None.

EPSY 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. Prerequisite(s): EPSY 5413 or equivalent.

EPSY 5323 - Parent and Family Education

3 hours. Empirical knowledge and skills required for education and leadership of parents and families. Overview of major theoretical and programmatic approaches to parent and family education. Application of models and techniques. Prerequisite(s): EPSY 5413 or equivalent.

EPSY 5350 - Foundations of Psychoeducational Measurement

3 hours. Introduces issues in psychoeducational testing and measurement, including needs assessment, item/test construction, item/test evaluation and use of measurement results for assessment, placement, and intervention purposes. Includes discussions of measurement in diverse and bilingual populations and social, cultural issues in test utilization. Prerequisite(s): None.

EPSY 5413 - Family Relationships

3 hours. Analysis of the influences that affect modern family life; consideration of variant family forms. Prerequisite(s): EPSY 5000.

EPSY 5433 - Partnerships: Family, School and Community

3 hours. 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. Prerequisite(s): EPSY 5413 or equivalent.

EPSY 5443 - Family Economics and Management

3 hours. Theories, models and research related to family resource management. Family economic issues, public policy, consumer issues, work/life issues. Consideration of diverse family cultures, values and attitudes as factors in family resource management. Prerequisite(s): EPSY 5413 or equivalent.

EPSY 5550 - Learning Theories

3 hours. Examination of theories of learning and their applications to teaching and learning contexts. Prerequisite(s): EPSY 5000.

EPSY 5700 - Professional Issues in School Psychology

3 hours. Introduction to the history, laws, ethics and roles of school psychology. Prerequisite(s): EPSY 5000 and admission to the School Psychology Program.

EPSY 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. Prerequisite(s): Consent of department. May be repeated for credit.

EPSY 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 through conferences with the instructor. Prerequisite(s): Consent of department.

EPSY 5910 - Special Problems

1–3 hours. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor. Prerequisite(s): Consent of department.

EPSY 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. Prerequisite(s): None. May be repeated for credit.

EPSY 5990 - Supervised Research, Evaluation or Clinical Intervention

3 hours. Capstone for the MS in educational psychology, incorporates the knowledge and skills acquired in the appropriate concentration of the master's, and provides and opportunity to explore solutions to applied problems through conducting research, evaluating programs, or engaging in clinical practice under the supervision of a faculty advisor. Prerequisite(s): Successful completion of all other degree requirements for MS in educational psychology.

EPSY 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.
Prerequisite(s): EPSY 6010.

EPSY 6010 - Statistics for Educational Research

3 hours. 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.

EPSY 6013 - Professional Development in Human Development and Family Studies

3 hours. Emphasis is on teaching, research, careers, professional organizations, ethics and current literature in human development and family studies. Knowledge and practical application is evaluated.
Prerequisite(s): EPSY 5000.

EPSY 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 6010.

EPSY 6030 - Practicum, Field Problem or Internship

3–6 hours. Mentored professional activities in educational psychology or special education, including consultation, clinical intervention or conducting research.
Prerequisite(s): Consent of instructor.
May be repeated for credit.

EPSY 6040 - Foundations of Educational Psychology

3 hours. History of educational psychology, advanced philosophical and empirical foundations of learning, cognition, development, individual differences; applications to teaching and learning contexts.
Prerequisite(s): EPSY 5000.

EPSY 6101 - Human Perception

3 hours. Critically examines sensory mechanisms and perceptual organization in human learning processes. Explores theoretical constructs associated with recognizing, identifying and acting on naturally occurring environmental stimuli and perceptual displays created for educational purposes.
Prerequisite(s): EPSY 5000.

EPSY 6102 - Human Motivation

3 hours. Theoretical, historical and empirical study of human motivation. Implications of motivation on the learning process and in educational environments.
Prerequisite(s): EPSY 5000.

EPSY 6103 - Cognitive and Language Development

3 hours. Comprehensive developmental 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.
Prerequisite(s): EPSY 5000.

EPSY 6110 - Individual Difference, Creativity and Problem Solving

3 hours. Focus on how to teach and instruct from examining theories, models, and research of creativity and problem solving and their applications to the development of individuals. Individual differences that result from an interaction among personality, creativity and ecological factors are related to the design of learning environments that meet the changing abilities and needs of learners.
Prerequisite(s): EPSY 5000.

EPSY 6113 - Application of Developmental Theories in Research

3 hours. Scholarly application of theory to research regarding growth and change across the lifespan, including an ecological perspective. A review of socio-historical influences on theory development as well as practical issues associated with operationalization of theories and their use in professional and research settings.
Prerequisite(s): EPSY 5113.

EPSY 6120 - Foundations of Program Evaluation

3 hours. Provides the theoretical and methodological foundations of program evaluation, as well as the basic applications and hands-on experiences tailored to students' academic and professional needs toward evidence-based practices. Aligned with the American Evaluation Association's guiding principles and best practices addressing applied evaluation topics for needs assessment to data collection and analysis, interpretation and making inferences, quality audits, and policy/practice recommendations. Use of program evaluation for educational as well as social policy and planning, and the latest thoughts in engaging stakeholders in the evaluation process are discussed. Students develop and present a program evaluation project in their own area of expertise and/or professional interest.
Prerequisite(s): EPSY 5050 or EPSY 6020.

EPSY 6122 - Single-Subject Research Methodology

3 hours. Addresses single-subject research designs, procedures for documenting experimental control, measurement of the fidelity of intervention and evaluation of effective size. Includes the language and terminology of single-subject (observational) research methods, key issues related to designing effective experimental interventions, and developing a high-quality research proposal utilizing single-subject research methodologies in applied settings.
Prerequisite(s): EPSY 6010 and EPSY 6020.

EPSY 6153 - 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.
Prerequisite(s): EPSY 5123.

EPSY 6163 - Diversity in Individuals, Families and Schools

3 hours. Effects of cultural, ethnic, gender, linguistic, religious and developmental differences on teaching, learning, development, and adjustment of children and families. Educational, psychological, attitudinal, social, legal and political issues in diversity. Necessity of attention to diversity and acculturation within educational and social organizations.
Prerequisite(s): EPSY 5000.

EPSY 6165 - Cognitive and Academic Assessment

3 hours. Hands-on psychoeducational assessment introduces current issues affecting the field of cognitive and academic assessment, followed by supervised hands-on experience using assessment instruments/procedures.

Prerequisite(s): EPSY 5350 and consent of department.

EPSY 6166 - Social-Emotional and Behavioral Assessment

3 hours. Hands on experience with both objective and projective measures of personality, behavior, and emotional functioning. Focuses on assessment of emotional disturbance and other emotional or problematic student behaviors and development of appropriate interventions for addressing the needs of students, parents and teachers.

Prerequisite(s): EPSY 6165 and consent of the department.

EPSY 6167 - Behavioral Problems in Children and Adolescents

3 hours. Epidemiology, diagnosis, etiology, associated features, and treatment of psychological and developmental disorders in childhood and adolescence with special attention to educational and family context. Students analyze and react to presented case studies as well as discuss possible strategies for teachers and families addressing behavioral problems.

Prerequisite(s): EPSY 6165 and EPSY 6166 and consent of department.

EPSY 6168 - Collaboration and Consultation

3 hours. Examines the theory, principles and procedures of the consultation process with an emphasis on consulting in the educational setting. Covers various models and methods including behavioral, mental health, collaborative and organizational models of consultation. Emphasizes the distinct responsibilities and relationships involved in each model. Consultation as an intervention at the individual, group and system levels is discussed.

Prerequisite(s): EPSY 5700 and consent of department.

EPSY 6179 - Introduction to Psychophysiology

3 hours. Basic concepts in psychophysiology and applications to learning, cognition, development and behavior; neuropsychological foundations of cognitive, affective and sensory motor functioning; theoretical and empirical bases of brain function, dysfunction and psychopathology; applications to student's area of specialization and research interest.

Prerequisite(s): EPSY 5000.

EPSY 6180 - Supervised Practicum in School Psychology I

3 hours. First part of a required year-long professional training and experience practicum under the supervision of a licensed practitioner.

Prerequisite(s): EPSY 5990 and consent of the department.

May be repeated for credit.

EPSY 6181 - Supervised Practicum in School Psychology II

3 hours. Second part of a required year-long professional training and experience practicum under the supervision of a licensed practitioner.

Prerequisite(s): EPSY 6180 and consent of department.

EPSY 6182 - Advanced Seminar in Bilingual Psychoeducational Assessment

3 hours. Clinical opportunities to practice best known strategies in conducting appropriate psychoeducational assessment of emotional and cognitive problems, achievement, and aptitude among individuals from diverse linguistic and cultural backgrounds. Practitioners plan appropriate clinical and educational intervention strategies to facilitate the success and well-being of individuals in mainstream work settings.

Prerequisite(s): EPSY 5350 and consent of department.

EPSY 6183 - Internship in School Psychology I

3 hours. First part of a two-semester internship that provides the student a year-long, full-time experience in the professional practice of school psychology in a school setting. The comprehensive experience addresses the ten Domains of Professional Practice training established by the National Association of School Psychologists (NASP).

Prerequisite(s): Completion of all other course work in the graduate academic certificate in school psychology.

EPSY 6184 - Internship in School Psychology II

3 hours. Second part of a two-semester internship that provides the student a year-long, full-time experience in the professional practice of school psychology in a school setting. The comprehensive experience addresses the ten Domains of Professional Practice training established by the National Association of School Psychologists (NASP).

Prerequisite(s): Successful completion of EPSY 6183.

EPSY 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): EPSY 5990 and consent of the department.

EPSY 6220 - Classical and Modern Educational Measurement Theory

3 hours. History of testing and assessment as related to education and psychology, standards for educational and psychological testing, and conceptualization of constructs and latent variables. Classical Test Theory, including procedures for item analysis, estimating reliability and validity in the construction of nom-referenced and criterion-referenced tests. Generalizability theory, including multiple sources of measurement error in simple and higher order designs for both G- and D-studies

Prerequisite(s): EPSY 5210 and EPSY 5350.

EPSY 6230 - Theory and Application of Hierarchical Linear Modeling

3 hours. Introduces the theory and application of hierarchical linear models, how to use hierarchical linear models (HLMs) to answer research questions for cross-sectional and longitudinal data. Hierarchical linear models are linear multiple regression models typically used with data that violate the assumption of independent observations. HLM appropriately handles the violation, and also provides the tools for testing hypotheses in research designs with multilevel data structure.

Prerequisite(s): EPSY 6210 or equivalent as approved by the department.

EPSY 6240 - Technology in Research

3 hours. Use of data analysis in the planning and implementation of research projects in the disciplines of educational psychology. Emphasis on statistical packages, organization and collection of data, computing hardware and software, and various data display and reporting techniques.

Prerequisite(s): EPSY 6010, EPSY 6020.

EPSY 6250 - Item Response Theory

3 hours. The Common Factor model of measurement and latent variables with IRT concepts, models, and assumptions. Item and trait/ability parameter estimation with Rasch, 2, and 3 parameter dichotomous models, and polytomous IRT models. Test reliability, development, equating, bias (DIF), computer adaptive testing, and multidimensional models.

Prerequisite(s): EPSY 5350 or EPSY 6220 or equivalent.

EPSY 6260 - Advanced Seminar in Educational Psychology and Special Education

3 hours. Study and discussion of advanced issues in educational psychology and/or special education, including the contemporary theoretical, empirical and policy problems; designing advanced research projects to address complex issues in teaching, learning, and special needs of individual learners.
Prerequisite(s): EPSY 6040.

EPSY 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): EPSY 6290 or equivalent multivariate statistics course.

EPSY 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): EPSY 5050 or EPSY 6020.

EPSY 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): EPSY 6280 and EPSY 6020.

EPSY 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): EPSY 6010, EPSY 6020.

EPSY 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): EPSY 6010, EPSY 6020.

EPSY 6313 - Application of Family Theory in Research

3 hours. Reviews classic and contemporary family theories focusing on the scholarly application of these theories in scientific research on families. Specific attention is paid to theory building and current research employing these theoretical perspectives.
Prerequisite(s): EPSY 5413.

EPSY 6323 - Critical Issues in Families

3 hours. Review of current issues, programs and policies pertaining to families. International, national, state and local issues are addressed related to socioecological topics such as immigration, juvenile crime, globalization and poverty.
Prerequisite(s): EPSY 5413.

EPSY 6333 - The Changing Family

3 hours. Highlights the major changes and current trends in family structure and the resulting implications of these changes and trends. Topics may include single-parent families, cohabitation, non-marital fertility, etc.
Prerequisite(s): EPSY 5413.

EPSY 6800 - Selected Topics

3 hours. Organized classes designed to accommodate the needs of students and the demands of program development not met by regular course offerings. Short courses and workshops of specific topics are offered on a limited basis, to be repeated only upon demand.
Prerequisite(s): None.
May be repeated for credit as topics vary.

EPSY 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.
Prerequisite(s): None.

EPSY 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): None.
May be repeated for credit.

Electrical Engineering**EENG 5310 - Control Systems Design**

3 hours. Transform domain and state space representations of linear feedback systems, system stability, nonlinear systems, optimal control, bounded and time optimal control of linear systems.
Prerequisite(s): EENG 2620 or equivalent.

EENG 5320 - Systems Modeling and Simulation

3 hours. Aims to systematically introduce the concepts and analytical tools required to abstract engineering problems from applications, and to simulate and analyze such problems. Topics include dynamical systems modeling, stochastic models, queuing models, Markov chains, model identification, Monte-Carlo simulation, model reduction, agent-based modeling, large-scale networks, and applications to ecological, biological, and modern infrastructure systems.
Prerequisite(s): Consent of department.

EENG 5330 - Environmental Systems

3 hours. Includes foundations and practice of modeling and simulation of ecological and environmental systems; temporal and spatial analysis; dynamical systems; and applications of engineering to environmental problems.
Prerequisite(s): Consent of department.

EENG 5410 - Microwave Engineering

3 hours. Investigates the fundamental concepts and techniques in the area of RF/microwave circuit designs. Topics include RF/microwave transmission lines, RF matching networks, microwave resonators, microwave coupler and power dividers, microwave filters, and fabrication of RF/microwave circuits.
Prerequisite(s): EENG 3410 or equivalent.

EENG 5420 - Antenna Theory and Design

3 hours. Provides students with the fundamental theory in antenna designs and hands-on skills related to antenna designs and characterizations. Includes linear dipole antennas, loop antennas, patch antennas, RFID antennas, broadband and frequency-independent antennas, and antenna arrays.

Prerequisite(s): EENG 3410 or equivalent.

EENG 5520 - Design and Testing of Digital Systems

3 hours. Review of combinational logic, testing combinational circuits, sequential circuit synthesis, state minimization, state assignment, and structure of sequential circuits; state identification and fault detection experiments; testing of sequential circuits and design for testability.

Prerequisite(s): EENG 2710 or equivalent.

EENG 5530 - Analog Integrated Circuit Design

3 hours. 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.

EENG 5540 - Digital Integrated Circuit Design

3 hours. Focuses on the design of digital systems with an emphasis on hands-on chip design. Uses industry CAD tools to design, layout and simulate the VLSI circuits. Includes MOS transistor, circuit characterization, circuit simulation, combinational and sequential circuits, static and dynamic logic circuits, memories, and low power circuit design.

Prerequisite(s): EENG 2710 and EENG 3510, or consent of department.

EENG 5550 - Hardware Design Methodologies for ASICs and FPGAs

3 hours. Explores hardware design methodologies through the use of industry tools. Students use design automation tools to design, simulate and synthesize designs for standard cell-based ASICs and FPGAs using hardware description languages (e.g., VHDL and Verilog). Examines the synthesis concept to understand how hardware functions written in these hardware description languages are synthesized. Covers techniques for design optimization, simulation, and synthesis of combinatorial functions, data paths, and finite state machines in depth. Examines the differences between design flows for standard cell-based ASICs and FPGAs.

Prerequisite(s): EENG 2710 or equivalent.

EENG 5560 - Reconfigurable Computing

3 hours. Focuses on the fundamental architectural aspects of different reconfigurable devices such as some of the commercially available FPGAs, and coarse-grained reconfigurable fabrics from academia and industry. Includes both a description of the architectures and discussion of pros and cons of these architectures for different applications and user needs, including the need for run-time reconfiguration. Covers various low power reconfigurable devices.

Prerequisite(s): EENG 2710.

Same as CSCE 3730.

EENG 5610 - Digital Signal Processing

3 hours. Introduction to modern digital signal processing theory and techniques. Includes discrete time signals and systems, sampling theorem, Z-transform, frequency analysis of signals and systems, discrete Fourier transform, fast Fourier transform algorithms, and digital filter design.

Prerequisite(s): EENG 2620 or equivalent.

EENG 5620 - Statistical Signal Processing

3 hours. Introduction to detection and estimation theories. Includes hypothesis testing, Neyman-Pearson detection theory, Bayesian detection theory, maximum-likelihood estimation, Cramer-Rao bound, Bayesian and minimum mean-squared error estimators, Kalman filter, and least-squares estimation.

Prerequisite(s): EENG 2620 and MATH 3680 or equivalent.

EENG 5630 - Adaptive Signal Processing

3 hours. Provides students with fundamental knowledge of modern adaptive signal processing theorems and algorithms and their applications. Includes search algorithms, LMS, RLS adaptive filtering, adaptive signal modeling and applications.

Prerequisite(s): EENG 2620, EENG 3910 or equivalent.

EENG 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.

Prerequisite(s): None.

EENG 5650 - Speech Analysis, Synthesis and Recognition

3 hours. Introduces the production of human speech, vocal tract, the hearing system, the units of speech, methods of analysis for speech signals, speech recognition technology, and computerized speech synthesis.

Prerequisite(s): MATH 1710, MATH 1720, MATH 2700 or equivalent; or consent of instructor.

EENG 5810 - Digital Communications

3 hours. Introduction to the analysis and design of digital communication systems. Includes decision theory, signal space, optimal receivers, modulation schemes, error performance, inter-symbol interference, fading channels, spread spectrum, and link budget analysis.

Prerequisite(s): EENG 3810 or equivalent.

EENG 5820 - Wireless Communications

3 hours. Provides in-depth coverage in wireless and mobile networks. Introduces fundamental theory and design of modern wireless communication systems. Topics include 2G and 3G wireless standards, cellular communications, mobile radio propagation, multipath fading channel characterization, channel equalization, and multiple access technique for wireless communications.

Prerequisite(s): EENG 5810 or equivalent.

EENG 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.

EENG 5840 - Information Theory

3 hours. Explores the elements of information theory that form the foundation for coding in communication systems, the basic concepts of entropy, and ideas in source coding, channel coding, and channel capacity. Includes data compression (optimal codes), channel capacity (channel coding theorems), rate distortion theory (rate distortion functions for different sources), and network information theory (single user, broadcast, relay, and multiple access channels, and encoding of correlated sources).

Prerequisite(s): Consent of department.

EENG 5850 - Image and Video Communications

3 hours. Explores topics ranging from the fundamentals of video coding, motion estimation, source and channel coding, and transform (wavelet and discrete cosine) coding to the state-of-the-art compression and multimedia standards such as MPEG-4, H.264, MPEG-7, and MPEG-21. Advanced research topics include video streaming, joint source-channel coding, distributed video coding, and video surveillance using sensor networks.

Prerequisite(s): Consent of department.

EENG 5890 - Directed Study

1–3 hours. Directed study of topics in electrical engineering. The student prepares 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.

Prerequisite(s): Consent of instructor.

May be repeated for credit.

EENG 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 instructor.

EENG 5932 - Internship

1–3 hours. Supervised work in a job that meets specific educational objectives of the department and is beneficial to the student's career development. Required submission of a final report summarizing industrial experience gained through the internship.

Prerequisite(s): Consent of instructor.

EENG 5940 - Advanced Topics in Electrical Engineering

1–3 hours. Contemporary topics at the advanced graduate elective level. Faculty present advanced elective topics not included in the established curriculum.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

EENG 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.

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.

EDEE 5030 - Field Experiences in Elementary Schools

3 hours. Supervised professional activities in elementary schools; includes teaching under supervision.

Prerequisite(s): None.

EDEE 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.

EDEE 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.

EDEE 5060 - Advanced Studies in Elementary School Language Arts

3 hours. 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.

EDEE 5101 - Student Teaching in Pre-K through Grade 4

3 hours. Certification program requires 6 hours total, to be taken simultaneously. Teaching under supervision. Courses are designed for UNT teacher certification candidates in the post-baccalaureate program. Supervision by university faculty and support from a school-based mentor teacher. Content includes supervised application of the Texas Pedagogy and Professional Responsibilities Standards. Requirements include classroom teaching under the leadership of the mentor or cooperating teacher and guidance of the supervisor. Research paper and a professional portfolio may also be required.

Prerequisite(s): Admission to teacher education and approval of Field Experience Coordinator. Contact advisor.

Pass/no pass only.

EDEE 5102 - Student Teaching in Pre-K through Grade 4

3 hours. Certification program requires 6 hours total, to be taken simultaneously. Teaching under supervision. Courses are designed for UNT teacher certification candidates in the post-baccalaureate program. Supervision by university faculty and support from a school-based mentor teacher. Content includes supervised application of the Texas Pedagogy and Professional Responsibilities Standards. Requirements include classroom teaching under the leadership of the mentor or cooperating teacher and guidance of the supervisor. Research paper and a professional portfolio may also be required.

Prerequisite(s): Admission to teacher education and approval of Field Experience Coordinator. Contact advisor.

Pass/no pass only.

EDEE 5103 - Student Teaching in Grade 4 through Grade 8

3 hours. Certification program requires 6 hours total, to be taken simultaneously. Teaching under supervision. Courses are designed for UNT teacher certification candidates in the post-baccalaureate program. Supervision by university faculty and support from a school-based mentor teacher. Content includes supervised application of the Texas Pedagogy and Professional Responsibilities Standards. Requirements include classroom teaching under the leadership of the mentor or cooperating teacher and guidance of the supervisor. Research paper and a professional portfolio may also be required.

Prerequisite(s): Admission to teacher education and approval of Field Experience Coordinator.

Contact advisor. Pass/no pass only.

EDEE 5104 - Student Teaching in Grade 4 through Grade 8

3 hours. Certification program requires 6 hours total, to be taken simultaneously. Teaching under supervision. Courses are designed for UNT teacher certification candidates in the post-baccalaureate program. Supervision by university faculty and support from a school-based mentor teacher. Content includes supervised application of the Texas Pedagogy and Professional Responsibilities Standards. Requirements include classroom teaching under the leadership of the mentor or

cooperating teacher and guidance of the supervisor. Research paper and a professional portfolio may also be required.

Prerequisite(s): Admission to teacher education and approval of Field Experience Coordinator.

Contact advisor. Pass/no pass only.

EDEE 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.

Prerequisite(s): Admission to Teacher Education Program; probationary teaching certificate.

Grade is pass/no pass.

EDEE 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.

Prerequisite(s): Admission to Teacher Education Program; probationary teaching certificate.

Grade is pass/no pass.

EDEE 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.

Prerequisite(s): None.

EDEE 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.

Prerequisite(s): None.

Same as EDSE 5400.

EDEE 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 on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

Same as EDCI 5800. Same as EDSE 5800.

May be repeated for credit.

EDEE 5810 - 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 on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

Same as EDCI 5810. Same as EDSE 5810.

May be repeated for credit.

EDEE 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.

EDEE 5850 - Instructional Methodologies in Language Arts and Social Studies

3 hours. Survey of subject-specific instructional methods and activities in 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 30 clock hours of field experience.

Prerequisite(s): EDRE 4450 or EDRE 4820.

Course is designed for post-baccalaureate teacher certification candidates only.

EDEE 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 30 clock hours of field experience.

Prerequisite(s): EDRE 4450 or EDRE 4820.

Course is designed for post-baccalaureate teacher certification candidates only.

EDEE 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.

Prerequisite(s): None.

Open only to resident students.

EDEE 5910 - 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.

Prerequisite(s): None.

Open only to resident students.

EDEE 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): None.

May be repeated for credit.

EDEE 5960 - Education Institute

1–6 hours. For students accepted as participants in special institute courses.

Prerequisite(s): None.

Same as EDCI 5960.

EDEE 5970 - Education Institute

1–6 hours. For students accepted as participants in special institute courses.

Prerequisite(s): None.

Same as EDCI 5970.

Engineering Systems, Master's Courses

MSES 5010 - Seminar in Engineering Systems

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.

Prerequisite(s): None.

May be repeated for credit.

MSES 5020 - Design of Experiments

3 hours. Study of industrial analytical techniques used to develop new products and new technologies, including the use of engineering software for design purposes.

Prerequisite(s): None.

MSES 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.

Prerequisite(s): None.

MSES 5040 - Analytical Methods for Engineering Systems

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 3-dimensional engineering functions.

Prerequisite(s): None.

MSES 5060 - Technology Innovation

3 hours. Topics include understanding innovation, processes of technology innovation, techniques of technology innovation (TRIZ), planning for innovation, using innovation technology, and engineering technologies case analyses.

Prerequisite(s): None.

MSES 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.

Prerequisite(s): None.

MSES 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.

Prerequisite(s): None.

MSES 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.

Prerequisite(s): None.

MSES 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.

Prerequisite(s): None.

MSES 5160 - Creep and Fatigue in Engineering Design and Systems Performance

3 hours. Examines creep and fatigue of engineering materials; introduces continuum mechanics and explores deformable bodies, crystalline plasticity, cyclic loading and deformation, high temperature and rate dependent deformation, service life prediction, creep/fatigue/environment interactions, creep and fatigue fracture mechanisms, sliding, rolling, fretting, methods of analysis and case studies.

Prerequisite(s): None.

MSES 5180 - Structural Dynamics

3 hours. Determines the effect of time-varying loads on structural performance and introduces single degree of freedom (SDOF) systems in free vibration circumstances and proceeds to forced response performance where loads are harmonic, periodic, impulsive, and generally time-varying. Multi degree of freedom (MDOF) systems and similar load response structural performances are developed using matrix methods.

Prerequisite(s): Graduate standing.

MSES 5200 - Advanced Construction Scheduling

3 hours. Analysis and control of construction projects using advanced techniques for planning, scheduling and resources control. Subjects include various methods of project scheduling and monitoring, resource management, time-cost tradeoffs, organizing and managing schedule data, forecasting and trend analysis, and presentation of schedule information.

Prerequisite(s): None.

MSES 5220 - Building Information Modeling

3 hours (2;3)

Study of the concept and applications of the building information model (BIM) and electronic data interchange (EDI) between building software applications for architectural design, structural analysis, estimating, construction scheduling, project management and facility management. Topics expand beyond traditional 3D modeling to include state-of-the-art 5D modeling that incorporates the dimensions of cost and time into the BIM for a total building life cycle view.

Prerequisite(s): None.

MSES 5230 - Risk Management in Construction

3 hours. Review of the concepts of risk and uncertainty in the construction and their impact on management decisions in construction industry, and a study of the systems, tools and techniques used in construction project risk management. Subjects also include development of risk mitigation procedures, safety planning and execution, and the role of insurance and bonds in the industry.

Prerequisite(s): None.

MSES 5300 - Embedded Controllers

3 hours (2;2)

Study of the technical aspects of real-time software systems: software development methodologies, operating system and real-time kernel concepts.

Prerequisite(s): None.

MSES 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.

Prerequisite(s): None.

MSES 5320 - Introduction to Telecommunications

3 hours. 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.

Prerequisite(s): None.

MSES 5330 - Instrumentation system Design

3 hours (2;2)

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.

Prerequisite(s): Completion of ELET required courses; course is to be taken within the last 12 hours of the degree plan.

Must be taken the last term/semester offered prior to graduation.

MSES 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.

Prerequisite(s): None.

MSES 5800 - Studies in Engineering Systems

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.

Prerequisite(s): None.

May be repeated for credit.

MSES 5810 - Studies in Engineering Systems

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.

Prerequisite(s): None.

May be repeated for credit.

MSES 5900 - Special Problems

1–3 hours. Open to graduate students capable of developing a problem independently.

Prerequisite(s): None.

MSES 5910 - Special Problems

1–3 hours. Open to graduate students capable of developing a problem independently.

Prerequisite(s): None.

MSES 5930 - Research Problems in Lieu of Thesis

3 hours. Independent, applied research that addresses significant problems in the field, emphasizing statistical methods and research design, supervised by a member of the engineering technology graduate

faculty and approved by the department chair; for students who are doing a project in lieu of a thesis; no credit given until the problem is completed and approved.

Prerequisite(s): Approval of research proposal by major advisor and department chair.

MSES 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): None.

May be repeated for credit.

English**ENGL 5000 - Old English**

3 hours. 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): None.

ENGL 5010 - Beowulf

3 hours. Study of Beowulf, its language and its place in the Germanic epic tradition; some attention to other heroic poetry.

Prerequisite(s): ENGL 5000.

ENGL 5020 - Chaucer: Major Works

3 hours. Study of the works of Geoffrey Chaucer, including the short poems and Troilus and Criseyde or the Canterbury Tales in relation to late medieval culture.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5030 - Studies in Medieval Literature and Culture

3 hours. 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5100 - Studies in British Literature and Culture of the Romantic Period

3 hours. 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 and general consideration of the cultural, social, literary and intellectual history of the period.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 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.

Prerequisite(s): None.

ENGL 5145 - Form and Theory: Prose

3 hours. Rhetorical criticism of prose fiction to show how short stories and novels achieve effect.

Prerequisite(s): None.

ENGL 5162 - Creative Writing: Creative Nonfiction

3 hours. Workshop devoted to the writing, reading and analysis of creative nonfiction. Emphasis shifts each semester and may encompass the personal essay, memoir, nature writing, travel writing and the nonfiction short story.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

ENGL 5200 - Studies in British Literature and Culture of the Victorian Period

3 hours. Study of the works of one or more of the major British writers of the Victorian period and of the cultural, social, intellectual and philosophical interests of the period.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5250 - Studies in British Literature and Culture of the Eighteenth Century

3 hours. 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5260 - Studies in Nineteenth-Century British Literature and Culture

3 hours. Detailed survey of the works of the Romantic and Victorian periods, with a general consideration of social and intellectual history of the time.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5310 - Studies in Rhetorical Theory

3 hours. Detailed study of narrowly conceived topics exigent to contemporary rhetorical theory, history and practice.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5320 - Studies in Composition Theory

3 hours. Detailed topics course centering on exigent questions, issues and research topics relevant to the theory and practice of composition and writing studies.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5400 - Studies in Shakespeare

3 hours. Intensive study of selected plays and a consideration of some of the literary problems connected with Shakespeare's life and work.

Prerequisite(s): None.

ENGL 5410 - Studies in the British Renaissance

1–4 hours. 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.

Prerequisite(s): None.

ENGL 5420 - Creative Writing: Poetry

3 hours. Study of the principles of poetic composition in traditional forms as well as free verse. Format includes lecture and workshop.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

ENGL 5490 - Studies in the Twentieth-Century British Novel

3 hours. 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.

Prerequisite(s): None.

ENGL 5500 - Studies in American Literature and Culture from the Beginning to 1800

3 hours. Survey of the works of major writers from the Puritan, Colonial and Federalist eras, and a general consideration of the social, cultural, literary and intellectual history of these times.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5510 - Studies in American Literature and Culture, 1800 to 1865

3 hours. Detailed study of the writings of major authors and a general consideration of the social and intellectual interests of the time.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5515 - Studies in the American Renaissance

3 hours. Explores the outpouring of American cultural and literary expression in the decades leading up to the Civil War. Covers major authors such as Emerson, Dickinson, Melville and Douglass, as well as a variety of other literary and visual texts. Possible topics of study include the literary marketplace, reform movements such as antislavery and women's rights, nationalism and multiculturalism, and modern critical reevaluations of the period.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5520 - Studies in American Literature and Culture, 1865 to 1914

3 hours. Detailed study of the writings of major authors and a general consideration of the social and intellectual interests of the time.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5525 - Studies in American Realism

3 hours. Focuses on the development of realism in American literature and culture from approximately 1865–1914, along with the related literary movements of naturalism, regionalism and local color. Provides coverage of such major authors as Mark Twain, Sarah Orne Jewett, Charles Chesnut and William James. Additional topics of study may include the rise of photography and newspaper journalism, science and evolutionary theory, and/or the problems of urbanization, among others.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5530 - Studies in American Literature and Culture, 1914 to the Present

3 hours. Detailed study of the writings of major authors and a general consideration of the social, cultural and intellectual interests of the time.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5540 - Studies in Twentieth-Century British or Irish Literature and Culture

3 hours. Detailed study of the writings of one or more 20th-century British or Irish authors, with consideration of relevant social and intellectual interests of the time.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 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.

Prerequisite(s): None.

May be repeated for credit as topics vary. ENGL 5550 is required for all new teaching fellows. Offered every fall.

ENGL 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.

Prerequisite(s): None.

ENGL 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.

Prerequisite(s): None.

ENGL 5600 - Studies in European Literature and Culture

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, Anglophone and/or American literature.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5605 - Studies in the Literature and Culture of the Colonial Americas

3 hours. Study of writing from and about the conquest, colonization, and settlement of the Americas. Covers such major writers as Christopher Columbus, Alvar Nunez Cabeza de Vaca, Bartolome de Las Casas, Thomas Harriot, John Winthrop, Inca Garcilaso de la Vega, Mary Rowlandson, Cotton Mather, William Byrd, Thomas Jefferson and others. Possible topics of study include transatlantic and hemispheric exchange and migration, travel, slavery, captivity, Creole subjectivities, religion, and independence movements.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5610 - Studies in Early African-American Literature and Culture

3 hours. Explores the beginnings of African-American cultural and literary expression during the 18th and 19th centuries. Covers major authors such as Phyllis Wheatley, Olaudah Equiano, William Wells Brown, Harriet Jacobs, Frederick Douglass, Paul Laurence Dunbar, Ida B. Wells, Booker T. Washington and Charles Chesnut. Possible topics of study include theology, Constitutional law, antebellum slave and Southern culture, transatlantic abolition movements, Reconstruction, migration and nationalism.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5620 - Studies in Contemporary African-American Literature and Culture.

3 hours. Focuses on the development of African American literature and cultural production during the 20th and 21st centuries, across literary and cultural movements such as realism, regionalism, the Harlem/New Negro movement, Black Power/Arts Movement, postmodernism, and the Dark Room Collective. Covers such major artists as W.E.B. DuBois, Duke Ellington, Zora Neale Hurston, Ralph Ellison, Katherine Dunham,

Gwendolyn Brooks, James Baldwin, Toni Morrison, Yusef Komunyakaa, Spike Lee, and Suzan-Lori Parks. Additional topics of study may include Black Atlantic studies, African American feminism, black intellectual practice, sociological and political theory, and photography.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5630 - Semiotics

3 hours. Introduction to the study of signs as signifiers of meaning in various genres.

Prerequisite(s): None.

ENGL 5635 - Mexican-American Literature and Theory Before 1954

3 hours. Examines the literary productions of Mexican-Americans from the 19th century up to the landmark civil rights Supreme Court case *Hernandez v. Texas* of 1954. Traces the historical and cultural influences of Mexicans and Mexican-Americans in the U.S. from the early 19th century through the rise of modernism and the impact of the Mexican Revolution and increasing immigration from Mexico, to the emergence of post-war activism. Provides a foundation in Mexican-American literature by attending to historical contexts and to concerns of war and displacement, migration, early ethnic consciousness, *mestizaje*, and other relevant topics. Secondary readings may also be drawn from anthropology, historiography, studies in nationalism, popular literature and journalism, narrative studies, and various ancillary fields.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5640 - Mexican-American Literature and Theory After 1954

3 hours. Beginning during a period of several landmark Mexican-American court cases including *Hernandez v. Texas* (1954), examines the literary production of Mexican-Americans in the latter half of the 20th century up to the present day. Works may address topics such as, but not limited to, Mexican-Americans and civil rights, the Chicana/o Movement, Chicana feminism, film and television, immigration, education, postmodern narrative, ethnic identity/*mestizaje*, global literary studies and environmental justice. Traces the development of contemporary Mexican-American literature and Chicana/o theory in the context of recent history, politics and cultural studies.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5650 - United States Ethnic Literature and Culture

3 hours. Explores the theoretical and critical contexts pertinent to the field of ethnic writing in the United States. Involves the close reading and analysis of both key primary texts and influential criticism and theoretical writings, including, but not limited to, postcolonialism, narratology, deconstruction and globalization. Key aims for the course are to understand the relationship between literature, ethnic populations, the cultural and social aspects of immigration, and key moments in U.S. history. Ancillary interdisciplinary readings may be drawn from sociology, anthropology, cognitive sciences, U.S. historiography and other fields.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5680 - Studies in Global Literature and Culture

3 hours. Examines world literatures written in English, or in translation, in a project aimed at establishing critical and theoretical paradigms for effective analysis. Primary readings (novels, poetry, films and other forms) typically deal with issues of transnationalism, migration, global and regionalist identities, and cosmopolitanism. Secondary readings establish a foundation in key disciplines such as, but not limited to, nationalism, postcolonialism, anthropology, cognitive sciences and globalization studies.

Prerequisite(s): None.

May be repeated for credits as topics vary.

ENGL 5700 - Classical Background of English and American Literature and Culture

3 hours. Study of Greek and Latin literature in translation, with emphasis on a study of the specific literary, cultural and intellectual influences of Classical works that have shaped English and American literary culture. Prerequisite(s): None.
May be repeated for credit as topics vary.

ENGL 5710 - Studies in Folklore

3 hours. 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. Prerequisite(s): None.

ENGL 5720 - Literature and Science

3 hours. Examines the relationships between literature and science in any historical period of American or British literature. Involves the close reading of both literary and scientific texts in order to explore how leading scientific figures and theories (such as Darwin and evolutionary biology) provided literary works with new representational practices and new ways of examining the connections between science, culture and ethics. May also encompass such areas of interdisciplinary investigation as anthropology and literature or literature and medicine. Prerequisite(s): None.
May be repeated for credit as topics vary.

ENGL 5730 - Literature and the Environment

3 hours. Explores a variety of philosophical, aesthetic and cultural traditions of representing the natural world and its relation to human societies. In addition to literature, readings may extend into natural science, environmental philosophy, cultural criticism and artistic theory. Prerequisite(s): None.
May be repeated for credit as topics vary.

ENGL 5750 - Bibliography and Historical Method

3 hours. Examination of the basic problems and methods pertinent to the use of primary materials in literary research; consideration of types of bibliography, problems in textual analysis and editing, and approaches to archival research and literary history. Prerequisite(s): None.

ENGL 5760 - Scholarly and Critical Writing

3 hours. Examination of the writing strategies entailed in preparing successful seminar papers, conference presentations and scholarly articles. Prerequisite(s): None.

ENGL 5770 - Literary Publishing, Editing and Writing for Publication

3 hours. Multi-genre seminar/workshop in literary publishing, editing and writing for publication. Advanced stage workshop for creative pieces, with special emphasis on researching publishing markets and forming submission strategies. Smaller workshops focus on cover letters, query letters, book proposals and book reviews. Covers the history of publishing as well as contemporary issues in publishing and editing, and provides practical experience by working with the *American Literary Review*. Prerequisite(s): None.

ENGL 5800 - Studies in Literary Genres

3 hours. 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. Prerequisite(s): None.

ENGL 5810 - Survey of Critical Theory

3 hours. Survey of major theoretical schools with special attention to those influential in the 20th and 21st centuries. Prerequisite(s): None.

ENGL 5820 - Creative Writing: Prose Fiction

3 hours. 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): Consent of department.
May be repeated for credit as topics vary.

ENGL 5825 - Screenwriting

3 hours. Study of the principles of dramatic composition as applied to writing for the motion picture or television screen. Prerequisite(s): None.

ENGL 5890 - Studies in the American Novel, 1914 to the Present

3 hours. 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. Prerequisite(s): None.

ENGL 5900 - Special Problems

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor. Prerequisite(s): None.
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 of credit is allowed for each course.

ENGL 5910 - Special Problems

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor. Prerequisite(s): None.
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 of credit is allowed for each course.

ENGL 5920 - Research Problems in Lieu of Thesis

6 hours (0;0;6)
Composition of an original scholarly paper in the field of linguistics and/or English as a second language. Prerequisite(s): Consent of department.

ENGL 5930 - Research Problems in Lieu of Thesis

6 hours (0;0;6)
Composition of an original scholarly paper in the field of linguistics and/or English as a second language. Prerequisite(s): Consent of department.

ENGL 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): None.
May be repeated for credit.

ENGL 5960 - English Institute

1–6 hours. For students accepted by the university as participants in special institute courses.

Prerequisite(s): None.

May be repeated for credit but not to exceed 6 hours in each course.

ENGL 5970 - English Institute

1–6 hours. For students accepted by the university as participants in special institute courses.

Prerequisite(s): None.

May be repeated for credit but not to exceed 6 hours in each course.

ENGL 6020 - Seminar in Old and Middle English Language or Literature

3 hours. In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and a general consideration of the social, intellectual and cultural contexts of the literary work.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6200 - Seminar in British Literature and Culture, 1500–1660

3 hours. In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and a general consideration of the social, intellectual and cultural contexts of the literary work.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6250 - Seminar in British Literature and Culture, 1660–1780

3 hours. In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and a general consideration of the social, intellectual, and cultural contexts of the literary work.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6410 - Seminar in British Literature and Culture, 1780 to the Present

3 hours. In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and a general consideration of the social, intellectual, and cultural contexts of the literary work.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6500 - Seminar in American Literature and Culture to 1865

3 hours. In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and a general consideration of the associated social, cultural, literary and intellectual history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6530 - Seminar in American Literature and Culture, 1865 to the Present

3 hours. In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and general consideration of the associated social, cultural, literary and intellectual history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6540 - American Women Writers

3 hours. In-depth study of a single woman writer or group of women writers in any period and genre of American literature.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6590 - Seminar in the Novel

3 hours. In-depth study 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.

Prerequisite(s): None.

ENGL 6810 - Topics in Critical Theory

3 hours. Study of one or more related major strains of critical, literary or cultural emphasis.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6820 - Topics in Cultural Studies

3 hours. Cultural studies approaches to literature, including visual culture, film, history, philosophy, politics, gender and sexuality.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6900 - Special Problems

1–3 hours. Conference course open to doctoral candidates doing independent research under the direction of the instructor.

Prerequisite(s): None.

ENGL 6910 - Special Problems

1–3 hours. Conference course open to doctoral candidates doing independent research under the direction of the instructor.

Prerequisite(s): None.

ENGL 6941 - Directed Research

1–12 hours. Doctoral research of an independent nature.

Prerequisite(s): None.

May be repeated for credit.

ENGL 6942 - Directed Research

1–12 hours. Doctoral research of an independent nature.

Prerequisite(s): None.

May be repeated for credit.

ENGL 6944 - Directed Research

1–12 hours. Doctoral research of an independent nature.

Prerequisite(s): None.

May be repeated for credit.

ENGL 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): None.

May be repeated for credit.

Ethnomusicology**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.

Prerequisite(s): None.

MUET 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.

Prerequisite(s): None.

Meets with MUET 3040.

Open to majors from all fields of study. No formal musical training required. May be repeated for credit as topics/locations vary.

MUET 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 are explored in relation to African music, ranging from the complex vocal polyphony of the Mbuti Pygmies of the Ituri Forest to the worldwide explosion of Afro Pop.

Prerequisite(s): None.

Meets with MUET 3050.

Open to majors of all fields. No formal musical training is needed to successfully complete this course.

MUET 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.

Prerequisite(s): None.

MUET 5070 - Studies in Asian Music

3 hours. Historical developments and current issues in Asian music.

Select music cultures are studied from an ethnomusicological perspective.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MUET 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.

Prerequisite(s): None.

May be repeated as topics vary.

MUET 5090 - Music of India

3 hours (3;1)

Development of Indian music from Vedic times to the present day. 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.

Prerequisite(s): None.

MUET 5210 - Seminar in Ethnomusicology

3 hours. Selected topics in ethnomusicology: current theoretical and practical issues in the discipline.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MUET 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.

Prerequisite(s): None.

MUET 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.

Prerequisite(s): None.

MUET 5617 - African Music and Movement

3 hours. 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.

Prerequisite(s): None.

May be repeated for credit.

MUET 5900 - Ethnomusicology Special Problems

3 hours. Special problems in ethnomusicology.

Prerequisite(s): None.

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, or consent of department.

FINA 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 or equivalent. 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 master's advisor. DSCI 5180 and ACCT 5130 are recommended.

FINA 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 ECON 5000 or equivalent; ACCT 2010 or ACCT 5020 or equivalent; MATH 1190 or equivalent, or consent of department.

FINA 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 FINA 5210 or equivalents; ECON 1100 or ECON 5000 or equivalent; ACCT 2010 or ACCT 5020 or equivalent; MATH 1190 or equivalent.

FINA 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 or consent of instructor.

FINA 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 ECON 5000 or equivalent; ACCT 2010 or ACCT 5020 or equivalent; MATH 1190 or equivalent.

FINA 5400 - Financial Markets and Institutions

3 hours. 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 ECON 5000 or equivalent; ACCT 2010 or ACCT 5020 or equivalent; MATH 1190 or equivalent.

FINA 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 or consent of department.

FINA 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 ECON 5000 or equivalent; ACCT 2010 or ACCT 5020 or equivalent; MATH 1190 or equivalent.

FINA 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; or consent of department.

FINA 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.

FINA 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, FINA 5310, FINA 5400 and FINA 5500 or consent of department. One or two prerequisites may be taken concurrently.

FINA 5800 - Internship

1–3 hours. Supervised work experience in a position related to the student's career objective that meets the department's internship requirements.

Prerequisite(s): Students must meet employer's requirements and have consent of the department's master's advisor.

Pass/no pass only.

FINA 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 CoB Graduate Programs Office prior to registration.

FINA 5910 - 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 CoB Graduate Programs Office prior to registration.

FINA 6010 - Seminar in Business Administration

3 hours. Covers one or more special fields.

Prerequisite(s): Approval of the PhD program advisor in the department. May be repeated for credit, and two or more sections may be taken concurrently.

FINA 6014 - Seminar in Investments, Modern Portfolio Theory and Capital Markets Research

3 hours. Explores the origins of the established theories explaining investment analysis, portfolio management equilibrium in the capital market and the evidence that supports these principles. Seminar focuses on the original writings that have formed the foundations of the discipline and the empirical methods used for research in investment analysis, portfolio management and capital markets research.

Prerequisite(s): Admission to doctoral finance program and consent of department.

FINA 6015 - Seminar in Financial Derivatives

3 hours. Explores the origins of the established theories explaining the behavior and use of financial derivatives, and the evidence that supports them. Focuses on the original writings that have formed the foundations of the discipline and the empirical methods used for research in financial derivatives. Examines the application of financial derivatives analysis to capital investment decisions, using the Real Options Approach.

Prerequisite(s): Admission to the doctoral finance program and consent of department.

FINA 6016 - Seminar in Corporate Finance

3 hours. Explores the origins of the established theories explaining firms decisions about how to raise money from investors, how to make capital investment decisions, plus when and how to return capital to investors. Examines the evidence that supports these principles. Focuses on the original writings that have formed the foundations of the discipline and the empirical methods used for research in corporate finance. Prerequisite(s): Admission to the doctoral finance program and consent of department.

FINA 6017 - Seminar in Financial Institutions and Markets

3 hours. Explores the origins of the established theories explaining the functions of financial institutions and the flow of funds through the money markets. Examines the evidence that supports these principles. Focuses on the original writings that have formed the foundations of the discipline and the empirical methods used for research about financial institutions and markets. Prerequisite(s): Admission to the doctoral finance program and consent of department.

FINA 6018 - Seminar in Econometric Methods Applied in Financial Markets Research

3 hours. Explores the econometric methods currently available for application in financial market research. Prepares students for dissertation research and for careers in financial markets research. Prerequisite(s): MATH 5810, MATH 5820, and ECON 5660 or equivalents; admission to the doctoral finance program or consent of department.

FINA 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.

FINA 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 or consent of department.

FINA 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 CoB Graduate Programs Office prior to registration.

FINA 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 CoB Graduate Programs Office prior to registration. May be repeated for credit.

FINA 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 CoB Graduate Programs Office prior to registration. May be repeated for credit.

FINA 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 CoB Graduate Programs Office prior to registration. May be repeated for credit.

French**FREN 5016 - French for Graduate Research**

3 hours. French readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool. Prerequisite(s): None. No prior knowledge of French is required. Evaluation on a pass/no pass basis.

FREN 5026 - French for Graduate Research

3 hours. French readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool. Prerequisite(s): FREN 5016 or equivalent. Evaluation on a pass/no pass basis.

FREN 5150 - Seminar in French

3 hours. Topics include practicum in teaching college level French; and theory of teaching methodology and language acquisition in French. Prerequisite(s): None. Open to all graduate students. May be repeated for credit as topics vary.

FREN 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. Prerequisite(s): None. May be repeated for credit as topics vary.

FREN 5300 - Introduction to French Linguistics

3 hours. Advanced French grammar, morphology, phonology and syntax. Prerequisite(s): None.

FREN 5310 - Analysis of French Discourse

3 hours. Analysis of spoken, written and electronic French discourse with a focus on the ways in which language varies in different types of texts and contexts. Prerequisite(s): None.

FREN 5320 - Teaching Methods for French

3 hours. Current pedagogical frameworks and trends in teaching French as a foreign language, including assessment and the use of new technologies. Prerequisite(s): None. May be repeated for credit as topics vary.

FREN 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.

Prerequisite(s): None.

Knowledge of Latin useful but not necessary.

FREN 5340 - French Structures and Stylistics

3 hours. Comparative analysis of French and English grammatical structures and stylistics with intensive writing practice, including translations.

Prerequisite(s): None.

This is a required course that will enable students to improve their writing skills.

FREN 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5410 - Topics in Medieval Literature

3 hours. Study and analysis of poetic and/or prose writers and texts in Medieval France.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5430 - Topics in Renaissance Literature

3 hours. Study and analysis of poetic and/or prose writers and texts in 16th-century France.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 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.

Prerequisite(s): None.

FREN 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.

Prerequisite(s): None.

FREN 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).

Prerequisite(s): None.

FREN 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 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 includes films and theory of the novel.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5560 - French Autobiography

3 hours. Study of autobiographical prose from Pre-Romanticism to contemporary transformations of the genre, including Gide, Céline, Sartre, Sarraute, Perec, Robbe-Grillet and Roubaud.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 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".

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5600 - French Women Writers

3 hours. Overview of women's contributions to French literature, from the Middle Ages through the modern age.

Prerequisite(s): None.

FREN 5710 - History of French Civilization to 1789

3 hours. History of French civilization from the origins to the Revolution of 1789, including political and social history, art, music, and literary movements. Lectures, readings, recordings, films and video sequences.

Prerequisite(s): None.

FREN 5715 - History of French Civilization since 1789

3 hours. History of French civilization from the Revolution of 1789 to the beginning of the Fifth Republic, including political and social history, art, music and literary movements. Includes lectures, readings, recordings, films and video sequences.

Prerequisite(s): None.

FREN 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.

Prerequisite(s): None.

FREN 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 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).

Prerequisite(s): None.

FREN 5900 - Special Problems

1–3 hours. Conference courses open only to advanced students capable of doing independent research under the direction of the instructor.
Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

FREN 5910 - Special Problems

1–3 hours. Conference courses open only to advanced students capable of doing independent research under the direction of the instructor.
Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

FREN 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): None.
May be repeated for credit.

General 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.
Prerequisite(s): None.

MUGC 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.
Prerequisite(s): None.
May be repeated for credit.

MUGC 5900 - Special Problems

1–3 hours. For graduate students of unusual ability in music who may elect to study material not formally listed for instruction.
Prerequisite(s): None.
May be repeated for credit.

MUGC 5910 - Special Problems

1–3 hours. For graduate students of unusual ability in music who may elect to study material not formally listed for instruction.
Prerequisite(s): None.
May be repeated for credit.

MUGC 5930 - Research Problem in Lieu of Thesis

3 hours. Prerequisite(s): MUMH 5010.
May be repeated for credit.

MUGC 5941 - Graduate Artist Certificate Recital

3 hours (0;1)
Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.
Prerequisite(s): Consent of major professor.
Registration only by consent of major professor.

MUGC 5942 - Graduate Artist Certificate Recital

3 hours (0;1)
Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.
Prerequisite(s): Consent of major professor.
Registration only by consent of major professor.

MUGC 5943 - Graduate Artist Certificate Recital

3 hours (0;1)
Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.
Prerequisite(s): Consent of major professor.
Registration only by consent of major professor.

MUGC 5944 - Graduate Artist Certificate Recital

3 hours (0;1)
Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.
Prerequisite(s): Consent of major professor.
Registration only by consent of major professor.

MUGC 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.
Prerequisite(s): None.
May be repeated for credit.

MUGC 6900 - Special Problems

1–3 hours. For doctoral students of unusual ability in music who may elect to study material not formally listed for instruction.
Prerequisite(s): None.
May be repeated for credit.

MUGC 6910 - Special Problems

1–3 hours. For doctoral students of unusual ability in music who may elect to study material not formally listed for instruction.
Prerequisite(s): None.
May be repeated for credit.

MUGC 6941 - Graduate Artist Certificate Recital

3 hours (0;1)
Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.
Prerequisite(s): Consent of major professor.
Registration only by consent of major professor.

MUGC 6942 - Graduate Artist Certificate Recital

3 hours (0;1)
Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.
Prerequisite(s): Consent of major professor.
Registration only by consent of major professor.

MUGC 6943 - Graduate Artist Certificate Recital

3 hours (0;1)
Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.
Prerequisite(s): Consent of major professor.
Registration only by consent of major professor.

MUGC 6944 - Graduate Artist Certificate Recital

3 hours (0;1)

Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.

Prerequisite(s): Consent of major professor.

Registration only by consent of major professor.

MUGC 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.

Prerequisite(s): None.

May be repeated for credit.

MUGC 6951 - Dissertation Recital

3 hours. Prerequisite(s): Consent of major professor.

Open only to DMA students in performance.

MUGC 6952 - Dissertation Recital

3 hours. Prerequisite(s): MUGC 6951. Consent of major professor.

Open only to DMA students in performance.

MUGC 6953 - Dissertation Recital

3 hours. Prerequisite(s): MUGC 6951, MUGC 6952. Admission to candidacy, and consent of major professor.

Registration only by consent of major professor. Open only to DMA students in performance.

MUGC 6954 - Dissertation Recital

3 hours. Prerequisite(s): MUGC 6951, MUGC 6952, MUGC 6953.

Admission to candidacy, and consent of major professor.

Registration only by consent of major professor. Open only to DMA students in performance.

MUGC 6955 - Dissertation Recital in Jazz Studies

3 hours. Combination of recitals, lecture-recitals and scholarly writing to be determined in consultation with the major professor.

Prerequisite(s): Consent of major professor.

Open only to DMA students in jazz studies. Pending approval of the DMA with a major in jazz studies.

MUGC 6958 - Dissertation Recital in Jazz Studies

3 hours. Combination of recitals, lecture-recitals and scholarly writing to be determined in consultation with the major professor.

Prerequisite(s): Consent of major professor.

Open only to DMA students in jazz studies. Pending approval of the DMA with a major in jazz studies.

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.

GEOG 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.

Prerequisite(s): None.

GEOG 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.

Prerequisite(s): None.

GEOG 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.

Prerequisite(s): None

GEOG 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 and aggregating data; thematic maps; applications.

Prerequisite(s): None

GEOG 5070 - Geo-Spatial Technologies for Educational Environments

3 hours. Application of geo-spatial technologies for visualization and analysis in K–12 educational settings. Emphasis on applications such as geographic information systems, global positioning systems, internet-based interactive mapping and digital globes for geo-spatial inquiry in formal and informal educational environments.

Prerequisite(s): None

Same as EDCI 5070.

GEOG 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.

Prerequisite(s): None

May be repeated for credit as topics vary.

GEOG 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.

Prerequisite(s): None

May be repeated for credit as topics vary.

GEOG 5140 - Medical Geography

3 hours. Locational aspects of disease and health care, spatial patterns of diseases, health facilities, and health care policies and problems. Individual project required.
Prerequisite(s): Consent of department.
Meets with GEOG 4120.

GEOG 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.
Prerequisite(s): None.
May be repeated for credit as topics vary.

GEOG 5160 - Foundations of Geographic Thought

3 hours. Explores epistemological developments in the discipline of geography, including the origins, development and diffusion of predominant ideas that form the foundation of geography. Provides a grounding in contemporary geographic thought, focusing on diverse ways that geographers go about explaining, interpreting and understanding the world (i.e., epistemologies).
Prerequisite(s): Consent of department.

GEOG 5170 - Map-Air Photo Analysis and Remote Sensing

3 hours. Evaluation and interpretation of aerial photography and satellite images. Extraction of quantitative information. Introduction to photographic and computer image processing techniques. Applications in the environmental sciences.
Prerequisite(s): None.

GEOG 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.
Failure in GEOG 5190 will require the successful re-taking of GEOG 3190 (grade of B or better) before re-registration in GEOG 5190.

GEOG 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.

GEOG 5220 - Applied Retail Geography

3 hours. Advanced survey of principles and applications in the geographic analysis of the retail marketplace. Examines changes in the retail industry and in the markets surveyed by retail firms. Students are required to complete an independent research paper.
Prerequisite(s): None.
Meets with GEOG 4220.

GEOG 5240 - Meteorology

3 hours. Advanced study of the dynamic processes operating in the earth's atmosphere and how they create both usual and unusual patterns of weather. Models of severe atmosphere storm systems receive special attention. Requires completion of an individual research project on a meteorology topic.
Prerequisite(s): Consent of department.
Meets with GEOG 4240.

GEOG 5250 - Climatology

3 hours. Description and analysis of world climates; major classifications, controls, regional distribution and change.
Prerequisite(s): Consent of department.

GEOG 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.
Prerequisite(s): None.

GEOG 5360 - Applied Paleozoology in Conservation Science

3 hours. Integrates issues in conservation biology and environmental management with the deep temporal perspectives of paleontology and zooarchaeology. Zooarchaeological studies are integrated to highlight temporal perspectives on biogeography, biological invasion, ecological restoration and environmental philosophy/ethics. Divided into three sections that are discussion oriented: theory-concept-philosophy, case studies, and extinctions in deep time.
Prerequisite(s): Admission to the graduate program in environmental science, environmental philosophy, or geography.

GEOG 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.

GEOG 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.

GEOG 5420 - Conservation and Resource Management

3 hours. Advanced examination of issues associated with conservation and management of natural resources. Includes case studies in a variety of geographical scales: global, regional and especially local. Requires completion of an individual project and advanced readings in topics related to conservation.
Prerequisite(s): Consent of department.
Meets with GEOG 4420.

GEOG 5520 - Intermediate Geographic Information Systems

3 hours (1;2)
Design and implementation of spatial data integration and analysis functions in GIS. Topics include spatial data models and conversions, spatial analysis, three-dimensional rendering, surface analysis, network analysis, and design and implementation of two GIS projects in an area pertinent to the student's interests. Students develop spatial analysis and modeling skills rather than following step-by-step instructions.
Prerequisite(s): Grade of B or better in GEOG 3500 or consent of department.
Meets with GEOG 4520.

GEOG 5550 - Advanced Geographic Information Systems

3 hours (1;2)
Advanced spatial analysis and database development through the use of specialized software and the design and implementation of GIS applications. Includes GIS project planning, database development, advanced data manipulation and analysis. In addition to laboratory exercises, students design and implement a complete GIS project and

gain advanced GIS application skills in an area pertinent to the student's interests. A comprehensive written report demonstrating research and a problem-solving proficiency using GIS is required.

Prerequisite(s): GEOG 5520 with a grade of B or better or consent of department.

Meets with GEOG 4550.

GEOG 5560 - Introduction to GIS Programming

3 hours. Modern GIS embraces the concept of open systems, which means GIS software can be customized to fit specific requirements of individual implementation environments. Students learn key concepts and develop skills in object-oriented programming, GIS customization, and application development. In addition to laboratory exercises, students design and implement a GIS programming project and gain hands-on skills in accessing databases, maps, data layers, features, and geometric objects in GIS.

Prerequisite(s): GEOG 5500 or consent of department.

Meets with GEOG 4560.

GEOG 5570 - Special Topics in GIS

3 hours. Advanced examination of selected topics and techniques in Geographic Information Systems. Course content reflects current trends in GIS research and the job market. Examples include multiuser geospatial data management, web-based GIS implementation and customization, GIS programming, advanced topics in spatial analysis and spatial statistics, applications for specific career fields, and other topics. Students must complete an independent research paper.

Prerequisite(s): Consent of department.

Meets with GEOG 4570.

May be repeated for credit as topics vary.

GEOG 5590 - Advanced GIS Programming

3 hours. Methods of creating new applications and improving productivity in GIS through computer programming. Culminates in an advanced-level programming project. Topics include accessing maps and data layers, querying and selecting features, updating databases, and accessing raster and TIN/Terrain layers.

Prerequisite(s): GEOG 5560 or consent of department.

Meets with GEOG 4590.

GEOG 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.

Prerequisite(s): None.

GEOG 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.

GEOG 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. Requires investigating and reporting on a case study in environmental geology.

Prerequisite(s): None.

GEOG 5700 - Global Environmental Change

3 hours (2;2)

Explores current scientific and policy perspectives on key issues of global environmental change. Topics include climate change, land-use and land cover-change, terrestrial and ocean acidification, and water pollution. Critically examines scientific evidence for these phenomena and attendant consequences for Earth's physical, chemical, and biological systems. Involves comparisons and assessments of policy responses.

Prerequisite(s): Graduate standing or consent of department.

GEOG 5750 - Surface Water Hydrology

3 hours. Study of hydrological processes with emphasis on the hydrological cycle; soil moisture and infiltration; watersheds and drainage systems; flow mechanics, sediment transportation and deposition; and river response to climatic change and other impacts of human activity. Requires completion of an individual research project on a topic in surface water hydrology.

Prerequisite(s): Consent of department.

Meets with GEOG 4750.

GEOG 5800 - Research Design and Graphic Applications

3 hours. Themes in geographical research, application of scientific method in spatial problem-solving and analysis.

Prerequisite(s): GEOG 5190 or consent of instructor.

GEOG 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 of assessing and remediating ground water contamination. Students independently acquire, evaluate and interpret hydrogeological data and report the results in a research paper.

Prerequisite(s): None.

GEOG 5900 - Special Problems

1-3 hours. Research by graduate students in fields of special interest.

Prerequisite(s): Consent of department.

GEOG 5920 - Research Problems in Lieu of Thesis

3 hours. Research-based independent study. Problem must be approved by major professor. Requires submission of research report.

Prerequisite(s): Must have completed or be concurrently enrolled in GEOG 5800, plus 12 additional hours completed toward the Master of Science degree in applied geography, or consent of department.

Non-thesis option only.

GEOG 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): None.

May be repeated for credit.

GEOG 5960 - Geography Institute

3 hours. For students accepted by the university as participants in special institute courses.

Prerequisite(s): None.

May be repeated for credit as topics vary.

German

GERM 5017 - German for Graduate Research

3 hours. German readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool.

Prerequisite(s): None.

No prior knowledge of German is required. Evaluation on a pass/no pass basis.

GERM 5027 - German for Graduate Research

3 hours. German readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool.

Prerequisite(s): GERM 5017 or equivalent.

Evaluation on a pass/no pass basis.

GERM 5300 - German Linguistics

3 hours. Introduction to the core linguistic systems of German (phonology, morphology, syntax or semantics.) Taught in German.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

GERM 5710 - German Culture and Civilization

3 hours. Exemplifying the perspectives, practices, and products of German-speaking countries through the description and analysis of history, culture and literature.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

Same as KINE 5100. Same as RECR 5100.

HLTH 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.

Prerequisite(s): None.

HLTH 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. Same as PSYC 5131.

HLTH 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.

Prerequisite(s): None.

May be repeated for maximum of 6 hours credit.

HLTH 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.

Prerequisite(s): None.

HLTH 5300 - Health Promotion: Advanced Concepts and Theories

3 hours. 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.

Prerequisite(s): None.

HLTH 5310 - Health Promotion Workshop

3 hours. 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.

Prerequisite(s): None.

Corequisite(s): HLTH 5320 is taken in conjunction with HLTH 5310.

HLTH 5320 - Health Promotion Workshop

3 hours. 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.

Prerequisite(s): None.

Corequisite(s): HLTH 5320 is taken in conjunction with HLTH 5310.

HLTH 5510 - Stress Management for the Health Professional

3 hours. Environmental, organizational, interpersonal and individual patterns of stress with reference to the role of the health professional. Prevention and intervention strategies are emphasized.

Prerequisite(s): None.

Same as KINE 5510.

HLTH 5600 - Health Promotion in a Multicultural Context

3 hours. Explores 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.

Prerequisite(s): None.

HLTH 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.

HLTH 5850 - Graduate Internship

3 hours. 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.

HLTH 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 through conferences with the instructor.

Prerequisite(s): None.

HLTH 5910 - Special Problems

1–3 hours. Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor.

Prerequisite(s): None.

HLTH 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): None.

May be repeated for credit.

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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 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.

EDHE 5210 - Student Demographics

3 hours. Designed to increase knowledge and learning in the area of college student demographics and current student issues. Provides a comprehensive examination of the demographics and collegiate experiences of today's postsecondary education student populations in light of current conceptualizations, perspectives and research. Topics include characteristics of entering students and student subcultures.

Prerequisite(s): None.

EDHE 5220 - Cultural Pluralism in Higher Education

3 hours. Examines the role of cultural pluralism in U.S. higher education. Focuses on issues of race, ethnicity and gender, and their implications for the change processes of colleges and universities.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 5710 - Trends and Issues in Adult/Continuing Education

3 hours. Introduction to adult/continuing education that includes a review and analysis of its historical development, social context, current practice and problems, and research.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

Open only to resident students.

EDHE 6030 - Practicum, Field Problem or Internship

3–6 hours. Supervised professional activities in post-secondary teaching, research or administration.

Prerequisite(s): None.

Registration is on an individual basis.

EDHE 6050 - Teaching and Learning in Higher Education

3 hours. 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.

Prerequisite(s): None.

EDHE 6060 - 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.

Prerequisite(s): None.

This should be the first course taken in the sequence when beginning the community college cognate.

EDHE 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.

Prerequisite(s): None.

EDHE 6070 - Teaching and Learning in the Community College

3 hours. 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.

Prerequisite(s): None.

EDHE 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 the local, state and national economy.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

This should be the last course taken in the sequence when finishing the community college cognate.

EDHE 6120 - Seminar in Higher Education Research I

3 hours. Review and critique of research in higher education. Students develop and execute a research project. Topics are selected by faculty and vary each term/semester.

Prerequisite(s): EPSY 6010, EPSY 6020. 30 hours completed course work in higher education.

Required in the semester immediately preceding EDHE 6540.

EDHE 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 contracts and contracts, and book publishing.

Prerequisite(s): None.

EDHE 6510 - History and Philosophy of Higher Education

3 hours. Study of the development of higher education in the United States, including the forces that have shaped institutions and institutional culture and practice. Identification of the significant events and philosophies that have influenced the evolution of higher education institutions and analysis of the implications of these for practice and for the future of higher education.

Prerequisite(s): None.

EDHE 6520 - Students in Higher Education

3 hours. 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.

Prerequisite(s): None.

EDHE 6530 - Research on Higher Education

3 hours. 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.

Prerequisite(s): None.

EDHE 6540 - Seminar in Higher Education Research II

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.

Prerequisite(s): EDHE 6120.

Required in the semester immediately following EDHE 6120.

EDHE 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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 6640 - The Adult Learner and Adult Learning

3 hours. Review and analysis with applications to practice of theory and research on adult learners and adult learning.

Prerequisite(s): None.

EDHE 6660 - Seminar in College Student Personnel Work

3 hours. Intensive study of special topics and problems in the organization, practices and administration of college student personnel services.

Prerequisite(s): None.

EDHE 6700 - Role of Higher Education in a Democracy

3 hours. Examination of the roles, goals, purposes and problems of a diverse pluralistic system of higher education in the unique context of American democracy.

Prerequisite(s): None.

EDHE 6710 - Organization and Administration of Higher Education

3 hours. Examination of the theoretical principles of organizational behavior, leadership and institutional culture applied to a functional examination of administrative roles in higher education.

Prerequisite(s): None.

EDHE 6720 - Academic Administration in Higher Education

3 hours. 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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

May be repeated for credit.

EDHE 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.

Prerequisite(s): None.

EDHE 6910 - 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.

Prerequisite(s): None.

EDHE 6950 - Doctoral Dissertation

3, 6 or 9 hours. To be scheduled only with consent of department. 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): None.

May be repeated for credit.

History**HIST 5010 - Studies in Ancient History**

3 hours. Extensive readings and study in the social, religious, political and military history of ancient Egypt, Israel, Greece or Rome.

Prerequisite(s): None.

May be repeated as topics vary.

HIST 5020 - Seminar in Ancient History

3 hours. Research seminar in selected themes in ancient history.

Prerequisite(s): HIST 5010 or consent of department.

May be repeated for credit as topics vary.

HIST 5040 - Studies in Modern European History

3 hours. Extensive readings and study in one of the topical areas of modern European history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5060 - Seminar in Recent and Contemporary European History

3 hours. Studies in European history since World War I.

Prerequisite(s): None.

HIST 5080 - Seminar in Modern European History

3 hours. Research seminar in modern European history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5100 - Seminar in United States History

3 hours. Research seminar in United States history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5110 - Studies in United States History

3 hours. Extensive readings and study in United States history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5130 - Studies in World History: Latin American or Asian

3 hours. Extensive readings and study in either Latin American or Asian history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5150 - Seminar in World History: Latin American or Asian

3 hours. Research seminar in either Latin American or Asian history.
Prerequisite(s): None.
May be repeated for credit as topics vary.

HIST 5190 - Studies in Near East/African History

3 hours. Extensive readings and study in one of the topical areas of Near East/African history.
Prerequisite(s): None.
May be repeated for credit as topics vary.

HIST 5220 - Studies in United States Military/Diplomatic History

3 hours. Extensive readings and study in either United States military or diplomatic history.
Prerequisite(s): None.
May be repeated for credit as topics vary.

HIST 5230 - Seminar in United States Military/Diplomatic History

3 hours. Research seminar in either United States military or diplomatic history.
Prerequisite(s): None.
May be repeated for credit as topics vary.

HIST 5240 - Studies in European Military/Diplomatic History

3 hours. Extensive readings and study in either European military or diplomatic history.
Prerequisite(s): None.
May be repeated for credit as topics vary.

HIST 5250 - Seminar in European Military/Diplomatic History

3 hours. Research seminar in either European military or diplomatic history.
Prerequisite(s): None.
May be repeated for credit as topics vary.

HIST 5260 - Seminar in Near East/African History

3 hours. Research seminar in Near East/African history.
Prerequisite(s): None.
May be repeated for credit as topics vary.

HIST 5420 - Research Seminar in Local History

3 hours. Research and writing of local history.
Prerequisite(s): None.

HIST 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.
Prerequisite(s): None.

HIST 5470 - Museum Studies

3 hours. Examines the theory and role of museums in history and basic practices used in them.
Prerequisite(s): None.

HIST 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 HIST 5470.

HIST 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.
Prerequisite(s): None.

HIST 5520 - Oral History: Project Development and Implementation

3 hours (0;0;3)
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.

HIST 5900 - Special Problems

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor.
Prerequisite(s): Registration permitted only with consent of department.

HIST 5910 - Special Problems

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor.
Prerequisite(s): Registration permitted only with consent of department.

HIST 5940 - Historical Bibliography

1 hour. Introduction to major reference materials in American and European history with discussions of significant research centers.
Prerequisite(s): None.
Required for all beginning graduate students unless waived by the department chair or graduate committee chair.

HIST 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): None.
May be repeated for credit.

HIST 5960 - History Institute

1–6 hours. For students accepted by the university as participants in special institute courses.
Prerequisite(s): None.
May be repeated for credit as topics vary but not to exceed a total of 6 hours in each course.

HIST 5970 - History Institute

1–6 hours. For students accepted by the university as participants in special institute courses.
Prerequisite(s): None.
May be repeated for credit as topics vary but not to exceed a total of 6 hours in each course.

HIST 5980 - Teaching of College History

1 hour. Examination of the philosophies and techniques of teaching history at the college and university level.
Prerequisite(s): None.
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.

HIST 6000 - Historiography

3 hours. History of United States and European historical literature.

Prerequisite(s): None.

Required of all PhD students in history.

HIST 6900 - Special Problems

1–3 hours. Research by doctoral students in the fields of special interest.

Prerequisite(s): Consent of department.

HIST 6910 - Special Problems

1–3 hours. Research by doctoral students in the fields of special interest.

Prerequisite(s): Consent of department.

HIST 6940 - Individual Research

3 hours. Doctoral research of an independent nature.

Prerequisite(s): None.

May be repeated for credit.

HIST 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): None.

May be repeated for credit.

Hospitality Management**HMGT 5200 - Survey of Beverages in the Hospitality Industry**

3 hours. Examination of wines, beers, and distilled spirits with a focus on vinicultural techniques, beer and distilled spirit production and classification, styles of wine and other beverages, and theory of wine and food pairing.

Prerequisite(s): Students must be 21 years of age or older.

HMGT 5210 - Hospitality Cost Controls

3 hours. Critical analysis of the food, beverage and labor cost control systems used in the hospitality industry. Emphasizes the identification, analysis and evaluation of control systems used for hospitality managerial planning. Develops procedures for successful control of business expenses.

Prerequisite(s): Undergraduate financial and managerial accounting or consent of department.

Meets with HMGT 4210.

HMGT 5250 - Restaurant Development

3 hours. 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.

Prerequisite(s): None.

HMGT 5260 - Hospitality Business Strategies

3 hours. Critical thinking and strategic planning processes for hospitality operations. Analyze financial business plans, human resources plans and marketing plans for hospitality organizations; address leadership issues and global dimensions of management for hospitality organizations; analyze ethical issues and legal issues in managing hospitality

enterprises, create solutions for hospitality operations from corporate and entrepreneurial perspectives. Utilize case study analysis and computer applications to apply principles.

Prerequisite(s): None.

HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis

3 hours. 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 are actively involved in writing and discussing cases on current operations issues.

Prerequisite(s): None.

HMGT 5480 - Hospitality Industry Finance

3 hours. Critical evaluation of financial management issues in the hospitality industry. Analysis and evaluation of asset structures, capital structures, costs of capital and capital budgeting for hospitality firms.

Determination of financial aspects of hotel valuation. Evaluation and comparison of the financial value, worth and health of hospitality firms.

Prerequisite(s): None.

HMGT 5520 - Global Tourism Systems

3 hours. In-depth analysis of the global travel and tourism industries from a systems perspective. Models of tourism system used as methodological tools to understand this complex global industry. Topics include historical, contemporary and future effects of travel and tourism as related to social, economic, cultural and environmental issues.

Prerequisite(s): None.

HMGT 5530 - International Sustainable Tourism

3 hours. Examines the philosophy, concepts and attitudes prevalent in practices of sustainable tourism in global destinations. Emphasizes the social/cultural, environmental and economic elements of sustainable tourism development. The variety of ways sustainable tourism activities are organized internationally and best practices are explored.

Prerequisite(s): None.

HMGT 5531 - Sustainable Natural Resource Management

3 hours. Examines the fundamental changes affecting the world that impact institutions and attitudes toward more sustainable natural resource management. Problems with the depletion of the ozone layer, global warming, deforestation, species decimation, coastal erosion, wetlands protection, acid rain, water pollution, solid and hazardous waste disposal, toxic air emissions, and other environmental problems of similar magnitude require changes in industry. Case study analysis and problem solving.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

HMGT 5532 - Context and Challenges of Sustainable Tourism Development

3 hours. The environment's dilutive capacity and its importance to sustainable tourism are explored. Factors critical to the sustainable tourism industry such as concentration of visitors, rising affluence, technological change, and increased expectations are examined. Social responsibility, cultural assessment, and community participation principles for sustainable tourism development are considered in field excursions. Intervention strategies for sustainable tourism development are presented as a compelling case for an effective private–public partnership for development of sustainable tourism.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

HMG 5533 - Environmental Policies in a Changing World

3 hours. Comprehensive overview of the theory and application of environmental policy. Policy instruments for environmental and natural resource management are explored in an industry-based context. Explores Costa Rica's national strategy for sustainable development and its policy implications for the sustainable tourism industry. Focuses on the selection and design of policy instruments for preserving the environment and/or reducing impact from tourism projects and programs.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

HMG 5534 - Seminars in Sustainable Tourism: Experiences of Successful Practitioners in Costa Rica

3 hours. Examines the complexity of evaluating sustainability and the need for evaluation from various perspectives. Outlines the dilemmas that may be present in sustainable tourism projects, represented as competing values from the practitioner's point of view. Experiences of successful and not-so-successful practitioners of sustainable tourism are analyzed for the best practices in operational management, customer satisfaction, business planning, and promotion-marketing. Recognizes the importance of scale when evaluating sustainability. Covers both small- and large-scale tourism projects.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

HMG 5535 - Quantitative and Qualitative Analyses in Sustainable Tourism

3 hours. Provides the tools and methods required for collecting, interpreting, analyzing and reporting quantitative and qualitative data. Uses quantitative and qualitative tools with a wide range of applications in the fields of sustainable tourism and environmental science. Focuses on research in rural communities.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

HMG 5536 - Field/Practical/Professional Experience with Research Applications

3 hours. Combines field, practical or professional experience with applied research. Supervised work experience in hospitality/tourism businesses, agencies or institutions as related to field and research interests is required. Requires a minimum of 150 hours of work experience/field research in the last semester of the master's degree as a capstone. The types of field work and research projects required by the course are supported by area hospitality/tourism businesses, non-governmental organizations, and/or governmental organizations in Costa Rica through partnerships with CATIE.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

HMG 5540 - Tourism Services Management and Marketing

3 hours. Concepts, tools and strategies necessary to effectively manage and market tourism services at the operational and destination level. The distinct character of tourism services and implications for management and marketing are explored. Topics include foundations of tourism management and marketing, managing tourism relationships, market-oriented management, marketing the operational and destination image (branding), tourism servicescapes, and managing a tourism service culture.

Prerequisite(s): None.

HMG 5560 - Planning and Policy in Sustainable Tourism

3 hours. Examines strategic policy development and implementation as it relates to sustainable tourism development and management. Emphasis is placed on public and private policy, planning strategies and techniques, and strategic management as process in sustainable tourism

development. Macro and micro environments as well as the social/cultural, environmental, and economic realities of planning and policy making are explored.

Prerequisite(s): None.

HMG 5580 - Hospitality and Tourism Information Technology Strategies

3 hours. In-depth discussion and analysis of the strategic use of information technologies from the consumer perspective in the hospitality and tourism industries. Topics include theoretical foundations of IT studies, behavioral foundations in travel and tourism, consumer behavior in a digital environment, web site evaluation, social media, search engine marketing, and emergent marketing strategies.

Prerequisite(s): None.

HMG 5630 - Event Management

3 hours. Focus on meeting, exhibition, event, and convention industry. Topics include planning, designing, managing and evaluating small to large events; applying industry professional standards; and the impacts of event management on operations. Addresses the major trends and successful practices in event management.

Prerequisite(s): None.

HMG 5730 - Hotel and Restaurant Management Systems

3 hours. In-depth analysis of revenue management in hotel and restaurant operations. Integration of the principles of marketing, finance and managerial economics to maximize revenues within the constraints and parameters of hospitality management operational issues and guest behavior. Utilization of computer simulations to model cost and revenue flows in a realistic manner to achieve operational and financial goals of the hospitality enterprise. Emphasis on analysis, report writing and formal business presentations.

Prerequisite(s): None.

HMG 5820 - Facilities Planning, Equipment Layout and Design

3 hours. Principles of hospitality property management and design with analysis of efficient work spaces for hospitality operations emphasizing space utilization and work flow, ADA adherence, environmental concerns and regulations, and the creation of a safe and secure work environment.

Prerequisite(s): None.

HMG 5860 - Strategic Management in the Hospitality Industry

3 hours. Application and exploration of critical issues associated with the hospitality strategic management process. Topics include the hospitality industry internal and external contexts of strategic planning and execution; growth and competitive advantage strategies for hospitality organizations; organizational resource and capability analysis; prevention and management of crisis situations in the hospitality industry including food-borne diseases and the impact of natural disasters on the tourism industry; entrepreneurial strategies for electronic tourism; and global strategic management for hospitality corporations. Cases of hospitality-specific companies, readings, and lectures/discussions are utilized.

Prerequisite(s): None.

Information Science**INFO 6660 - Readings in Information Science**

3 hours (0;0;3)

Broad reading in a defined area of information science. Topics vary.

Prerequisite(s): None.

Course may be repeated for credit.

INFO 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.

Prerequisite(s): None.

May be repeated for credit.

Information Technology and Decision Sciences**ITDS 6100 - Seminar in Instructional Practices in Information Systems and Management Science**

1 hour. Study of instructional methods used in information systems and management science. Intended to be a rigorous course that exposes doctoral students in information systems and management science to an array of topics in teaching methodologies. Focuses on those topics that provide doctoral students with practical teaching tips to help them become more effective in the classroom. Different learning styles are addressed, and frameworks, theories, and teaching models are presented that help doctoral students continually improve their teaching throughout their career.

Prerequisite(s): Consent of department.

Jazz Studies**MUJS 5430 - Graduate Review of Jazz History**

3 hours. Study of the standard narrative of jazz history and jazz repertoire.

Prerequisite(s): None.

Meets with MUJS 4470.

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.

MUJS 5450 - Jazz Historiography

3 hours. Critical study of historical writing on jazz; special topics in jazz history; pedagogy of jazz history.

Prerequisite(s): MUJS 5430 or consent of college.

MUJS 5470 - Conducting College Jazz Ensembles

3 hours. Score study and rehearsal preparation; methods of conducting jazz ensembles at all levels; supervised conducting.

Prerequisite(s): None.

May be repeated for credit.

MUJS 5480 - Pedagogy of Jazz

3 hours. Techniques, systems and materials.

Prerequisite(s): MUJS 2360 and MUJS 2370, or consent of college.

MUJS 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.

MUJS 5531 - Jazz Piano

2 hours. Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5532 - Jazz Saxophone

2 hours. Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5533 - Jazz Voice

2 hours. Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5534 - Jazz Composition

2 hours. Applied study of jazz composition and arranging for small and large ensembles.

Prerequisite(s): Consent of division.

MUJS 5535 - Jazz Recital

2 hours. For jazz studies MM students in performance track: public performance; in composition/arranging track: public performance of compositions and arrangements; in pedagogy track: public presentation of a pedagogy-related project.

Prerequisite(s): Consent of division.

MUJS 5536 - Jazz Trumpet

2 hours. Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5537 - Jazz Trombone

2 hours. Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5538 - Jazz Double Bass

2 hours. Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5539 - Jazz Drumset

2 hours. Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5540 - Composition for the Media

3 hours (4;2)

Composition and production of music for various media. Realization of projects in a studio environment using MIDI sequencing and live instruments.

Prerequisite(s): MUJS 4620 or consent of division.

MUJS 5760 - Jazz Arranging

3 hours. 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.

MUJS 5780 - Jazz Styles and Analysis

3 hours. Stylistic elements of the various eras of jazz history; theoretical analysis of significant musical qualities of influential musicians of the different periods of jazz.

Prerequisite(s): None.

MUJS 5900 - Special Problems

1–3 hours. Prerequisite(s): None.

MUJS 5910 - Special Problems

1–3 hours. Prerequisite(s): None.

MUJS 6010 - Seminar in Jazz History and Analysis

3 hours. Survey and analysis of the literature of jazz history and analysis at the doctoral level, including original student research.
Prerequisite(s): MUJS 5430, MUJS 5440, MUJS 5450, MUJS 5780; or consent of instructor.
Pending approval of the DMA with a major in jazz studies.

MUJS 6020 - Seminar in Jazz Pedagogy

3 hours. Survey and analysis of the literature of jazz pedagogy, including original student research.
Prerequisite(s): MUJS 5480 or consent of instructor.
Pending approval of the DMA with a major in jazz studies.

Journalism**JOUR 5010 - Reporting Practices**

3 hours. 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.
Prerequisite(s): None.

JOUR 5020 - Editing Practices

3 hours. 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 school.

JOUR 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.
Prerequisite(s): None.

JOUR 5040 - Media Studies and Theories

3 hours. 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. 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 school.

JOUR 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.
Prerequisite(s): None.

JOUR 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.
Prerequisite(s): None.

JOUR 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.
Prerequisite(s): None.
Same as RTVF 5460.

JOUR 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.
Prerequisite(s): None.

JOUR 5210 - Race, Gender and the Media: A Methods Approach

3 hours. Students critically examine media portrayals of race, gender, class and sexuality and employ scholarly research methods to evaluate mass media, including news media, advertising, television, film, video gaming and popular music. Graduate students conduct in-depth research but also participate in class discussions and assignments.
Prerequisite(s): None.
Meets with JOUR 4250.

JOUR 5250 - Quantitative Research

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.
Prerequisite(s): None.

JOUR 5260 - Qualitative Research

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.
Prerequisite(s): None.

JOUR 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 school.

JOUR 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 school.

JOUR 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 JOUR 5020.

JOUR 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.

Prerequisite(s): None.

JOUR 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.

Prerequisite(s): None.

JOUR 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 electracy; identity, property, politics, economics; and other issues.

Prerequisite(s): Consent of school.

JOUR 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 school.

May be repeated for credit as topics vary.

JOUR 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.

Prerequisite(s): None.

JOUR 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 school.

JOUR 5510 - Internet and Interactive Communication Strategy

3 hours. The strategy and best uses of all Internet, mobile and interactive forms of communication and their technology. Students must research best practices and apply them to problems and opportunities faced by communication professionals in all industries.

Prerequisite(s): Consent of school.

JOUR 5700 - Advanced Feature Writing

3 hours. Focuses on the art and craft of long-form feature writing, using extensive research and interviews; equips students with the skills to construct a feature series.

Prerequisite(s): Consent of school.

JOUR 5710 - Narrative Journalism

3 hours. Explores the art of narrative journalism. Study of short- and long-form narratives for newspapers, magazines and web-based publications.

Prerequisite(s): Consent of school.

JOUR 5720 - Magazine Writing and Publishing

3 hours. Study and practice of magazine production, including photography, editing, advertising and design. Explores production schedules, advertising and marketing promotions. Covers composition, printing methods and cost-quality issues to rewriting, copy reading and fitting galleys into layouts and resulting in the production of a magazine.

Prerequisite(s): Consent of school.

JOUR 5730 - Writing, Editing and Publishing for the Narrative Journalism Market

3 hours. Advanced editing practices and story-telling devices used to create and edit book-length manuscripts and other forms of literary nonfiction. Explores the careers of literary journalists and their work.

Prerequisite(s): Consent of school.

JOUR 5740 - Literary Journalism

3 hours. Explores the application of literary techniques to journalism projects involving real world experiences. Employs setting, dialogue, sensory detail and other techniques used by literary journalists. Teaches immersion journalism techniques. Linked to The Mayborn Literary Nonfiction Conference and other off-campus opportunities.

Prerequisite(s): Consent of school.

JOUR 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 school.

Normally, no more than 3 hours may apply toward the master's degree.

JOUR 5900 - Advanced Problems in Journalism

1-3 hours. 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.

Prerequisite(s): None.

Maximum of 6 hours credit in JOUR 5900 and JOUR 5910.

JOUR 5910 - Advanced Problems in Journalism

1-3 hours. 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.

Prerequisite(s): None.

Maximum of 6 hours credit in JOUR 5900 and JOUR 5910.

JOUR 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.

Prerequisite(s): None.

May be repeated for credit.

Kinesiology**KINE 5000 - Supervision in Kinesiology**

3 hours. Principles of organization and administration for the supervision of kinesiology programs.

Prerequisite(s): None.

KINE 5020 - Aging and Movement Control

3 hours. Examination of the physical, behavioral and psychological aspects of aging and how these changes affect movement and movement control processes.

Prerequisite(s): None.

KINE 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.

Prerequisite(s): None.

KINE 5050 - Administration and Supervision of Recreation and Sport

3 hours. Principles and procedures involved in the administration and supervision of recreation and sport.

Prerequisite(s): None.

Same as RECR 5050.

KINE 5060 - Areas and Facilities for Recreation and Sport

3 hours. Design, construction and maintenance of recreation and sport areas and facilities.

Prerequisite(s): None.

Same as RECR 5060.

KINE 5090 - Motor Behavior

3 hours. 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.

Prerequisite(s): None.

KINE 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.

Prerequisite(s): None.

Same as HLTH 5100. Same as RECR 5100.

KINE 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.

Prerequisite(s): None.

Same as PSYC 5121.

KINE 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. Same as PSYC 5131.

KINE 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.

Prerequisite(s): None.

Same as RECR 5140.

KINE 5150 - Quantitative Procedures in Exercise and Sport Sciences

3 hours. 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.

KINE 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.

Prerequisite(s): None.

KINE 5171 - Social Psychology of Sport

3 hours. Effects of social psychological variables on motor behavior. Topics include social facilitation, social reinforcement, organized youth sports, socialization, group dynamics and leadership.

Prerequisite(s): None.

Same as PSYC 5171.

KINE 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.

KINE 5190 - Neuromuscular Physiology of Exercise

3 hours. 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.

KINE 5200 - Cardiovascular Physiology of Exercise

3 hours. 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.

KINE 5210 - Administration Issues and Problems in Kinesiology

3 hours. Analysis of issues and problems in administering programs in kinesiology.
Prerequisite(s): None.

KINE 5230 - Professional Preparation in Kinesiology

3 hours. Historical development of professional preparation in kinesiology and current guidelines for programs.
Prerequisite(s): None.

KINE 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.
Prerequisite(s): None.
May be repeated for a maximum of 6 hours credit.

KINE 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.
Prerequisite(s): None.

KINE 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.
Prerequisite(s): None.

KINE 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.
Prerequisite(s): None.

KINE 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.

KINE 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.

KINE 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.
Prerequisite(s): None.

KINE 5420 - Facilities and Equipment in Kinesiology

3 hours. Design, use and maintenance of facilities in kinesiology and sport enterprises.
Prerequisite(s): None.

KINE 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.
Prerequisite(s): None.

KINE 5450 - Implementing Health/Fitness Programs

3 hours. Strategies, procedures and resources used in implementing health/fitness programs in corporate, commercial and clinical settings.
Prerequisite(s): None.

KINE 5460 - Sport 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.
Prerequisite(s): None.

KINE 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.
Prerequisite(s): None.

KINE 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. A specific emphasis will be placed on the relations between physical activity and health.
Prerequisite(s): HLTH 4100 or equivalent, or consent of department.

KINE 5510 - Stress Management for the Health Professional

3 hours. Environmental, organizational, interpersonal and individual patterns of stress with reference to the role of the health professional. Prevention and intervention strategies are emphasized.
Prerequisite(s): None.
Same as HLTH 5510.

KINE 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.

KINE 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.
Prerequisite(s): None.
May be repeated for credit.

KINE 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.

KINE 5860 - Practicum, Field Problem or Internship

1–6 hours. Supervised professional activities and experiences.
Prerequisite(s): None.
May be repeated for credit.

KINE 5900 - Special Problems

1–3 hours. 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.
Prerequisite(s): None.

KINE 5910 - Special Problems

1–3 hours. 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.
Prerequisite(s): None.

KINE 5920 - Research Problems in Lieu of Thesis

3 hours. Research dealing with significant problems in physical education.
Prerequisite(s): None.

KINE 5940 - Current Topics in Kinesiology

3 hours. Designated capstone course to provide a culminating experience for students majoring in kinesiology.
Prerequisite(s): None.

KINE 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): None.
May be repeated for credit.

Kinesiology/Health Promotion**KHPM 5105 - Advanced Practicum I**

3 hours. 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.

KHPM 5115 - Advanced Practicum II

3 hours. 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.

Language**LANG 5900 - Special Problems**

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor.
Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

LANG 5910 - Special Problems

1–3 hours. Conference course 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): Registration permitted only upon recommendation by the instructor and consent of the department chair.

Language and Literacy Studies**EDLL 6030 - Practicum, Field Problem or Internship**

3 or 6 hours. Supervised professional activities in literacy/language arts education.
Prerequisite(s): None.
Registration is on an individual basis.

EDLL 6040 - Research in Literacy Assessment and Evaluation

3 hours. Study of historically significant and current research and public policies that affect literacy assessment. Participants evaluate published studies and have opportunities to analyze assessment data.
Prerequisite(s): None.

EDLL 6060 - Research Design in Literacy and the Language Arts

3 hours. Critical examination and application of research approaches taken in contemporary literacy and language arts research and the related theoretical and philosophical perspectives. Emphasizes the design of literacy research on selected topics and supports students' design and development of research projects.
Prerequisite(s): 6 hours completed in 6000-level research methods courses.

EDLL 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.
Prerequisite(s): None.

EDLL 6080 - Survey of Literacy Research

3 hours. Survey and critique of significant literacy-related research from an historical perspective with attention to trends and methodological issues. Focus on seminal works, related theoretical models, and major researchers and their contributions.
Prerequisite(s): None.

EDLL 6090 - Cognition and Reading

3 hours. Analysis of the process of reading in relation to the physiological, perceptual, cognitive and affective domains.

Prerequisite(s): None.

EDLL 6100 - Seminar in Language, Literacy and Culture

3 hours. Exploration, analysis and critique of scholarly work focused on various topics related to language and literacy, including societal and cultural issues.

Prerequisite(s): None.

May be repeated once as topics vary.

EDLL 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.

Prerequisite(s): None.

EDLL 6910 - 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.

Prerequisite(s): None.

EDLL 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): None.

May be repeated for credit.

Library and Information Science**SLIS 5000 - Information and Knowledge Professions**

3 hours. History, roles and scope of the information and knowledge professions. Basic concepts and issues including impact of information technology on the individual, intellectual freedom, privacy and diversity. Legal and ethical aspects of managing information and knowledge organizations. Course activities emphasize team building and leadership skills.

Prerequisite(s): None.

SLIS 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.

Prerequisite(s): None.

SLIS 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.

Prerequisite(s): None.

SLIS 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

SLIS 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.

Prerequisite(s): None.

SLIS 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, SLIS 5340, SLIS 5420, SLIS 5430, SLIS 5720.

SLIS 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.

Prerequisite(s): None.

SLIS 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.

Prerequisite(s): None.

SLIS 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 department.

SLIS 5082 - Seminar in Research and Research Methodology

3 or 6 hours. Special topics in research methodology. Research proposal development. Directed research study.

Prerequisite(s): None.

May be repeated for credit as topics vary.

SLIS 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 and appropriate administration course or type-of-system course (may be taken concurrently).

Not counted for degree credit. Pass/no pass only.

SLIS 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.
Not counted for degree credit. Pass/no pass only.

SLIS 5200 - Information Organization

3 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.
Corequisite(s): SLIS 5200 or SLIS 5210 and SLIS 5710, or consent of department.

SLIS 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 department.

SLIS 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.
Prerequisite(s): None.

SLIS 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 department.

SLIS 5212 - Introduction to Dewey Decimal Classification

3 hours. Introduction to the structure, logic and notational system of the Dewey Decimal Classification system using both print schedules and WebDewey. Learn to classify a variety of information resources using subject analysis techniques with attention to implementation within different library environments. Develop a firm understanding of how to use the Manual, Tables and Relative Index.
Prerequisite(s): SLIS 5200. SLIS 5208 or SLIS 5210 preferred, but not required.

SLIS 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 department.

SLIS 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 department.

SLIS 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 department.

SLIS 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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 department.

SLIS 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 department.

SLIS 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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 department.

SLIS 5340 - Learning Resources Centers and Services

3 hours. Role and functions of library/media centers in department, 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.
Prerequisite(s): None.

SLIS 5345 - Library Operation and Policy Development

3 hours. Operational procedures for administrative supervision of department 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.
Prerequisite(s): None.

SLIS 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 clienteles, consulting and the development of new information centers.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.
May be repeated for credit as topics vary.

SLIS 5390 - Technical Services in Libraries and Information Centers

3 hours. 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 department.

SLIS 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.
Prerequisite(s): None.

SLIS 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 department.

SLIS 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.
Prerequisite(s): None.

SLIS 5415 - Graphic Novels and Comics

3 hours. History and development of comics books, graphic novels, their subgenres as literature. Role in western and international societies and cultures. Issues of youth/adult readership and literacy. Race, gender, politics, violent content issues. Presence in popular culture, the Internet, art forms, and translation into movies. Selection tools, policies, collection development, and censorship. Comics and graphic novels programming in libraries and schools. Warning: Some material required in the course may be considered by some to be controversial. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None.

SLIS 5441 - Advanced Storytelling

3 hours. Personal storytelling performance development: psycho-social development; voice and vocal dynamics; movement and gesture; facial expression, posture and performance dress; characterization; dialect and linguistic factors; musical effects; nonverbal behaviors. Training for public storytelling performances in libraries, schools, and community information settings. Advanced program planning, including development, implementation and evaluation of an individual or group storytelling concert. Advanced study of current trends and research in storytelling. Prerequisite(s): SLIS 5440.

SLIS 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. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None.

SLIS 5600 - Information Access and Knowledge Inquiry

3 hours. Epistemological foundations of information use. Basic principles and techniques of information access and knowledge inquiry. Survey of research in information seeking behavior and user interaction. Introduction to systems of access, search, retrieval, and navigation, as well as reference collection management and services. Study of evaluation methods for resources in all formats, services and user satisfaction. Prerequisite(s): None.

SLIS 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 department.

SLIS 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 department. May be repeated for credit as topics vary.

SLIS 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 department.

SLIS 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 department.

SLIS 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 department.

SLIS 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. Prerequisite(s): None.

SLIS 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 department.

SLIS 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 department.

SLIS 5647 - Legal Information and Access Services

3 hours. 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. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None.

SLIS 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 department.

SLIS 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. Prerequisite(s): None. May be repeated for credit as topics vary.

SLIS 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. Prerequisite(s): None. May be repeated for credit as topics vary.

SLIS 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. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None. Not to be taken for master's credit toward library and information sciences degrees.

SLIS 5711 - Internet Applications, Services and Management for Information Professionals

3 hours. 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. Prerequisite(s): None.

SLIS 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. Prerequisite(s): None.

SLIS 5713 - Telecommunications and Information Professionals

3 hours. 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. Prerequisite(s): None.

SLIS 5714 - Web Content Development and Maintenance

3 hours. 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.

Prerequisite(s): None.

SLIS 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.

Prerequisite(s): None.

May be repeated for credit.

SLIS 5716 - Web Administration for Information Professionals

3 hours. 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 department.

SLIS 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.

Prerequisite(s): None.

SLIS 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.

Prerequisite(s): None.

SLIS 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.

Prerequisite(s): None.

SLIS 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.

Prerequisite(s): None.

SLIS 5740 - Introduction to Digital Libraries

3 hours. Introduction to current research and the conceptual, practical and technical issues of digital libraries. Theoretical foundations, technical infrastructures, knowledge organization, collection development, user and service evaluation, and social, cultural and policy issues are discussed. Students read papers and discuss related issues, evaluate a digital library of their choice, and write an in-depth term paper or conduct a class project.

Prerequisite(s): Completion of all core courses, or concurrent enrollment in last course.

Basic ITKS skills are required.

SLIS 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.

Prerequisite(s): None.

SLIS 5900 - Special Problems

1–3 hours. Supervised individual or small group study of special problems or topics not otherwise covered by regular course offerings.

Prerequisite(s): Consent of instructor and department.

May be repeated for credit as topics vary.

SLIS 5910 - Special Problems

1–3 hours. Supervised individual or small group study of special problems or topics not otherwise covered by regular course offerings.

Prerequisite(s): Consent of instructor and department.

May be repeated for credit as topics vary.

SLIS 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.

Prerequisite(s): None.

May be repeated for credit.

SLIS 5960 - Library and Information Sciences Institute or Seminar

1–6 hours. Special institute courses and seminars.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

SLIS 5970 - Library and Information Sciences Institute or Seminar

1–6 hours. Special institute courses and seminars.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

SLIS 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.

Prerequisite(s): None.

SLIS 6220 - Information Retrieval Theory

3 hours. Theoretical foundations of information retrieval, including the mathematical modeling of file structures and searching techniques. The adaptation of communication models from various disciplines.

Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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 advisor.

SLIS 6700 - Seminar in Communication and Use of Information

3 hours. 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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.
Prerequisite(s): None.

SLIS 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 department.
May be repeated for credit as topics vary.

SLIS 6900 - Special Problems

1–3 hours. Supervised individual or small group study of special problems or topics not otherwise covered by regular course offerings.
Prerequisite(s): Consent of instructor and department.
May be repeated for credit as problems and topics vary.

SLIS 6910 - Special Problems

1–3 hours. Supervised individual or small group study of special problems or topics not otherwise covered by regular course offerings.
Prerequisite(s): Consent of instructor and department.
May be repeated for credit as problems and topics vary.

SLIS 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.
Prerequisite(s): None.

SLIS 6940 - Seminar in Research and Research Methodology

1–12 hours. Advanced topics in research methodology. Research proposal development. Directed research study.
Prerequisite(s): None.
May be repeated for credit as topics vary.

SLIS 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.
Prerequisite(s): None.

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 LING 5040 or consent of instructor.

LING 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.

LING 5050 - Language in Professional Settings

3 hours. Offers a hands-on approach to constructing the most prominent professional genres, including summaries, research papers, position papers, resumes, proposals and correspondence. Learn and apply the basic linguistic principles of these genres as well as recognize how the dominant genre theories in writing studies have informed the current practice, teaching and study of professional discourse.
Prerequisite(s): None.
Same as TECM 5175.

LING 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.

LING 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.
Prerequisite(s): None.
Should be taken during first term/semester of study if possible.

LING 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.
Prerequisite(s): None.

LING 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.
Prerequisite(s): None.

LING 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 LING 5040, or consent of instructor.

LING 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 LING 5040, or consent of instructor.

LING 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.

LING 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 LING 5040 or consent of instructor.

LING 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 LING 5080 or consent of instructor.

LING 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 LING 5040 or consent of instructor.

LING 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.

LING 5370 - ESL Writing Pedagogy

3 hours. Linguistic and psycholinguistic analysis of the process and product of ESL/EFL writing, including discourse analysis, the process of reading, the cognitive processes of writing and sociolinguistic variables.
Prerequisite(s): None.

LING 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 LING 5040 or consent of instructor.
May be repeated for credit.

LING 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 LING 5040 or consent of instructor.

LING 5530 - Semantics and Pragmatics

3 hours. Examines how meaning emerges at the word, sentence, constructional and utterance level and how it is acquired by children and second-language learners.
Prerequisite(s): LING 3070 or LING 5040.

LING 5540 - Endangered Languages

3 hours. Examines the factors that contribute to the process of language death through in-depth study of a specific language to illustrate mechanisms of language loss, methods of language documentation, and requirements for language stabilization and revitalization.
Prerequisite(s): LING 4040 or LING 5040.

LING 5550 - Corpus Linguistics

3 hours. Introduces computerized research methods, which are applied to large databases of language used in natural communicative settings to supplement more traditional ways of linguistic analysis in all linguistic sub-disciplines.
Prerequisite(s): LING 4040 or LING 5040.

LING 5560 - Discourse Analysis

3 hours. Investigates the structure of spoken communication from a linguistic perspective using phonological, morphological, and syntactic tools to understand narrative and conversation. Students study the principles of pragmatic theory, speech act theory and critical discourse analysis.
Prerequisite(s): LING 4040 or LING 5040.

LING 5570 - World Englishes

3 hours. Examines the political and social factors that have contributed to the spread of English around the world and the politics surrounding the maintenance of English as a "world language." Investigates variation in spoken and written English in regions such as: South Asia, Singapore, Australia, New Zealand, East and West Africa, Canada, Scotland and Ireland.
Prerequisite(s): LING 4040 or LING 5040.

LING 5580 - Language and Gender

3 hours. Researches male and female speech in terms of pronunciation, grammar, conversational strategies (e.g., interruptions, overlaps, topical cohesion, politeness and silence). Investigates how speakers appropriate gender identities when they select features typically associated with male and female styles of speech.
Prerequisite(s): LING 3060.

LING 5590 - Linguistics and Literature

3 hours. Study of theories and methods of interpretation in terms of contemporary linguistics. Provides practical training in the application of linguistic methods to literary analysis.
Prerequisite(s): LING 3060 or consent of department.

LING 5900 - Special Problems

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor.
Prerequisite(s): 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.
Maximum of 3 semester hours of credit allowed for each course.

LING 5910 - Special Problems

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor.
Prerequisite(s): 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.
Maximum of 3 semester hours of credit allowed for each course.

LING 5920 - Research Problems in Lieu of Thesis (Original Scholarly Papers)

3–6 hours (0;0;3–6)
Requires the composition of an original scholarly paper in the field of linguistics and/or English as a second language.
Prerequisite(s): Consent of department.

LING 5930 - Research Problems in Lieu of Thesis (Original Scholarly Papers)

3–6 hours (0;0;3–6)
Requires the composition of an original scholarly paper in the field of linguistics and/or English as a second language.
Prerequisite(s): Consent of department.

LING 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): None.
May be repeated for credit.

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.

LSCM 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.

LSCM 5800 - Internship in Logistics

1–3 hours. Supervised work experience in a position related to the student's career objective that meets the department's internship requirements. Student must meet employer's requirements and have

consent of the department's MBA advisor and internship director.
Prerequisite(s): Consent of MBA advisor and instructor.
A maximum of 3 total hours of LSCM 5800 and/or LSCM 5910 or a combination of these courses may be applied toward the MBA degree.
Pass/no pass only.

LSCM 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): None.

LSCM 5900 - Special Problems

3 hours. Topics 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 CoB Graduate Programs Office prior to registration.

LSCM 5910 - Special Problems

1–3 hours. 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 logistics 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): None.
A maximum of 3 total hours of LSCM 5800 and/or LSCM 5910 or a combination of these courses may be applied toward the MBA degree.

Management**MGMT 5070 - Management Issues**

1.5 hours. 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.
Prerequisite(s): None.

MGMT 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.
Prerequisite(s): None.

MGMT 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.
Prerequisite(s): None.

MGMT 5210 - Human Resource Management Seminar

3 hours. 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. Prerequisite(s): None.

MGMT 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. Prerequisite(s): None.

MGMT 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.

MGMT 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. Prerequisite(s): None.

MGMT 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. Prerequisite(s): None.

MGMT 5300 - Entrepreneurship and Venture Management

3 hours. 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. Prerequisite(s): None.

MGMT 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. Prerequisite(s): None.

MGMT 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. Prerequisite(s): None.

MGMT 5550 - Emerging Issues in Health Services Management

3 hours. Investigation, analysis and discussion of emerging concepts, challenges and controversies relevant to management in health services settings. Examines a wide range of topics including economic, social and organizational issues and their implications for management practice. Prerequisite(s): None.

MGMT 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. Prerequisite(s): None.

MGMT 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. Prerequisite(s): None. May be repeated for credit as topics vary.

MGMT 5710 - Seminar in Business Ethics and Social Responsibility

3 hours. Examines the strategic purposes of the firm as both an economic and social entity within the global marketplace. Topics include: ethics in business and ethical decision making, corporate social responsibility and corporate citizenship, and stakeholder management, including shareholders, employees, customers, the community, government, and the environment. Prerequisite(s): None.

MGMT 5760 - Strategic Management

3 hours. Examination and evaluation of current theories, issues and programs involved in strategically managing organizations. Emphasis is on critical thinking, judgment and solving strategy problems within uncertain and complex decision environments. Prerequisite(s): None.

MGMT 5800 - Internship

1–3 hours. 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.

MGMT 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. Prerequisite(s): None.

MGMT 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. Prerequisite(s): None.

MGMT 5890 - Seminar in Compensation and Motivation Theory

3 hours. 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.

Prerequisite(s): None.

MGMT 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 CoB Graduate Programs Office prior to registration.

MGMT 6010 - Seminar in Business Administration

3 hours. Covers one or more special fields.

Prerequisite(s): None.

May be repeated for credit, and two or more sections may be taken concurrently.

MGMT 6030 - Seminar in Strategic Management

3 hours. Examination of the theoretical and empirical research on the question of why some firms out perform 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.

Prerequisite(s): None.

MGMT 6100 - Seminar in Organizational Behavior

3 hours. 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.

Prerequisite(s): None.

MGMT 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.

Prerequisite(s): None.

MGMT 6860 - Seminar in Human Resource Management

3 hours. 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.

Prerequisite(s): None.

MGMT 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.

MGMT 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 CoB Graduate Programs Office prior to registration.

MGMT 6910 - 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 CoB Graduate Programs Office prior to registration.

MGMT 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 CoB Graduate Programs Office prior to registration.

MGMT 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.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

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.

MSCI 6010 - Seminar in Business Administration

3 hours. Covers one or more special fields.

Prerequisite(s): None.

May be repeated for credit, and two or more sections may be taken concurrently.

MSCI 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.

MSCI 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.

MSCI 6740 - Theory and Application 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.

MSCI 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.

MSCI 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 CoB Graduate Programs Office prior to registration.

MSCI 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 CoB Graduate Programs Office prior to registration.

MSCI 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 CoB Graduate Programs Office prior to registration. May be repeated for credit.

MSCI 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 CoB Graduate Programs Office prior to registration. May be repeated for credit.

Marketing**MKTG 5000 - Marketing Concepts**

1.5 hours. 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. Prerequisite(s): None. This course meets the deficiency requirement in marketing for MBA candidates.

MKTG 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 MKTG 5000; ACCT 5020; or consent of department.

MKTG 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. Prerequisite(s): None.

MKTG 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, DSCI 5010. DSCI 5180 is recommended; or consent of department.

MKTG 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.

MKTG 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.

MKTG 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.

MKTG 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.

MKTG 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.

MKTG 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.

MKTG 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.

MKTG 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.

MKTG 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.

MKTG 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.

MKTG 5800 - Internship in Marketing

1–3 hours. Supervised work experience in a position related to the student's career objective that meets the department's internship requirements.

Prerequisite(s): Consent of MBA advisor and instructor.

A maximum of 3 total hours of MKTG 5800 and/or MKTG 5910 may be applied toward the MBA degree. Pass/no pass only.

MKTG 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.

MKTG 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.

MKTG 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 CoB Graduate Programs Office prior to registration.

MKTG 5910 - Special Problems

1–3 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. Consent of instructor.

MKTG 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.

Prerequisite(s): None.

MKTG 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.

Prerequisite(s): None.

MKTG 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.

Prerequisite(s): None.

MKTG 6040 - Business-to-Business Marketing

3 hours. Provides a review of research in partnering, collaboration and interfirm relationships. Investigation, analysis and discussion of critical issues in managing the relationships and responsibilities between firms involved in exchange along modern, globally distributed enterprises. Traditional and emerging concepts in managing the sales-sourcing interface from an integrated perspective from the processing of raw materials through ultimate consumption are described through an investigation of the extant literature.

Prerequisite(s): None.

MKTG 6080 - Qualitative Research Methods

3 hours. Explores the theoretical and practical issues underlying qualitative and hybrid research methodologies in social sciences research as applied to testable relationships in business contexts. Special attention is afforded to sources of nomothetic versus idiographic research approaches, qualitative research methods, and qualitative research designs (including but not limited to ethnography, narratives, focus groups and case studies). Assesses the philosophical bases of metrics: auditability, bias, truth value, consistency and critical interpretations of data metrics.

Prerequisite(s): None.

MKTG 6600 - Seminar in Marketing Issues

3 hours. Investigation, analysis and discussion of significant issues in marketing.

Prerequisite(s): None.

May be repeated for credit.

MKTG 6900 - Special Problems

1–3 hours. 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 CoB Graduate Programs Office prior to registration.

MKTG 6910 - Special Problems

1–3 hours. 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 CoB Graduate Programs Office prior to registration.

MKTG 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 CoB Graduate Programs Office prior to registration.

May be repeated for credit.

MKTG 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 CoB Graduate Programs Office prior to registration.

May be repeated for credit.

Materials Science and Engineering**MTSE 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.

Prerequisite(s): None.

MTSE 5010 - Bonding, Structure and Crystallography

3 hours. Interatomic bonding; amorphous and crystalline structures in metals, ceramics and polymers; point and line defects in crystals; structure determination by X-ray diffraction; basic symmetry operations, point and space groups in crystal systems.

Prerequisite(s): ENGR 3450.

MTSE 5020 - 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): None.

MTSE 5030 - Transport Phenomena and Materials Processing

3 hours. Principles of transport phenomena (momentum, heat, and mass transport) in materials processes. Emphasis on applications of appropriate differential equations and boundary conditions to solve materials processing problems.

Prerequisite(s): MTSE 5000 and MTSE 5010 or consent of instructor.

MTSE 5070 - Tribology of Materials

3 hours. Contact mechanisms of surfaces. Friction, wear and lubrication of solids and liquids. Laboratory equipment used in tribological investigations. Theoretical and empirical models of tribology.

Prerequisite(s): None.

MTSE 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.

MTSE 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.

MTSE 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): MTSE 5200 or consent of department.

MTSE 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): MTSE 5100, MTSE 5200 or consent of department.

MTSE 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): MTSE 5300 or consent of department.

MTSE 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.

Prerequisite(s): None.

MTSE 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): MTSE 5400 or consent of department.

MTSE 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): MTSE 5400.

MTSE 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): MTSE 5400 or consent of department.

MTSE 5440 - Thermal Analysis

3 hours. Differential scanning calorimetry; thermogravimetric analysis; dynamic mechanical and thermomechanical analysis; glass transition; melting transitions, relaxations in the glassy state, liquid crystalline phase changes.

Prerequisite(s): MTSE 5400 or consent of department.

MTSE 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.

MTSE 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): MTSE 5500 or consent of department.

MTSE 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): MTSE 5500 or consent of department.

MTSE 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): MTSE 5500 or consent of department.

MTSE 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): MTSE 5500 or consent of department.

MTSE 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.

MTSE 5560 - Compound Semiconductor Materials and Devices

3 hours. Introduction to compound semiconductors; epitaxial growth and electronic properties of heterojunctions (ideal single heterojunctions: isotype and anisotype; non-ideal heterojunctions; and heterojunctions); applications of heterostructures (heterojunction bipolar transistors, modulation-doped field-effects transistors, LEDs, double heterojunction lasers, photodiodes and photoconductors).

Prerequisite(s): MTSE 5500 or consent of instructor.

MTSE 5570 - Vacuum Technology and Thin Films

3 hours. Introduction and basics of kinetic theory, UHV hardware overview and practical system design; introduction to surface physics, thermodynamics versus kinetics of surfaces, growth modes and nucleation barriers.

Prerequisite(s): MTSE 5500 or consent of instructor.

MTSE 5580 - Materials for a Sustainable Environment

3 hours. Properties of renewable and nonrenewable, sustainable and non-sustainable materials; effects of product application and needs on material choices for a sustainable environment; degradation mechanisms and influence of the environment on mechanisms.

Prerequisite(s): Consent of department.

MTSE 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): MTSE 5200, MTSE 5300, MTSE 5400 or consent of department.

MTSE 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): MTSE 5600 or consent of department.

MTSE 5620 - Scanning Electron and Ion Microscopy

3 hours. Theory and applications of scanning electron microscopy and focused ion beam instrumentation. Topics include electron-solid and ion-solid interactions, electron and ion optics, image formation and analysis, X-ray microanalysis, electron backscattered diffraction analysis, focused ion beam patterning and deposition, and specimen preparation.

Prerequisite(s): MTSE 5500, PHYS 2220 or equivalent, and consent of instructor.

MTSE 5625 - Scanning Electron and Microscopy Laboratory

1 hour. Students gain hands-on experience with the SEM, FESEM, FIB, EDS, EDSD and sample preparation equipment. Closely follows the MTSE 5620 lecture course, and concurrent enrollment in both courses is strongly recommended.

Prerequisite(s): MTSE 5500, PHYS 2220 or equivalent, and consent of instructor.

MTSE 5620 must be completed prior to or concurrently with this laboratory.

MTSE 5700 - Seminar in Materials Science and Engineering

1–3 hours. Current topics in materials science and engineering.

Prerequisite(s): None.

MTSE 5710 - Computational Materials Science

3 hours. Focus on the use of computational modeling to understand and evaluate the behavior and materials at scales from the atomistic to the continuum. Introduction to the basic principles used to simulate, model and visualize structures and properties of materials. Topics include the various methods used at different length and time scales ranging from the atomistic to the microscopic.

Prerequisite(s): MTSE 5000, MTSE 5010, MTSE 6000.

MTSE 5800 - Special Studies in Materials Science

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.

Prerequisite(s): None.

May be repeated for credit.

MTSE 5810 - Special Studies in Materials Science

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.

Prerequisite(s): None.

May be repeated for credit.

MTSE 5820 - Internship in Materials Science.

3 hours. Supervised industrial internship requiring a minimum of 150 clock hours of work experience.

Prerequisite(s): Consent of department.

MTSE 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.

Prerequisite(s): None.

MTSE 5900 - Special Problems in Materials Research

1–6 hours. Special problems in advanced materials science for graduate students. Problems chosen by the student with approval of the supervising professor and the department chair.

Prerequisite(s): None.

MTSE 5910 - Special Problems in Materials Research

1–6 hours. Special problems in advanced materials science for graduate students. Problems chosen by the student with approval of the supervising professor and the department chair.

Prerequisite(s): None.

MTSE 5920 - Research Problems in Lieu of Thesis

3 hours. Introduction to research; may consist of an experimental, theoretical or review topic.

Prerequisite(s): None.

MTSE 5930 - Research Problems in Lieu of Thesis

3 hours. Introduction to research; may consist of an experimental, theoretical or review topic.

Prerequisite(s): None.

MTSE 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.

Prerequisite(s): None.

MTSE 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.

Prerequisite(s): None.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

MTSE 5960 - Materials Science Institute

1–6 hours. For students accepted by the university as participants in special institute programs.

Prerequisite(s): None.

May be repeated for credit, not to exceed a total of 6 hours in each course. Laboratory fee required.

MTSE 6000 - Quantum Mechanics for Materials Scientists

3 hours. The Schrödinger equation, atomic theory, solid state theory, band structure, tunneling and scattering with an emphasis on materials properties.

Prerequisite(s): MTSE 5500 or consent of department.

MTSE 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): MTSE 5020 or consent of department.

MTSE 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): MTSE 5020 or consent of department.

MTSE 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): MTSE 5500 or consent of department.

MTSE 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.

Prerequisite(s): None.

MTSE 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): MTSE 5300 or consent of department.

MTSE 6400 - Advanced Electron Microscopy

3 hours. Theory and applications of scanning and transmission electron microscopy; sample preparation and analytical techniques.

Prerequisite(s): MTSE 5600 or consent of department.

MTSE 6600 - Transmission Electron Microscopy

3 hours. Theory and applications of transmission electron microscopy. Topics include electron-solid interactions, electron optics, image formation and analysis, electron diffraction, defect analysis, X-ray microanalysis, electron energy loss spectroscopy, energy filtered

imaging, scanning transmission electron microscopy, Z-contrast imaging, and specimen preparation.

Prerequisite(s): MTSE 5620.

MTSE 6605 - Transmission Electron Microscopy Laboratory

1 hour. Students gain hands-on experience in TEM, electron diffraction, EDS, STEM, and sample preparation equipment. Closely follows the MTSE 6600 lecture course, and concurrent enrollment in both courses is strongly recommended.

Prerequisite(s): MTSE 5620.

Corequisite(s): MTSE 6600 (may be taken prior to the laboratory, but concurrent enrollment is strongly recommended).

MTSE 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): MTSE 5600, MTSE 5610 or consent of department.

MTSE 6620 - Advanced Electron and Ion Microscopy

2 hours. Gives students with existing electron and ion microscopy backgrounds the opportunity to gain theoretical and practical knowledge of advanced analytical techniques. Specific advanced topics include focused ion beam specimen preparation and patterning, Z-contrast scanning transmission electron microscopy, advanced diffraction and defect analysis, electron energy loss spectroscopy and energy filtered imaging in the transmission electron microscope, high resolution transmission electron microscopy imaging and 3D imaging of nanostructures using focused ion beam and tilt-series transmission electron microscopy. Specific applications of these techniques to modern problems in materials science are stressed.

Prerequisite(s): MTSE 6600, MTSE 6605.

MTSE 6625 - Advanced Electron and Ion Microscopy Laboratory

1 hour. Gives students with existing electron and ion microscopy backgrounds the opportunity to gain hands-on knowledge of advanced analytical microscopy techniques. Specific advanced topics include focused ion beam specimen preparation and patterning, Z-contrast scanning transmission electron microscopy, advanced diffraction and defect analysis, electron energy loss spectroscopy and energy filtered imaging in the transmission electron microscope, high resolution transmission electron microscopy imaging and 3D imaging of nanostructures using focused ion beam and tilt-series transmission electron microscopy. Specific applications of these techniques to modern problems in materials science are stressed.

Prerequisite(s): MTSE 6600, MTSE 6605. MTSE 6620 (may be taken concurrently).

MTSE 6800 - Selected Topics in Materials Science

3 hours. Topics from specialized areas of materials science, physics and chemistry.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MTSE 6900 - Special Problems

1–3 hours. Special problems in experimental or theoretical for advanced materials science graduate students. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): None.

MTSE 6910 - Special Problems

1–3 hours. Special problems in experimental or theoretical for advanced materials science graduate students. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): None.

MTSE 6940 - Individual Research

1–3 hours. To be scheduled by the doctoral candidate engaged in research.

Prerequisite(s): None.

May be repeated for credit.

MTSE 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.

Prerequisite(s): None.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

MTSE 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.

Prerequisite(s): None.

May be repeated for credit.

MTSE 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**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.

MATH 5010 - Mathematical Logic and Set Theory

3 hours. Rigorous development of first-order logic, basic model theory, completeness and incompleteness theorems, decidable and undecidable theories, axioms of set theory, ordinal and cardinal numbers, the axiom of choice, the continuum hypothesis, constructible sets, and basic descriptive set theory.

Prerequisite(s): None.

MATH 5020 - Mathematical Logic and Set Theory

3 hours. Rigorous development of first-order logic, basic model theory, completeness and incompleteness theorems, decidable and undecidable theories, axioms of set theory, ordinal and cardinal numbers, the axiom of choice, the continuum hypothesis, constructible sets, and basic descriptive set theory.

Prerequisite(s): None.

MATH 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.

MATH 5110 - Introduction to Analysis

3 hours. 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.

Prerequisite(s): None.

MATH 5120 - Introduction to Analysis

3 hours. 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.

Prerequisite(s): None.

MATH 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.

MATH 5210 - Numerical Analysis

3 hours. 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.

MATH 5220 - Numerical Analysis

3 hours. 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.

MATH 5270 - Mathematical Theory of Computation

3 hours. Mathematical models of computation and algorithms, Church-Turing thesis, recursive functions, complexity measures, algorithm analysis, complexity classes and hierarchies, the P versus NP problem, NP-completeness.

Prerequisite(s): Consent of department.

MATH 5290 - Numerical Methods

3 hours. 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.

MATH 5310 - Functions of a Real Variable

3 hours. Sets and operations; descriptive set properties; cardinal numbers; order types and ordinals; metric spaces; the theory of Lebesgue measure; metric properties of sets.

Prerequisite(s): None.

MATH 5320 - Functions of a Real Variable

3 hours. Set functions and abstract measure; measurable functions; types of continuity; classification of functions; the Lebesgue integral; Dini derivatives and the fundamental theorem of calculus.
Prerequisite(s): None.

MATH 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.
Prerequisite(s): None.

MATH 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.
Prerequisite(s): None.
Only one course, MATH 5400, MATH 5500 or MATH 5600, may be used towards satisfying the course work requirements for a graduate degree in mathematics.

MATH 5410 - Functions of a Complex Variable

3 hours. Theory of analytic functions from the Cauchy-Riemann and Weierstrass points of view.
Prerequisite(s): None.

MATH 5420 - Functions of a Complex Variable

3 hours. Theory of analytic functions from the Cauchy-Riemann and Weierstrass points of view.
Prerequisite(s): None.

MATH 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.

MATH 5460 - Differential Equations

3 hours. 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-MATH 5120 and linear algebra.

MATH 5470 - Differential Equations

3 hours. 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-MATH 5120 and linear algebra.

MATH 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.
Prerequisite(s): None.
Only one course, MATH 5400, MATH 5500 or MATH 5600, may be used towards satisfying the course work requirements for a graduate degree in mathematics.

MATH 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.

MATH 5530 - Selected Topics in Modern Algebra

3 hours. Ring and field extensions, Galois groups, ideals and valuation theory.
Prerequisite(s): None.

MATH 5600 - Introduction to Topology

3 hours. Point set topology; connectedness, compactness, continuous functions and metric spaces.
Prerequisite(s): None.
Only one course, MATH 5400, MATH 5500 or MATH 5600, may be used towards satisfying the course work requirement for a graduate degree in mathematics.

MATH 5610 - Topology

3 hours. Rigorous development of abstract topological spaces, mappings, metric spaces, continua, product and quotient spaces; introduction to algebraic methods.
Prerequisite(s): None.

MATH 5620 - Topology

3 hours. Rigorous development of abstract topological spaces, mappings, metric spaces, continua, product and quotient spaces; introduction to algebraic methods.
Prerequisite(s): None.

MATH 5700 - Selected Topics in Contemporary Mathematics

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.

MATH 5810 - Probability and Statistics

3 hours. Important densities and stochastic processes; measure and integration; laws of large numbers; limit theorems.
Prerequisite(s): None.

MATH 5820 - Probability and Statistics

3 hours. Markov processes and random walks; renewal theory and Laplace transforms; characteristic functions; infinitely divisible distribution; harmonic analysis.
Prerequisite(s): None.

MATH 5900 - Special Problems

1–3 hours. Prerequisite(s): None.

MATH 5910 - Special Problems

1–3 hours. Prerequisite(s): None.

MATH 5940 - Seminar in Mathematical Literature

1–3 hours. Prerequisite(s): None.

MATH 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.

Prerequisite(s): None.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

MATH 6000 - Millican Colloquium

1 hour. Departmental colloquium. New research developments are presented by nationally and internationally recognized mathematicians from the U.S. and abroad. Topics vary weekly and can cover any of the subdisciplines of mathematics.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

MATH 6010 - Topics in Logic and Foundations

3 hours. Mathematical logic, metamathematics and foundations of mathematics.

Prerequisite(s): None.

May be repeated for credit.

MATH 6020 - Logic Seminar

1 hour. Weekly seminar series covering contemporary topics in logic and set theory. Talks are given by UNT faculty and graduate students as well as by prominent visitors from other institutions. Topics vary weekly.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

MATH 6110 - Topics in Analysis

3 hours. Measure and integration theory, summability, complex variables and functional analysis.

Prerequisite(s): None.

May be repeated for credit.

MATH 6130 - Infinite Processes

3 hours. Topics selected from infinite series, infinite matrices, continued fractions, summation processes and integration theory.

Prerequisite(s): None.

MATH 6150 - Functional Analysis

3 hours. Normed linear spaces; completeness, convexity and duality. Topics selected from linear operators, spectral analysis, vector lattices and Banach algebras.

Prerequisite(s): None.

May be repeated for credit.

MATH 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.

Prerequisite(s): None.

May be repeated for credit.

MATH 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.

MATH 6220 - Logic and Dynamics Seminar

1 hour. Weekly seminar series covering contemporary topics in logic and dynamical systems. Talks are given by UNT faculty and graduate students as well as by prominent visitors from other institutions. Topics vary weekly.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

MATH 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.

Prerequisite(s): None.

May be repeated for credit.

MATH 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.

Prerequisite(s): None.

May be repeated for credit.

MATH 6520 - Algebra Seminar

1 hour. Weekly seminar series covering topics in algebra. Talks are given by UNT faculty and graduate students as well as by prominent visitors from other institutions. Topics vary weekly.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

MATH 6610 - Topics in Topology and Geometry

3 hours. Point set and general topology, differential geometry and global geometry.

Prerequisite(s): None.

May be repeated for credit.

MATH 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, MATH 5620.

May be repeated for credit.

MATH 6700 - Selected Topics in Advanced Mathematics

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.

MATH 6710 - Topics in Applied Mathematics

3 hours. Optimization and control theory, perturbation methods, eigenvalue problems, generalized functions, transform methods and spectral theory.

Prerequisite(s): None.

May be repeated for credit.

MATH 6810 - Probability

3 hours. Probability measures and integration, random variables and distributions, convergence theorems, conditional probability and expectation, martingales, stochastic processes.

Prerequisite(s): None.

May be repeated for credit.

MATH 6900 - Special Problems

1–3 hours. Prerequisite(s): None.

MATH 6910 - Special Problems

1–3 hours. Prerequisite(s): None.

MATH 6940 - Individual Research

Variable credit

To be scheduled by the doctoral candidate engaged in research.

Prerequisite(s): None.

May be repeated for credit.

MATH 6950 - Doctoral Dissertation

3, 6 or 9 hours. To be scheduled only with consent of department. 9 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate dean.

Prerequisite(s): None.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Mechanical and Energy Engineering**MEEN 5110 - Alternative Energy.**

3 hours. Introduction to the physics, systems and methods of energy conversion from non-conventional energy sources, such as solar, geothermal, ocean-thermal, biomass, tidal, hydroelectric, wind and wave energy. Advantages and disadvantages of alternative energy sources and engineering challenges for the harnessing of such forms of energy; energy storage; fuel cells.

Prerequisite(s): None.

MEEN 5112 - Nuclear Energy.

3 hours. Atomic physics and the structure of the atom; radioactivity; interactions of neutrons with matter; nuclear cross-sections; nuclear fuels and fuel elements; elements of nuclear reactors; components and operation of nuclear power plants. Notable accidents of nuclear reactors. Breeder reactors.

Prerequisite(s): None.

MEEN 5140 - Advanced Mathematical Methods for Engineers.

3 hours. Provides an introduction to advanced mathematical methods used in engineering science, such as vector calculus, integral transforms, partial differential equations and numerical methods.

Prerequisite(s): None.

MEEN 5200 - Principles of HVAC.

3 hours. Thermodynamics and psychometrics applied to the HVAC system calculations, energy estimating methods, ducts and piping systems, heat pump and heat recovery systems, air-processing, refrigeration and heating equipment.

Prerequisite(s): None.

MEEN 5210 - Solar Energy.

3 hours. Fundamentals of radiation processes, blackbody and gray-body; and gray-body radiation; solar radiation flat-plate and parabolic collectors; concentration optics and practical solar concentration devices; central receivers, solar ponds, power cycles of solar plants; thermal storage subsystems and system design.

Prerequisite(s): None.

MEEN 5220 - Computational Fluid Dynamics and Heat Transfer.

3 hours. Finite difference, finite volume, and finite element computational methods; techniques for building geometry and meshing; commercial software; modeling and numerically solving real-world fluid flow and heat transfer problems.

Prerequisite(s): MEEN 3120, MEEN 3210.

MEEN 5300 - Advanced Thermodynamics.

3 hours. Axiomatic presentation of the law of thermodynamics including corollaries and applications related to energy conversion, the exergy method and entropy dissipation method for the evaluation of thermodynamic systems and cycles, thermodynamic equilibrium and stability, irreversible thermodynamics, chemical equilibria and applications in combustion.

Prerequisite(s): None.

MEEN 5310 - Conduction and Radiation Heat Transfer.

3 hours. Includes heat conduction for 1-, 2- and 3-dimensional systems; separation of variables; Duhamel's theorem; Green's function; Laplace transforms; radiative properties of particulate media, semi-transparent media, and 1-dimensional gray media; and integro-differential equations.

Prerequisite(s): Consent of department.

MEEN 5311 - Convection Heat Transfer II.

3 hours. Explores fundamental equations of fluid flow and heat transfer; internal and external heat transfer; laminar and turbulent heat transfer; similarity solutions; integral method; and boundary layer equations.

Prerequisite(s): Consent of department.

MEEN 5315 - Nanoscale Energy Transport.

3 hours. Explores microscopic heat carriers and transport; material waves; energy states in solids; statistical description of thermodynamics; waves; particle transport process; semiconductor materials; and interfacial phenomena for non-conventional liquids.

Prerequisite(s): Consent of department.

MEEN 5320 - Biofluid Dynamics.

3 hours. Review of basic fluid mechanics and heat and mass transfer; blood rheology; basic physiology as it relates to biotransport phenomena; and circulatory and respiratory systems.

Prerequisite(s): Consent of department.

MEEN 5330 - Combustion Science and Engineering.

3 hours. Examines fuels and combustion; combustion stoichiometry; chemical equilibrium; adiabatic flame temperature; reaction kinetics; transport processes; conservation laws; ignition processes; gas flames classification; premixed flames; laminar and turbulent regimes; flame propagation; deflagrations and detonations; diffusion flames; pollutant formation; atmospheric impacts; engine combustion; solid phase combustion; combustion diagnostics; and combustion applications.

Prerequisite(s): MEEN 3110 or consent of department.

MEEN 5332 - Air Pollution Control Engineering

3 hours. Fundamental theories of air pollution and atmospheric science. Air pollution causes and impacts; atmospheric chemistry and physics; meteorology; and an introduction to air quality models. Control technology of particulate and gaseous air pollutants; process design variables; and industrial and engineering applications of technologies. Prerequisite(s): MEEN 3110 or consent of department.

MEEN 5340 - Advanced Fluid Mechanics.

3 hours. Fundamentals of vector and tensor notation and formulation of governing equations; model of inviscid and viscous flow, vorticity and circulation; exact solutions; turbulence; boundary layer theory; free surface flow. Prerequisite(s): Consent of department.

MEEN 5350 - Dispersed Multiphase Flow and Heat Transfer

3 hours. Characteristics of particles, bubbles and drops; conservation equations, creeping flow solution, flow and heat transfer at higher Reynolds numbers; the treatment of non-spherical particles, bubbles, and drops; effects of rotation and shear; two-way effects of turbulence; effects of higher concentration, molecular and statistical description. Prerequisite(s): None.

MEEN 5351 - Multiphase Flow Modeling

3 hours. Covers a broad spectrum of numerical techniques for multiphase flow modeling, ranging from the continuum fluid model to discrete particle method. Examines the fundamentals of multiphase flows, including motion of a single particle in a viscous fluid, particle fluidization, and flow in porous media. Prerequisite(s): Consent of department.

MEEN 5410 - Advanced Solid Mechanics

3 hours. Explores tensor analysis; kinematics and kinetics of motion; material constitutive law; 2- and 3-dimensional stress analysis; stress concentration; fracture mechanics; contact mechanics; plates and shells; finite element methods; and wave propagation. Prerequisite(s): Consent of department.

MEEN 5420 - Continuum Mechanics

3 hours. Describes the fundamental law of physics applicable to a continuous medium and develops the linear theory. Introduces Cartesian tensors, state of stress, kinematics of deformation, and constitutive equations of mechanics and thermodynamics. Prerequisite(s): Consent of department.

MEEN 5800 - Topics in Mechanical and Energy Engineering

3 hours. Selected topics of contemporary interest in mechanical engineering. Prerequisite(s): Consent of instructor. May be repeated for credit as topics vary.

MEEN 5810 - Topics in Mechanical and Energy Engineering

3 hours. Selected topics of contemporary interest in mechanical engineering. Prerequisite(s): Consent of instructor. May be repeated for credit as topics vary.

MEEN 5890 - Directed Study in Mechanical and Energy Engineering

1–3 hours. Study by individuals or small groups. Plan of study must be approved by supervising faculty. Written report is required. Prerequisite(s): None. May be repeated for 6 credit hours, but a maximum of 3 credit hours can apply to major.

MEEN 5900 - Special Problems in Mechanical and Energy Engineering

1–6 hours. Special problems in mechanical and energy engineering for graduate students only. Prerequisite(s): Approval the student's supervisor and/or consent of department. May be repeated for credit.

MEEN 5910 - Special Problems in Mechanical and Energy Engineering

1–6 hours. Special problems in mechanical and energy engineering for graduate students only. Prerequisite(s): Approval the student's supervisor and/or consent of department. May be repeated for credit.

MEEN 5920 - Cooperative Education in Mechanical and Energy Engineering

3 hours. Supervised field work in a job directly related to the student's major, professional field of study or career objectives. Summary report required. Prerequisite(s): Consent of department.

MEEN 5940 - Graduate Seminar in Mechanical and Energy Engineering

1–3 hours. Provides exposure to multidisciplinary research and opinions on current and future issues from industrial, scientific, academic, governmental and engineering experts from mechanical and energy engineering areas. Prerequisite(s): Consent of department.

MEEN 5950 - Master's Thesis

3 or 6 hours. A minimum of 6 hours of thesis work is required. No credit is assigned until the thesis is filed and approved by the dean of the graduate school. Prerequisite(s): Approval of the student's supervisor and/or consent of department. Continuous enrollment is required once thesis work has begun.

Merchandising**MDSE 5010 - Merchandising Foundations**

3 hours. Functional analysis of merchandising principles and concepts and their importance in fashion markets in the retail sector. Stresses the importance of margin to the profit function of the enterprise. Prerequisite(s): None. Meets the deficiency requirement for MS in Merchandising and may be counted as part of a graduate program in a field other than merchandising.

MDSE 5080 - Merchandising Ventures

3 hours. Study of entrepreneurship skills and strategies resulting in application to a business plan that establishes a new venture with fashion and/or home furnishings products. Additionally, students independently identify and investigate innovative entrepreneurial ventures that culminate in a comprehensive research product. Prerequisite(s): MDSE 5010 or consent of instructor. Meets with MDSE 4080.

MDSE 5090 - Virtual Merchandising

3 hours (2;2) Merchandising application through experiential learning that ultimately results in the development of a product- or service-based web site with an emphasis on target market appeal, appropriate merchandising applications, and a suitable web site infrastructure based on objective

research including data collection from a relevant population sample. Students apply theory and critical thinking skills to a virtual merchandising format.

Prerequisite(s): DRTL 2090; DRTL 2080 or MKTG 4620; or consent of instructor.

Meets with DRTL 4090.

MDSE 5230 - Home Furnishings Industry

3 hours. Introduction and overview of components and processes associated with the furniture and home furnishings industry and their function within the overall merchandising process. Examination of topics related to materials, product development, sourcing, manufacturing, merchandising and sales of these products.

Prerequisite(s): None.

MDSE 5240 - Global Fashion Retailing

3 hours. Strategic perspective of fashion-oriented products in a dynamic marketplace. Included are case analyses of merchandising principles practiced by representative companies. Interpretations of global trends and issues affecting multi-channel distribution.

Prerequisite(s): None.

MDSE 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.

Prerequisite(s): None.

MDSE 5510 - Advanced Buying, Planning and Allocation

3 hours. In-depth study of planning, buying and distributing merchandise to retail stores. Focuses on maximizing profit and decision-making strategies and principles.

Prerequisite(s): MDSE 3510 or MDSE 5010 with a grade of C or better, or consent of instructor.

Meets with MDSE 4510.

MDSE 5560 - Sustainable Strategies in Merchandising

3 hours. Examines fundamental business tools for the pursuit of sustainable development to business operation in apparel and home furnishings enterprises.

Prerequisite(s): None.

MDSE 5620 - Socio-Cultural Analysis of Dress

3 hours. Explores the social, psychological and cultural theories of dress and appearance.

Prerequisite(s): None.

MDSE 5650 - International Sourcing

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.

Prerequisite(s): None.

MDSE 5660 - Advanced Merchandising Applications

3 hours. Using the case study method, students apply merchandising theory, principles, and practices to industry scenarios. Emphasis on problem solving, creative thinking, fact-finding, data analysis, and data interpretation involved in business operations. Focus on the development

of leadership skills while functioning in small and large groups.

Prerequisite(s): MDSE 3510 or MDSE 5010.

Meets with MDSE 4660.

MDSE 5750 - Digital Retailing

3 hours. Analysis and application of digital information exchange technology related to textile, apparel, home furnishings and other fashion-oriented products. Emphasis on distribution, merchandising, e-commerce and sales.

Prerequisite(s): None.

MDSE 5850 - Brand Development

3 hours. Students understand the role of brand, the concept of brand equity, and importance of creating strong brands. Application of brand knowledge to brand portfolio development. Students integrate theoretical frameworks through case study analyses.

Prerequisite(s): HFMD 2400, MDSE 2490, MDSE 5010 or consent of instructor.

Meets with MDSE 4850.

Merchandising and Hospitality Management

SMHM 5000 - Merchandising and Hospitality Management Study Tour

1–3 hours. Experiential learning in industry centers for fashion, home furnishings, and/or hospitality provides a context for career development as well as an overview of the industry at work. Students collect and synthesize primary and secondary data into comprehensive analyses for career opportunities, trends, brands and other appropriate elements for the fashion, home furnishings, and hospitality industries.

Prerequisite(s): Consent of school.

Meets with SMHM 4000.

Pre-trip and post-trip classes are required. No more than three hours of field study may be used to fulfill degree requirements.

SMHM 5100 - Introduction to Research in Merchandising and Hospitality

3 hours. Introduction to experimental, descriptive and survey research. Explore and effectively critique research in the discipline. Also concentrates on developing exemplary writing and critical analysis skills.

Prerequisite(s): None.

SMHM 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.

Prerequisite(s): None.

SMHM 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management

3 hours. Analysis of current issues, trends and future projections influencing the field of either hotel and restaurant management or fashion merchandising.

Prerequisite(s): None.

SMHM 5400 - Research Applications in Merchandising and Hospitality Management

3 hours. 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.

SMHM 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.

Prerequisite(s): None.

SMHM 5460 - Human Capital Development 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.

Prerequisite(s): None.

SMHM 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.

Prerequisite(s): None.

SMHM 5600 - Managing Customer Experiences

3 hours. Creating and managing customer experiences of tangible and intangible products and services that link merchandising and hospitality segments. Applying 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.

Prerequisite(s): None.

SMHM 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.

Prerequisite(s): None.

SMHM 5790 - Field Experiences in Various Areas of Concentration

3 hours. Arranged.

Prerequisite(s): None.

SMHM 5800 - Seminar in Various Areas of Concentration

3 hours. Prerequisite(s): None.

May be repeated for credit as topics vary.

SMHM 5810 - Teaching Practicum in Merchandising and Hospitality Management

3 hours. Provides introductory teacher education preparing graduate students to enter into a first teaching assignment with knowledge of how to prepare, likely challenges, and facilitation of student learning.

Prerequisite(s): Merchandising or hospitality management master's status.

SMHM 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 the merchandising and hospitality industries. 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.

Prerequisite(s): None.

SMHM 5900 - Special Problems in Various Areas of Concentration

3 hours. Arranged.

Prerequisite(s): Consent of instructor.

SMHM 5910 - Special Problems in Various Areas of Concentration

3 hours. Arranged.

Prerequisite(s): Consent of instructor.

SMHM 5920 - Problem in Lieu of Thesis

3 hours. No credit given until problem in lieu of thesis is completed.

Prerequisite(s): None.

SMHM 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.

Prerequisite(s): None.

May be repeated for credit.

Music Applied Private Lessons (Concentration)**MUAC 5501 - Piano**

1–3 hours. Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5502 - Organ

1–3 hours. Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5503 - Voice

1–3 hours. Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5504 - Violin

1–3 hours. Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6511 - Clarinet

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6512 - Saxophone

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6513 - Bassoon

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6514 - French Horn

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6516 - Trumpet

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6517 - Trombone

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6518 - Euphonium

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6519 - Tuba

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6521 - Percussion

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6522 - Harp

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6527 - Guitar

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6528 - Harpsichord

1–3 hours. Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6534 - Collaborative Piano

1–3

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

Music Applied Private Lessons (Major)**MUAM 5501 - Piano**

1–5 hours. Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5516 - Trumpet

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5517 - Trombone

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5518 - Euphonium

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5519 - Tuba

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5521 - Percussion

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5522 - Harp

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5523 - Functional Piano

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5524 - Vocal Coaching

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5527 - Guitar

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5528 - Harpsichord

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5529 - Improvisation at the Organ

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5531 - Keyboard Continuo Playing

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5532 - Early Instruments

1–2 hours. Master’s-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6501 - Piano

1–2 hours. Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6518 - Euphonium

1–2 hours. Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6519 - Tuba

1–2 hours. Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6521 - Percussion

1–2 hours. Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6522 - Harp

1–2 hours. Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6524 - Vocal Coaching

1–2 hours. Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6527 - Guitar

1–2 hours. Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6528 - Harpsichord

1–2 hours. Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

Music Composition**MUCP 5080 - Composition Seminar**

3 hours. Exploration of current compositional practices, including analysis of contemporary repertoire, discussion of the composer's role in contemporary society, and survey of resources available to composers. Creation of individual composition projects and class presentations. Prerequisite(s): Acceptance into the graduate composition program as a major or concentration.

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.

MUCP 5185 - Concentration Composition

2–3 hours. Composition in larger forms for various media.

Prerequisite(s): 6 hours of undergraduate composition or equivalent; acceptance to the composition program as a related field of concentration.

For students with a related field or concentration in composition. May be repeated for credit.

MUCP 5190 - Master's Composition

2–3 hours. Composition in larger forms for various media.

Prerequisite(s): MUCP 5080. Bachelor's degree in composition or equivalent.

Restricted to students who have been admitted to the MM in composition. May be repeated for credit.

MUCP 5320 - Orchestration

3 hours. Historical survey of orchestrational 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.

Same as MUCP 4320.

Primarily for composition majors.

MUCP 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.

MUCP 5580 - Contemporary Performance Practices

3 hours. Study of 20th- and 21st-century performance practices, including innovative notations, extended instrumental techniques, and approaches to interpretation.

Prerequisite(s): MUCP 5460, MUMH 5343, or equivalent.

MUCP 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. Prerequisite(s): None.

Corequisite(s): Must be taken concurrently with MUEN 5595.

Open to graduate students in music and other relevant fields in the arts, humanities and sciences.

MUCP 5670 - Introduction to Electroacoustic Music

3 hours. Theory, principles and practice of electroacoustic composition. Includes weekly studio time.

Prerequisite(s): 6 hours of composition or consent of division. Same as MUCP 4670.

MUCP 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.

Prerequisite(s): MUCP 5670 or equivalent. Meets with MUCP 4680 when taught as "History and Technology of Electroacoustic Music."

MUCP 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.

Prerequisite(s): MUCP 5680 or equivalent. May be repeated for credit.

MUCP 5900 - Special Problems

1–3 hours. Prerequisite(s): None.

MUCP 5910 - Special Problems

1–3 hours. Prerequisite(s): None.

MUCP 6190 - Doctoral Composition

2–3 hours. Composition project of substantial scope. Prerequisite(s): MUCP 5080. 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.

MUCP 6195 - Advanced Research in Composition

3 hours. Individually directed research in composition, including analytical and historical perspectives.

Prerequisite(s): 12 hours of MUCP 6190 and/or MUCP 6200; approved research topic proposal and consent of division. May be repeated for credit as topics vary.

MUCP 6200 - Advanced Research in Computer Music

3 hours. Individually directed computer music research project, including such topics as algorithmic composition, software design, advanced synthesis and interactive systems.

Prerequisite(s): MUCP 5080. Approved research topic proposal and consent of division. May be repeated for credit.

MUCP 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.

MUCP 6900 - Special Problems

1–3 hours. Prerequisite(s): None.

MUCP 6910 - Special Problems

1–3 hours. Prerequisite(s): None.

Music Education**MUED 5100 - Music Supervision**

3 hours. Organization and duties; improving instruction; demonstration teaching; public department curricula. Supervisor's relation to community; ethics.

Prerequisite(s): None.

MUED 5120 - Applied Research in Music Education

3 hours. Theories, techniques and procedures for conducting and understanding research related to human musical behaviors.

Prerequisite(s): None.

Open to students in fields other than music. Required for all master's degree students in music education.

MUED 5280 - Current Issues in Music Education

3 hours. Survey of current topics in education and music education.

Current issues and trends are connected to the core knowledge of major events in music education.

Prerequisite(s): None.

Required for all master's degree students in music education.

MUED 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.

Prerequisite(s): None.

MUED 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.

Prerequisite(s): None.

MUED 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.

Prerequisite(s): None.

MUED 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 this list 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.

Prerequisite(s): None.

May be repeated for credit when topics vary.

MUED 5890 - Project Practicum

1–2 hours. Guided project course to plan a specific, pragmatic project in the student's respective area of general music, band, orchestra or choir that covers: an introduction to the content covered in the project, an extensive review of the research literature on the content covered in the project, and lesson plans or some other real world application of the knowledge gained through the review of the research literature. Students complete the project practicum over two semesters where they propose the project in the first semester (2 credits) and defend the final project in the second semester (1 credit).

Prerequisite(s): None.

Pass/no pass only.

MUED 5900 - Special Problems

1–3 hours. Prerequisite(s): None.

MUED 5910 - Special Problems

1–3 hours. Prerequisite(s): None.

MUED 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.

Prerequisite(s): None.

MUED 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.

MUED 6450 - Qualitative Research in Music

3 hours. Provides the knowledge and skills necessary for conducting naturalistic research in music settings, and focuses on design, sampling, observation, interviewing, analysis, interpretation and reporting. Includes the concepts and procedures related to case studies, ethnographies, grounded theory and other forms of qualitative inquiry.

Prerequisite(s): MUED 5120, EPSY 5210 or MUMH 5010.

MUED 6470 - Sociology of Music

3 hours. 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.

Prerequisite(s): None.

MUED 6480 - Doctoral Seminar in Music Education

1 hour. Current trends, concepts, programs and practices.

Prerequisite(s): None.

Two terms/semesters required of all doctoral candidates in music education. Pass/no pass only.

MUED 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 5010, and knowledge of elementary statistics.

Required of all doctoral candidates in music education.

MUED 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.

Prerequisite(s): None.

MUED 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. Allows for experimentation in the classroom or rehearsal hall during on-the-job or in-service training periods.

Prerequisite(s): None.

MUED 6900 - Special Problems

1–3 hours. Prerequisite(s): None.

MUED 6910 - Special Problems

1–3 hours. Prerequisite(s): None.

Music Ensembles**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.

MUEN 5530 - Early Music Ensembles

1 hour (0;3)

Performance of less well-known vocal and instrumental music from the period 1200–1800.

Prerequisite(s): Consent of college.

May be repeated for credit.

MUEN 5585 - NOVA Ensemble

1 hour (0;3)

Performance of contemporary chamber works for mixed ensembles.

Prerequisite(s): Consent of college; audition required.

May be repeated for credit.

MUEN 5595 - Intermedia Performance Arts

1 hour (0;1)

Performance component of MUCP 5590, to be taken concurrently.

Prerequisite(s): None.

Corequisite(s): MUCP 5590.

May be repeated for credit.

MUEN 5602 - Brass Ensembles

1 hour (0;3)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5605 - Chamber Wind Ensemble

1 hour (0;3)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5611 - Jazz Ensembles

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5616 - Chamber Orchestra

1 hour (0;3)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5617 - Percussion Ensembles

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5621 - String Ensembles

1 hour (0;2)
Prerequisite(s): None.
May be repeated for credit.

MUEN 5624 - Vocal Ensembles

1 hour (0;3)
Prerequisite(s): None.
May be repeated for credit.

MUEN 5625 - Wind Ensembles

1 hour (0;2)
Prerequisite(s): None.
May be repeated for credit.

MUEN 5630 - Harp Ensemble

1 hour (0;3)
Prerequisite(s): None.
May be repeated for credit.

Music History and Literature, Musicology**MUMH 5010 - Introduction to Research in Music**

3 hours. Introduction to research techniques and application.
Prerequisite(s): None.

MUMH 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.

MUMH 5110 - History of Opera

3 hours. In-depth examination, at the graduate level, of selected topics in the history of opera.
Prerequisite(s): None.

MUMH 5331 - Western Music History, 750–1400

3 hours. Current historical, analytical and methodological issues regarding music, 750–1400. Combination of lectures, source study and writing.
Prerequisite(s): None.

MUMH 5332 - Western Music History, 1400–1600

3 hours. Current historical, analytical and methodological issues regarding music, 1400–1600. Combination of lectures, source study, and writing.
Prerequisite(s): None.

MUMH 5333 - Western Music History, 1600–1700

3 hours. Current historical, analytical and methodological issues regarding music, 1600–1700. Combination of lectures, source study, and writing.
Prerequisite(s): None.

MUMH 5341 - Western Music History, 1700–1800

3 hours. Current historical, analytical and methodological issues regarding music, 1700–1800. Combination of lectures, source study, and writing.
Prerequisite(s): None.

MUMH 5342 - Western Music History, 1800–1900

3 hours. Current historical, analytical and methodological issues regarding music, 1800–1900. Combination of lectures, source study, and writing.
Prerequisite(s): None.

MUMH 5343 - Western Music History, 1900 to the Present

3 hours. Current historical, analytical and methodological issues regarding music, 1900 to the present. Combination of lectures, source study and writing.
Prerequisite(s): None.

MUMH 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.
Prerequisite(s): None.

MUMH 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.
Prerequisite(s): None.

MUMH 5500 - Music History and Literature to 1750

3 hours. Comprehensive coverage of stylistic developments, genres and creative figures in Western art music from the Middle Ages to the mid-18th century.
Prerequisite(s): None.
Meets with MUMH 3500.
May not be applied to the degree plan.

MUMH 5510 - Music History and Literature Since 1750

3 hours. Comprehensive coverage of stylistic developments, genres and creative figures in Western art music from the Classic period to the present.
Prerequisite(s): None.
Meets with MUMH 3510.
May not be applied to the degree plan.

MUMH 5610 - Ornamentation and Improvisation 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 consent of instructor.

MUMH 5620 - Performance Practice: Medieval/Renaissance

3 hours. Comprehensive study of medieval and Renaissance performance practices.
Prerequisite(s): MUMH 5010 or equivalent.
May be repeated for credit.

MUMH 5630 - Performance Practice: Baroque

3 hours. Comprehensive study of baroque performance practices.
Prerequisite(s): MUMH 5010 or equivalent.
May be repeated for credit.

MUMH 5640 - Performance Practice: Classic/Romantic

3 hours. Comprehensive study of classical and romantic performance practices.
Prerequisite(s): MUMH 5010 or equivalent.
May be repeated for credit.

MUMH 5711 - Seminar in Musicology

3 hours. Practical application of musicological techniques to selected research areas; a proseminar.
Prerequisite(s): MUMH 5010.
May be repeated for credit.

MUMH 5900 - Special Problems

1–3 hours. Prerequisite(s): None.

MUMH 5910 - Special Problems

1–3 hours. Prerequisite(s): None.

MUMH 6000 - Notation of Polyphonic Music, 1200–1500

3 hours. Survey of notational practices of the Middle Ages and early Renaissance. Students undertake weekly transcriptions into modern notation, primary and secondary readings, and writing.
Prerequisite(s): Transcript and entrance exam deficiencies satisfied; MUMH 5010 or consent of instructor.

MUMH 6080 - Chamber Music

3 hours. Historical, analytical and aesthetic studies of selected chamber music.
Prerequisite(s): Transcript and entrance exam deficiencies satisfied; MUMH 5010 or consent of instructor.

MUMH 6160 - Major Composers

3 hours. Historical, analytical and aesthetic studies of a selected major composer.
Prerequisite(s): Transcript and entrance exam deficiencies satisfied; MUMH 5010 or consent of instructor.
May be repeated for credit.

MUMH 6510 - Seminar in Historical Performance Practices

3 hours. Advanced study of performance practice before 1900.
Prerequisite(s): MUMH 5010 or equivalent; or consent of instructor.

MUMH 6720 - Medieval Music

3 hours. Seminar on selected topics in medieval music.
Prerequisite(s): Transcript and entrance exam deficiencies satisfied; MUMH 5010 or consent of instructor.

MUMH 6730 - Renaissance Music

3 hours. Seminar on selected topics in Renaissance music.
Prerequisite(s): Transcript and entrance exam deficiencies satisfied; MUMH 5010 or consent of instructor.

MUMH 6740 - Baroque Music

3 hours. Seminar on selected topics in baroque music.
Prerequisite(s): Transcript and entrance exam deficiencies satisfied; MUMH 5010 or consent of instructor.

MUMH 6750 - Classical Music

3 hours. Seminar on selected topics in classical music.
Prerequisite(s): Transcript and entrance exam deficiencies satisfied; MUMH 5010 or consent of instructor.

MUMH 6760 - Music of the Romantic Era

3 hours. Seminar on selected topics in 19th-century music.
Prerequisite(s): Transcript and entrance exam deficiencies satisfied; MUMH 5010 or consent of instructor.

MUMH 6770 - Music of the Twentieth Century

3 hours. Seminar on selected topics in 20th-century music.
Prerequisite(s): Transcript and entrance exam deficiencies satisfied; MUMH 5010 or consent of instructor.

MUMH 6900 - Special Problems

1–3 hours. Prerequisite(s): None.

MUMH 6910 - Special Problems

1–3 hours. Prerequisite(s): None.

Music Laboratories**MULB 5171 - Large Ensemble: Choir**

1 hour (0;4)
Prerequisite(s): None.
May be repeated for credit.

MULB 5172 - Large Ensemble: Orchestra

1 hour (0;4)
Prerequisite(s): None.
May be repeated for credit.

MULB 5173 - Large Ensemble: Band

1 hour (0;4)
Prerequisite(s): None.
May be repeated for credit.

MULB 5174 - Large Ensemble: Jazz Lab Band

1 hour (0;4)
Prerequisite(s): None.
May be repeated for credit.

MULB 5175 - Large Ensemble: Accompanying

1 hour (0;4)
Prerequisite(s): None.
May be repeated for credit.

Music Theory**MUTH 5001 - Music Theory Practicum: Analysis**

1 hour (2;0)
Theoretical principles of music from the 17th through early 20th centuries and their application through analysis.
Prerequisite(s): None
May be repeated for credit.

MUTH 5002 - Music Theory Practicum: Aural Skills

1 hour (2;0)
Theoretical principles of the 17th through early 20th centuries and their application through aural comprehension.
Prerequisite(s): None
May be repeated for credit.

MUTH 5003 - Music Theory Practicum: Keyboard

1 hour (2;0)
Theoretical principles of the 17th through early 20th centuries and their application through realization at the keyboard.
Prerequisite(s): None
May be repeated for credit.

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 5001, MUTH 5002 and MUTH 5003.

MUTH 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.

MUTH 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.
Prerequisite(s): None

MUTH 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 5001, MUTH 5002 and MUTH 5003

MUTH 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 5001, MUTH 5002 and MUTH 5003.

MUTH 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 5001, MUTH 5002 and MUTH 5003. MUTH 5360 recommended. MUTH 4520 or consent of instructor.

MUTH 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 5001, MUTH 5002 and MUTH 5003.

MUTH 5410 - 16th Century Counterpoint

3 hours. Contrapuntal procedures of 16th-century composers. Writing motets and madrigals in two to four voices.
Prerequisite(s): None.
Meets with MUTH 3410.
May not be applied to the degree plan.

MUTH 5420 - 18th Century Counterpoint

3 hours. Contrapuntal procedures of 18th century composers. Writing inventions, chorale preludes and other 18th century forms.
Prerequisite(s): None.
Meets with MUTH 3420.
May not be applied to degree plan.

MUTH 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 5001, MUTH 5002 and MUTH 5003.

MUTH 5510 - Form Analysis

3 hours. Structural principles of 18th- and 19th-century music determined by analysis of major composers' works, larger instrumental and vocal forms.
Prerequisite(s): None.
Meets with MUTH 3510.
May not be applied to the degree plan.

MUTH 5520 - Harmonic Analysis

3 hours. Harmonic structure of compositions representative of different schools and composers.
Prerequisite(s): None.
Meets with MUTH 3520.
May not be applied to the degree plan.

MUTH 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 5001, MUTH 5002 and MUTH 5003.

MUTH 5900 - Special Problems

1–3 hours. Prerequisite(s): None

MUTH 5910 - Special Problems

1–3 hours. Prerequisite(s): None.

MUTH 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 MUMH 5020 (concurrent enrollment is acceptable), or equivalent; satisfactory score on the Graduate Placement Examination, or MUTH 5001, MUTH 5002 and MUTH 5003.

MUTH 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 5010 or MUMH 5020 (concurrent enrollment is acceptable), or equivalent; satisfactory score on the Graduate Placement Examination, or MUTH 5001, MUTH 5002 and MUTH 5003.

MUTH 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 5001, MUTH 5002 and MUTH 5003. May be repeated for credit as topics vary.
May be repeated for credit.

MUTH 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 MUMH 5020 (concurrent enrollment is acceptable), or equivalent.

MUTH 6710 - Analytical Systems II (Post 1900)

3 hours. Examination of analytical systems in the 20th century. Prerequisite(s): MUTH 5370, and MUMH 5010 or MUMH 5020 (concurrent enrollment is acceptable), or equivalent.

MUTH 6900 - Special Problems

1–3 hours. Prerequisite(s): None

MUTH 6910 - Special Problems

1–3 hours. Prerequisite(s): None

Philosophy**PHIL 5000 - Environmental Ethics**

3 hours. Examines the philosophical origins of environmental philosophy and the basic positions in the field of environmental ethics. Key authors in environmental philosophy are surveyed, as well as topical considerations with an emphasis on theories of environmental value, legal and moral rights for nature, animal liberation, and Western philosophical and religious traditions. Prerequisite(s): None.

PHIL 5010 - Seminar in the Philosophy of Ecology

3 hours. Traces the evolution of ecology from its roots in 19th-century natural history to the present with an emphasis on the prominent paradigms and conceptual trends, such as organicism, community ecology, ecosystem ecology, disturbance and flux. Also explores the sociocultural contexts in which ecology emerged and now exists, including the so-called second scientific revolution and the two-culture split. Prerequisite(s): None.

PHIL 5050 - Professional Development Seminar

3 hours. Examination of philosophies of education and pedagogical techniques and problems. Includes instruction, advising and preparation for professional development for academic careers, troubleshooting in the classroom, course preparation, university policies on teaching and student responsibilities, and teaching demonstrations. Prerequisite(s): None.

PHIL 5100 - Ancient Philosophy

3 hours. Concentrated examination of some major problem areas in 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 the historiographical study of pre-Socratic figures, Plato and Aristotle. Prerequisite(s): None.

PHIL 5200 - Modern Philosophy

3 hours. Concentrated examination of some major problem areas in 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 may include Descartes, Spinoza, Locke, Hume and Kant. Prerequisite(s): None.

PHIL 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. Prerequisite(s): None.

PHIL 5300 - Social and Political Philosophy

3 hours. Focused examination of the relation between philosophical ideas and democracy, rights, justice, political freedom, authority and community. Exploration of historical and contemporary figures and schools of thought, may include Locke, Rousseau and Marx, as well as Rawls and his critiques, feminist political thought, and critical race theory. Prerequisite(s): None.

PHIL 5400 - Seminar in Ethical Theory

3 hours. Focused examination of a variety of metaethical and normative theories of moral philosophies, such as virtue ethics, utilitarianism, deontology, emotivism and care ethics. Explorations of historical and contemporary philosophical ethics may include feminist ethics and canonical figures, such as Aristotle, Kant, and Mill. Prerequisite(s): None.

PHIL 5500 - Philosophy of Science and Technology

3 hours. Focused examination of the relationship between science and technology, the role of experiment and instrumentation in scientific practice, the social construction of scientific knowledge and technical artifacts, the nature of technology in human perception and experience, and the broader social impacts of science and technology. Prerequisite(s): None.

PHIL 5600 - Philosophy of Religion

3 hours. Focused examination of the concepts, belief systems and practices of religions. Topics might include arguments for God’s existence, the problem of evil, the nature of religious experience, religious language, and faith and reason. Prerequisite(s): None.

PHIL 5700 - Seminar in Environmental Ethics

3 hours. 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. Prerequisite(s): None.

PHIL 5900 - Special Problems

1–3 hours. Prerequisite(s): Consent of department.

PHIL 5910 - Special Problems

1–3 hours. Prerequisite(s): Consent of department.

PHIL 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. Prerequisite(s): None. Continuous enrollment required once work on the thesis has begun. May be repeated for credit.

PHIL 5960 - Seminar in Problems of Philosophy

3 hours. Intensive analysis of major philosophical issues against the background of classical and contemporary investigations. Prerequisite(s): None. May be repeated for credit.

PHIL 6110 - Epistemology

3 hours. Examines the nature of knowledge and justification. Issues typically include the relationship between knowledge and opinion, truth and meaning, social construction, and gender and ethnicity in knowing and believing.

Prerequisite(s): None.

PHIL 6150 - 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.

Prerequisite(s): None.

PHIL 6200 - Existentialism

3 hours. Examination of the place of humanity in the world and its relations to problems of self, authenticity, freedom and anxiety; Kierkegaard, Nietzsche, Heidegger and Sartre. Seminar may be a survey of philosophers or single-philosopher oriented.

Prerequisite(s): None.

PHIL 6250 - Aesthetics

3 hours. Examination of the theories of the beauty and art in the history of philosophy. Topics may include aesthetics experience, artistic expression, the sublime, literature, art and morality, and environmental aesthetics.

Prerequisite(s): None.

PHIL 6300 - 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.

Prerequisite(s): None.

PHIL 6360 - American Philosophy

3 hours. Examination of the development of pragmatism and American philosophy in the central philosophical works of Pierce, James, Dewey, and Mead; as well as philosophical contributions of later pragmatism.

Prerequisite(s): None.

PHIL 6400 - Philosophy of Technology

3 hours. Examination of the nature of technology and the effects of technologies upon human knowledge, activities, societies and environments. Topics might include technological determinism, autonomous technology, social constructivism, STS, techno-science, converging technologies, ethics and politics of technology, and technology and the environment.

Prerequisite(s): None.

PHIL 6450 - Bioethics

3 hours. Examines the historical development and contested nature of bioethical inquiry in relation to the history of philosophic ethics more generally. Topics include clinical ethics, ethics of research and emerging technologies, the relationship with policy and politics, and the relationship with environmental ethics.

Prerequisite(s): None.

PHIL 6500 - Cultural Criticism

3 hours. Transdisciplinary analysis of culture, popular culture, politics, subjectivity and everyday life. Topics may include Marxism and critical theory, power and knowledge, deconstruction and literary theory, semiotics and psychoanalytic theory, post-colonial discourse, and globalization theory.

Prerequisite(s): None.

PHIL 6550 - Religion and Science

3 hours. Examination of the historical and contemporary relationship between sciences and religions. Issues include the rise of modern science in Europe, evolution and intelligent design, religion and ecology, and science and non-Western religious tradition.

Prerequisite(s): None.

PHIL 6560 - Judaic Religion and Philosophy

3 hours. Philosophical examination of a wide range of Judaic texts—biblical, medieval and modern—which address Jewish law, history and thought from diverse points of view. Topics may include contemporary controversies over Judaism's teachings concerning environmental ethics.

Prerequisite(s): None.

PHIL 6600 - Philosophy and Theory of Religion

3 hours. Intensive inquiry into versions of theism, panentheism and naturalism. Explores relevant epistemological and postmodern issues.

Prerequisite(s): None.

PHIL 6650 - Philosophy of Water

3 hours. Philosophical examination of water and water issues at the interface of science, policy, art and culture. Topics include aesthetics and ontology of water, water conflicts, and local and global governance theories.

Prerequisite(s): None.

PHIL 6710 - 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 and philosophical responses to ecocrises.

Prerequisite(s): None.

PHIL 6720 - Religion and Ecology

3 hours. Exploration of resources for environmental philosophy and philosophy of ecology in world religions, focusing on South and East Asian traditions.

Prerequisite(s): None.

PHIL 6730 - Christianity and the Environment

3 hours. Historic and contemporary overview of Christian philosophy and theology concerning the environment.

Prerequisite(s): None.

PHIL 6740 - Environmental Ethics, Science and Public Policy

3 hours. Investigates the policy turn in environmental philosophy, exploring ways to make environmental ethics and environmental philosophy more relevant to scientists and engineers, decision-makers, public agencies, and stakeholders groups.

Prerequisite(s): None.

PHIL 6750 - Environmental Justice

3 hours. Examination of the histories, concepts, philosophical implications, and the struggles of people in shaping the environmental justice movement. Examines the underlying notions of environmental goods and harms, the perspectives of environmental law and policy, and the politics of environmental identities.

Prerequisite(s): None.

PHIL 6760 - Topics in Environmental Philosophy

3 hours. Focused examination of the perennial or emerging topics in environmental philosophy, such as the intrinsic value of nature, monism versus pluralism, ecophenomenology, holism versus individualism, and non-Western explorations of environmental ethics and philosophy.

Prerequisite(s): None.

May be repeated for credit as topics vary.

PHIL 6780 - Subantarctic Biocultural Conservation

3 hours. In-depth study of the relationship between subantarctic ecosystems and cultures of southern South America including geography, climate, ethnography, history and ecology, which exposes students to both the practical and theoretical aspects of biocultural conservation, including its interdisciplinary character integrating the sciences and humanities.

Prerequisite(s): None.

Same as BIOL 5053.

Meets with BIOL 4053/PHIL 4053.

PHIL 6781 - Tracing Darwin's Path

3 hours. Annual in-depth field course that explores subantarctic biota, geography, history, cultures and ecosystems of the Cape Horn Biosphere Reserve, integrating ecological science and field environmental ethics approaches to the study and conservation of biocultural diversity.

Prerequisite(s): Consent of instructor; BIOL 5053 or PHIL 6780 recommended.

Same as BIOL 5054.

PHIL 6900 - Special Problems

1–3 hours. Research by doctoral students in fields of special interest.

Prerequisite(s): Consent of department.

PHIL 6910 - Special Problems

1–3 hours. Research by doctoral students in fields of special interest.

Prerequisite(s): Consent of department.

PHIL 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.

Prerequisite(s): None.

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.

PHIL 6960 - Seminar in Problems in Philosophy

3 hours. Intensive analysis of major philosophical issues against the background of classical and contemporary investigations.

Prerequisite(s): None.

May be repeated for credit as topics vary.

Physics**PHYS 5450 - Survey of Solid State Physics**

3 hours. Acquaints students 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.

PHYS 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.

Prerequisite(s): None.

PHYS 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.

PHYS 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.

PHYS 5700 - Computational Physics

3 hours. Symbolic and numerical solutions to single and multiple, single-variable and multi-variable, linear and nonlinear, integral and differential equations. Finite-differences method for solving a partial differential equation. Solution visualization techniques, including multidimensional plots. Matrix manipulation. Data analysis. Monte Carlo methods. Random walk simulations. Classical trajectory simulations.

Prerequisite(s): None.

PHYS 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.

PHYS 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 PHYS 6000 (concurrent), or consent of department.

PHYS 5750 - Selected Topics in Material Physics

3 hours. Topics from specialized areas of materials science, physics, chemistry. Integrated circuit fabrication and materials. Transmission electron microscopy.

Prerequisite(s): None.

May be repeated for credit as topics vary.

PHYS 5900 - Special Problems

1–6 hours. Special problems in advanced physics for graduate students.

Problem chosen by the student with the approval of the supervising professor and the department chair.

Prerequisite(s): None.

Pass/no pass only.

PHYS 5910 - Special Problems

1–6 hours. Special problems in advanced physics for graduate students.

Problem chosen by the student with the approval of the supervising professor and the department chair.

Prerequisite(s): None.

Graded course.

PHYS 5920 - Research Problems in Lieu of Thesis

3 hours. An introduction to research; may consist of an experimental, theoretical or review topic.

Prerequisite(s): None.

PHYS 5930 - Research Problems in Lieu of Thesis

3 hours. An introduction to research; may consist of an experimental, theoretical or review topic.

Prerequisite(s): None.

PHYS 5941 - Colloquium

1 hour. Weekly lectures by faculty and invited guests on topics of current interest in contemporary physics.

Prerequisite(s): None.

Does not count as an organized course for the fulfillment of the Master of Science with a major in physics.

PHYS 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.

Prerequisite(s): None.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

PHYS 5960 - Science Institute

1–6 hours. For students accepted by the university as participants in special institute programs.

Prerequisite(s): None.

May be repeated for credit, not to exceed a total of 6 hours in each course. Laboratory fee required.

PHYS 5970 - Science Institute

1–6 hours. For students accepted by the university as participants in special institute programs.

Prerequisite(s): None.

May be repeated for credit, not to exceed a total of 6 hours in each course. Laboratory fee required.

PHYS 5980 - Special Problems

1–3 hours. Special problems in advanced physics for graduate students. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): None.

PHYS 5990 - Special Problems

1–3 hours. Special problems in advanced physics for graduate students. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): None.

PHYS 6000 - Mathematical Methods of Physics I

3 hours. Complex variables, Laurent series, contour integration, dispersion relations, ordinary differential equations. Sturm-Liouville theory, Fourier series, Legendre functions, Green's functions.

Prerequisite(s): PHYS 3310.

PHYS 6001 - Mathematical Methods of Physics II

3 hours. Bessel functions, Hermite functions, Laguerre functions, hypergeometric functions, confluent hypergeometric functions, integral transforms, integral equations, calculus of variations.

Prerequisite(s): PHYS 6000.

PHYS 6010 - Advanced Classical Mechanics II

3 hours. Non-linear dynamics; chaos; fractals; classical field theory; hydro-dynamics and non-linear waves.

Prerequisite(s): PHYS 5710.

PHYS 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.

PHYS 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, PHYS 5510.

PHYS 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.

PHYS 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.

Prerequisite(s): None.

PHYS 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.

PHYS 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.

Prerequisite(s): None.

PHYS 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.

PHYS 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.

PHYS 6450 - Advanced Solid State Physics

3 hours. 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 5450 and PHYS 5510, or consent of department.

PHYS 6460 - Advanced Solid State Physics

3 hours. 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 5450 and PHYS 5510, or consent of department.

PHYS 6500 - Advanced Quantum Theory

3 hours. Dirac and Heisenberg formalisms, second quantization and quantum theory of radiation. Dirac equation and its applications. Prerequisite(s): Consent of department.

PHYS 6510 - Advanced Quantum Theory

3 hours. Quantization of Dirac, Klein-Gordon fields, interactions, S-matrix theory, perturbation theory and applications. Prerequisite(s): PHYS 6500 or consent of department.

PHYS 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.

PHYS 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.

PHYS 6900 - Special Problems

1–3 hours. Special problems in experimental or theoretical physics for advanced graduate students. Problem chosen by the student with the approval of the supervising professor. Prerequisite(s): None. Pass/no pass only.

PHYS 6910 - Special Problems

1–3 hours. Special problems in experimental or theoretical physics for advanced graduate students. Problem chosen by the student with the approval of the supervising professor. Prerequisite(s): None. Graded course.

PHYS 6940 - Individual Research

1–12 hours. To be scheduled by the doctoral candidate engaged in research. Prerequisite(s): None. May be repeated for credit.

PHYS 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. Prerequisite(s): None. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

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. Prerequisite(s): None.

PSCI 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. Prerequisite(s): None. May be repeated for credit as topics vary.

PSCI 5220 - Proseminar in Public Law

3 hours. Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field. Prerequisite(s): None.

PSCI 5230 - Seminar in American Public Law

3 hours. Legal framework within which American governmental processes operate; analysis of substantive legal rules and basic processes by which law is made and applied. Prerequisite(s): None. May be repeated for credit as topics vary.

PSCI 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. Prerequisite(s): None.

PSCI 5340 - Seminar in Political Science Scope and Methods

3 hours. Concepts, trends and research design in political science. Prerequisite(s): None.

PSCI 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. Prerequisite(s): None. May be repeated for credit as topics vary.

PSCI 5420 - Proseminar in Public Administration

3 hours. Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field. Prerequisite(s): None.

PSCI 5610 - Proseminar in Comparative Government

3 hours. Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field. Prerequisite(s): None.

PSCI 5650 - Seminar in Area Studies

3 hours. 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

PSCI 5810 - Proseminar in International Relations

3 hours. Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

Prerequisite(s): None.

PSCI 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

PSCI 5900 - Special Problems

1–3 hours. Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Consent of department chair.

PSCI 5910 - Special Problems

1–3 hours. Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Consent of department chair.

PSCI 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.

Prerequisite(s): 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.

PSCI 6000 - Research Seminar

3 hours. Specialized study and research in the field of political science.

Prerequisite(s): None.

May be repeated for credit.

PSCI 6100 - Political Science Teaching and Research

3 hours. Classroom methods for political science instruction, as well as basic research and job-hunting skills.

Prerequisite(s): None.

Pass/no pass. May be repeated for credit as topics vary. Hours may not count toward graduate degree plans.

PSCI 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.

Prerequisite(s): None.

An undergraduate introductory statistics course would be useful prior to registering for this course.

PSCI 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.

PSCI 6900 - Special Problems

1–3 hours. Conference courses for doctoral students. Directed reading and research in fields of special interest.

Prerequisite(s): Consent of department.

PSCI 6910 - Special Problems

1–3 hours. Conference courses for doctoral students. Directed reading and research in fields of special interest.

Prerequisite(s): Consent of department.

PSCI 6930 - Individual Research

1–12 hours. Independent doctoral research prior to comprehensive examinations.

Prerequisite(s): Approval of graduate advisor.

May be repeated for credit. Pass/no pass only.

PSCI 6940 - Practicum

3–6 hours. Pre-dissertation independent research, under faculty supervision.

Prerequisite(s): Must be near completion of course work.

May be repeated for credit up to 6 hours. Partially fulfills the tool requirement.

PSCI 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): None.

May be repeated for credit.

Psychology

PSYC 5010 - Human Development

3 hours. Integrated rather than specialized view of the biophysical, sociocultural, 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.

Prerequisite(s): None

PSYC 5022 - Interviewing

3 hours. Application of different interview theories to counseling and psychotherapy in mental health settings.

Prerequisite(s): None

Open only to graduate students in psychology.

PSYC 5040 - Cultural Aspects of Health

3 hours. Conceptual frameworks to understand factors influencing patterns of health (psychological, biological and social) across cultures and subcultures. Behavioral medicine perspective of health and disease; illustration of their unique and common elements in sociopolitical and environmental contexts.

Prerequisite(s): None

PSYC 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.

Prerequisite(s): None

May be repeated for credit.

PSYC 5060 - History and Systems

3 hours. Philosophical and physiological roots of psychology; traditional historical systems, including structuralism, functionalism, behaviorism, Gestalt and psychoanalysis; relevance to major contemporary systems.

Prerequisite(s): None

PSYC 5070 - Medical and Behavioral Disorders

4 hours (3;4)

Applies knowledge from diverse disciplines to understand basic physiological functions, their psychological basis and ecological factors comprising the matrix of person-environment interaction. A concept of health integrates mind, body, environment and resulting pathological states when this balance is disrupted. Students learn to interact with medical providers.

Prerequisite(s): Consent of department.

PSYC 5090 - Social Psychology

3 hours. 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.

PSYC 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 prognoses.

Prerequisite(s): PSYC 5010 or its equivalent, or consent of department.

PSYC 5121 - Sport and Exercise Psychology

3 hours. 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): None

Same as KINE 5121.

PSYC 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. Same as KINE 5131.

PSYC 5171 - Social Psychology of Sport

3 hours. Effects of social psychological variables on motor behavior. Topics include social facilitation, social reinforcement, organized youth sports, socialization, group dynamics and leadership.

Prerequisite(s): None

Same as KINE 5171.

PSYC 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.

PSYC 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.

PSYC 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.

Prerequisite(s): None

Same as PSYC 4300.

PSYC 5340 - Life-Span Developmental Psychology

3 hours. 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.

Prerequisite(s): None

PSYC 5350 - Counseling for Sexual Dysfunction and Other Psychosexual Disorders

3 hours. 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.

Prerequisite(s): None

PSYC 5420 - 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 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 are required to enroll in a special problems laboratory. Offered fall term/semester only.

PSYC 5430 - 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.

PSYC 5470 - Vocational Psychology: Developmental Aspects

3 hours. Explores theories of career development and work adjustment, history of vocational psychology, and contemporary issues.

Prerequisite(s): None

PSYC 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.

PSYC 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.

Prerequisite(s): None

PSYC 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 PSYC 4800 or equivalent, or consent of department.

PSYC 5670 - Behavioral and Biopsychosocial Challenges within LGBT Communities

3 hours. Understanding the health-related behaviors and psychosocial factors associated with sexual minorities (LGBT: lesbian, gay, bisexual and transgendered), primarily in the U.S. Designed for healthcare workers, educators, service providers and individuals who work with or are interested in LGBT communities.

Prerequisite(s): None

Meets with PSYC 4670.

PSYC 5680 - Counseling Psychology Methods

3 hours (3;2)

Introduction to counseling psychology, models of counseling and psychotherapy, and counseling methods.

Prerequisite(s): None

Students who have had a similar course without laboratory credit are required to enroll in a special problems laboratory.

PSYC 5690 - Legal and Ethical Issues in Professional Practice

3 hours. Intensive overview of legal procedures, state regulations and ethical guides relevant to professional practice.

Prerequisite(s): Consent of department.

PSYC 5700 - Quantitative Methods I

4 hours (3;1)

Graduate-level introduction to statistical methods of data analysis including introduction to robust methods, effect size estimation, correlational methods (e.g., regression), ANOVA. Assumes knowledge from undergraduate course. In lab, students learn to use computer programs for quantitative data exploration and analysis.

Prerequisite(s): An introductory course in statistics.

PSYC 5710 - Quantitative Methods II

4 hours (3;1)

Builds on statistical methods of analysis begun in 5700 with more advanced techniques (e.g., repeated measures, ANOVA, contrasts, mixed design and logistic regression, outliers, factorial design). In lab, students learn to use computer programs for quantitative data analysis.

Prerequisite(s): PSYC 5700 or equivalent.

PSYC 5780 - Psychopathology

3 hours. 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 PSYC 5010 or equivalents, or consent of department.

PSYC 5790 - 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.

PSYC 5820 - Assessment Practicum

1–3 hours. Administer, synthesize, evaluate and communicate the results of psychological tests under supervision in various assessment settings approved by faculty.

Prerequisite(s): Grade of B or better in PSYC 5420 and PSYC 5430 (or consent of department); cumulative B average; no deficiencies; approved degree plan.

Open only to graduate students in psychology. May be repeated for credit.

PSYC 5831 - Psychological Methods Practicum

1–3 hours. 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.

PSYC 5832 - Psychological Methods Practicum

1–3 hours. 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.

PSYC 5850 - Sport and Exercise Pathology 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.

PSYC 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.

Same as AGER 5860.

May be repeated for credit as topics vary.

PSYC 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. Prerequisite(s): None
Same as AGER 5890.

PSYC 5900 - Special Problems

1–4 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. Prerequisite(s): None
Open only to resident students.

PSYC 5910 - Special Problems

1–4 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. Prerequisite(s): None
Open only to resident students.

PSYC 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. Prerequisite(s): None
Continuous enrollment required once work on thesis has begun. May be repeated for credit.

PSYC 6000 - 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.

PSYC 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): None
Open only to doctoral students in clinical and counseling psychology.

PSYC 6022 - Advanced Interviewing

2 hours. Preparation for applied work in counseling psychology, emphasizing specific theoretical orientations to interviewing in counseling and psychotherapy. Prerequisite(s): None
Open only to graduate students in psychology.

PSYC 6060 - Group Psychotherapy

3 hours. Overview of the use of group psychotherapy. Involves experience as the leader of a therapeutic or “quasi-therapeutic” group. Prerequisite(s): PSYC 6000.
For doctoral candidates in clinical and counseling psychology.

PSYC 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.

PSYC 6110 - Issues in Behavioral Medicine Consultation

3 hours. Issues facing health psychologists in behavioral medicine settings. Malpractice risks related to health services (e.g., managed health care; privacy, consent, hospital record access; quality and review related to issues; interdisciplinary relationships, hospital privileges, multiple codes of ethics/legal constraints and hierarchical responsibility for medical regimes; medical liaison consultation with under-served populations). Prerequisite(s): Consent of department.

PSYC 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.

PSYC 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.

PSYC 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 are 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.

PSYC 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.

PSYC 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.

PSYC 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.

PSYC 6350 - Pediatric Psychology

3 hours. Medical and psychological issues related to childhood illnesses with intervention strategies, sample protocols and case examples of disorders in pediatric psychology settings. Advances, research and strategies for early childhood diseases, chronic conditions, suicide, consultation/liaison services, assessing and developing interventions; treatment adherence and compliance; educating and supporting the patient, family and staff.

Prerequisite(s): None

PSYC 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.

PSYC 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.

PSYC 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.

PSYC 6450 - Psychodiagnostic Assessment

4 hours (3;3)

Advances in psychodiagnostic assessment emphasizing the core personality battery to evaluate diagnosis, indicate prognosis and inform treatment, especially recommendations for psychotherapy. Includes scientific basis for selection and use of instruments given their different psychometric properties. Emphasizes consolidation of competence with projective methods and integration of findings across assessment techniques.

Prerequisite(s): PSYC 5430.

PSYC 6460 - Diagnostic and Structured Interviewing

4 hours (3;3)

Emphasis 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 5430.

PSYC 6480 - 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): PhD student in psychology and consent of instructor.

PSYC 6520 - Forensic Psychology: Theory and Practice

3 hours. Combined theoretical and applied emphasis provides specialization in forensic psychology. Seminar includes criminal (e.g., insanity and sentencing) and civil (e.g., malpractice and personal injury) topics.

Prerequisite(s): PSYC 5430 or consent of department.

PSYC 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.

Prerequisite(s): None

PSYC 6610 - Independent Research

4 hours. Initiation and conduct of advanced research projects and the dissemination of the results. The purposes are to engender appreciation for scholarship and engage students in research projects with a high probability of journal publication.

Prerequisite(s): Doctoral standing in psychology.

May be repeated for credit.

PSYC 6620 - Supervision

3 hours. Survey of the literature and best practices for supervision in a psychotherapy context. Definitions, theory-based approaches, supervision formats, and research are reviewed. Emphasis on helping students develop supervision skills through supervised experiences.

Prerequisite(s): PSYC 6820, PSYC 6830. Consent of department.

PSYC 6630 - Series on Psychotherapy Theory, Research and Practice

3 hours. Intensive examination of theory, research findings, and techniques of a specific current model of psychotherapy. The goal is to further in-depth understanding and proficiency in application of the approach. A rotating series of psychotherapy models is covered (e.g., cognitive-behavioral approaches, psychodynamic approaches, treatment of trauma, etc.).

Prerequisite(s): PSYC 6820, PSYC 6830. Consent of department.

May be repeated for credit as topics vary.

PSYC 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.

PSYC 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.

PSYC 6700 - Psychodynamics

3 hours. 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 are considered.

Prerequisite(s): Consent of department.

PSYC 6710 - Behavioral Toxicology

3 hours. 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.

Prerequisite(s): None

PSYC 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.

PSYC 6810 - Multivariate Procedures in Psychology

3 hours. Multiple regression and factor analysis as applied to psychological research, theory and practical applications using statistical software.

Prerequisite(s): None

Background in statistics and statistical software desirable.

PSYC 6820 - Practicum

1–3 hours. 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): None

Open only to students admitted to a graduate program in psychology.

May be repeated for credit.

PSYC 6830 - Practicum

1–3 hours. 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): None

Open only to students admitted to a graduate program in psychology.

May be repeated for credit.

PSYC 6840 - Predoctoral Internship

1–3 hours. Required year-long, full-time field placement for all doctoral students in APA accredited programs. Internship is consistent with objectives of student's program and current professional practices in a variety of agencies, hospitals, medical schools or other internship sites.

Prerequisite(s): Completion of all course work (except PSYC 6950) and passage of the specialty exam.

Open only to PhD candidates. Pass/no pass only.

PSYC 6850 - Predoctoral Internship

1–3 hours. Required year-long, full-time field placement for all doctoral students in APA accredited programs. Internship is consistent with objectives of student's program and current professional practices in a variety of agencies, hospitals, medical schools or other internship sites.

Prerequisite(s): Completion of all course work (except PSYC 6950) and passage of the specialty exam.

Open only to PhD candidates. Pass/no pass only.

PSYC 6900 - Special Problems

1–3 hours. Prerequisite(s): None

PSYC 6910 - Special Problems

1–3 hours. Prerequisite(s): None

PSYC 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): None

May be repeated for credit.

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.

Prerequisite(s): None.

Must be taken in the first term/semester of course work.

PADM 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).

PADM 5030 - Managing Human Resources

3 hours. 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, PADM 5020.

PADM 5035 - Professional Practice for Public Managers

3 hours. Workshop teaches current and future public managers how to operate a government agency on a day-to-day basis. Managerial practices include the meaning of public service, communication in the public sector, making effective presentations, facilitating effective meetings, executive-legislative relations, citizen relations, media relations, and ethics.

Prerequisite(s): Enrollment in course restricted to last two semesters in MPA program.

To be taken during the last two semesters of course work.

PADM 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.

Prerequisite(s): None.

PADM 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.

Prerequisite(s): None.

PADM 5060 - Seminar in Intergovernmental Relations

3 hours. Analysis of political, administrative and fiscal relationships among governments in the American political system.

Prerequisite(s): None.

May be repeated for credit as topics vary.

PADM 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.
Prerequisite(s): None.

PADM 5200 - Public Personnel Management

3 hours. Managing human resources in national, state and local governments.
Prerequisite(s): None.

PADM 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.
Prerequisite(s): None.

PADM 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. Includes hiring, paying, supervising, motivating, developing, promoting, disciplining and retaining employees (paid or unpaid) in nonprofit and volunteer organizations.
Prerequisite(s): None.

PADM 5300 - Introduction to Planning

3 hours. Examination of state, regional and local government planning. Explores planning theory, the planning process, managing planning, implementing plans and citizen participation.
Prerequisite(s): None.

PADM 5310 - Economic and Community Development

3 hours. 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.
Prerequisite(s): None.

PADM 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.
Prerequisite(s): None.

PADM 5410 - Capital Budgeting and Planning

3 hours. Examination of capital budgeting and planning in government. 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.
Prerequisite(s): None.

PADM 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.
Prerequisite(s): None.

PADM 5430 - Financial Accountability in Government

3 hours. 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.
Prerequisite(s): None.

PADM 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.
Prerequisite(s): None.

PADM 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.

PADM 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.
Prerequisite(s): None.

PADM 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.

PADM 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.
Prerequisite(s): None.

PADM 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.
Prerequisite(s): None.

PADM 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. Prerequisite(s): None.

PADM 5700 - Seminar in Public Administration

3 hours. Concepts, problems and processes of public administration. Prerequisite(s): None. May be repeated for credit as topics vary.

PADM 5800 - Public Management Internship

3 hours. Acquisition of practical management experience through a series of seminars designed to prepare pre-career students for a 440-hour internship with a public or non-profit organization. Academic supervision and evaluation of internship performance along with a final presentation are required. Prerequisite(s): None. Pre-career MPA students must enroll in this graded course in their first semester.

PADM 5900 - Special Problems

1–3 hours. Conference courses open to advanced students capable of doing independent research under the direction of the instructor. Prerequisite(s): Consent of department chair.

PADM 5910 - Special Problems

1–3 hours. Conference courses open to advanced students capable of doing independent research under the direction of the instructor. Prerequisite(s): Consent of department chair.

PADM 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): None. May be repeated for credit.

PADM 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. Prerequisite(s): None.

PADM 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. Prerequisite(s): None.

PADM 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. Prerequisite(s): None.

PADM 6035 - Social Science Inquiry

3 hours. Designed to provide a thorough introductory overview of social science research methods. The objectives are to develop understanding of the basic elements of an empirical social science study, how to produce an empirical study, and the major methodological approaches used by contemporary social scientists. Research design and the structure of inquiry, the role of theory in empirical research, argument construction, causal inference, ethics, sampling, approaches to inquiry (quantitative, qualitative, experimental, evaluation) and reporting and reviewing research. Prerequisite(s): None.

PADM 6110 - 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, PADM 6015 .

PADM 6120 - 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. Prerequisite(s): None.

PADM 6310 - Seminar in Public Policy Implementation

3 hours. In-depth study of public policy with emphasis on the role of public administrators in the formation, adoption and implementation of public policy. Prerequisite(s): None.

PADM 6320 - Seminar in Public Policy Analysis and Program Evaluation

3 hours. Provides an overview of the substance and methodologies of policy research and focuses on the practical application of appropriate methodology to assess the effectiveness of public programs and policies. Prerequisite(s): PADM 6310.

PADM 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 PADM 5420 or equivalents.

PADM 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. Prerequisite(s): None.

PADM 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. Prerequisite(s): None.

PADM 6610 - Emergency Management Theory and Practice

3 hours. Explores the central conceptual and theoretical topics and debates that inform the discipline and practice of emergency management. Focus centers on the nature of disaster, common misperceptions about human behavior under conditions of stress, and the important literature pertaining to disasters and emergency management. By taking an interdisciplinary approach, the seminar enables students to think critically about the epistemological assumptions of alternative theoretical viewpoints and divergent policy proposals.
Prerequisite(s): None.

PADM 6615 - Environmental Planning and Hazards

3 hours. Explores the natural disasters and strategies public officials can apply to cope with their impacts on the built environment. Natural disasters of geologic, atmospheric, hydrologic, and biologic origin are considered. An environmental planning focus is taken where an emphasis is placed on human-environment interactions as they are related to environmental extremes. Alternative public policy strategies for coping with natural hazards are considered from the perspectives of preparedness, response, recovery and mitigation activities.
Prerequisite(s): None.

PADM 6620 - Challenges of Disaster Response

3 hours. Focuses on a variety of problems that arise before, during and after emergencies and disasters. Such challenges include warnings and evacuations, the convergence of people and material toward the disaster site, and working with the media, among others. The objective is to develop sufficient familiarity with these subjects to be able to address them with authority in professional settings. Emphasizes analysis and critical consideration of emergency management challenges and the related literature.
Prerequisite(s): None.

PADM 6630 - Technological Hazards

3 hours. Focuses on hazards arising from the development and use of technological systems in transportation, manufacturing, energy production and distribution, and other areas of activity. Examines the philosophy of technology, the development of technology in social and political contexts, and theories and debates about the creation of hazards, effective management systems, and the causes of accidents.
Prerequisite(s): None.

PADM 6635 - Disaster Research Methods

3 hours. Provides an examination of methods that can be applied in the study of disasters. Focuses on qualitative methods, with specific attention given to social-scientific methods which can be applied to the study of events in the pre-disaster, during-disaster and post-disaster time frame. This seminar takes an interdisciplinary approach to explore the challenges and opportunities of qualitative disaster research with an emphasis on skills that can be applied to disaster field research. Enables students to understand the scope of qualitative methods available and to consider the range of activities necessary to perform disaster field research.
Prerequisite(s): None.

PADM 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.
Prerequisite(s): None.

PADM 6710 - Seminar in Public Administration and Management

3 hours. Concepts, problems and processes of public administration.
Prerequisite(s): Consent of department.
May be repeated for credit as topics vary.

PADM 6900 - 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.

PADM 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.

PADM 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.

PADM 6950 - Doctoral Dissertation

3, 6 or 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 admission to candidacy.
Prerequisite(s): Consent of department.
May be repeated for credit.

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.

RTVF 5120 - Critical-Cultural Media Theory

3 hours. Introduces students to various theoretical frameworks used to study radio, television and film. Provides students with a historical development of media theory, as well as the vocabulary and concepts germane to different methodologies.
Prerequisite(s): RTVF MA/MS/MFA status or consent of department.

RTVF 5121 - New Media Theory

3 hours. Examination of emerging theoretical approaches to mass media. Application to digital media and traditional film and television of qualitative methodologies based on concepts including: participatory culture, community, mobility, network theory, labor economies and globalization.
Prerequisite(s): RTVF MA/MS/MFA status or consent of department.

RTVF 5130 - Media Theory and Society

3 hours. Overview of social science-based theory and research pertaining to the mass media. Review of classic studies in such areas as media effects, uses and gratification research, and the impact of cybermedia.
Prerequisite(s): RTVF MA/MS/MFA status or consent of department.

RTVF 5131 - Research Methods in RTVF

3 hours. Introduction to research methods that are used in the field of radio, television and film. Provides an overview of research design, data collection methods, sampling and data analysis. Covers both quantitative and qualitative research methods including survey, focus group, case study, content analysis and experiment.
Prerequisite(s): RTVF MA/MS/MFA status or consent of department.

RTVF 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.

Prerequisite(s): None.

RTVF 5211 - Video Game Theory, Design and Culture

3 hours. Introduction to critical and theoretical methodologies for examining video games and their ongoing processes of design as cultural phenomena. Examines the complex designs of video games in terms of topics such as culture industries, the social relations of play, gender and identity, participatory culture, and politics.

Prerequisite(s): RTVF MA/MS/MFA status or consent of department.

RTVF 5220 - Post-War European Film

3 hours. Examines three major film movements that developed in Europe after WWII: Italian Neorealism, the French New Wave, and British New Wave. Identifies the historical and cultural influences behind these film movements and explores the aesthetics of each movement and how these aesthetics reflect the philosophical and/or political ideals of the filmmakers.

Prerequisite(s): RTVF MA/MS or MFA status or consent of department. Meets with RTVF 4220.

RTVF 5240 - Hitchcock Films

3 hours. Focuses on films directed by Alfred Hitchcock tracking the development of Hitchcock's career from the early days in Britain through his studio successes in America. Detailed analyses of specific Hitchcock films and engagement with the various debates about authorship, genre, psychoanalysis and film which have been staged in relation to Hitchcock's work.

Prerequisite(s): RTVF MA/MS or MFA status or consent of department. Meets with RTVF 4240.

RTVF 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.

RTVF 5350 - Television News Producing

3 hours. Theory and practice of producing television newscasts in a station environment. Students have the opportunity to produce newscasts for North Texas Television (NTTV), UNT's cable access station. Students also have the responsibility of working with reporter/photographer teams as field producers and special project producers and to work with assignment editors and in content development with faculty advisor and news director.

Prerequisite(s): RTVF MA, MS or MFA status. Meets with RTVF 4850.

RTVF 5400 - Media Studies Seminars

3 hours. Rotating topics. Representative topics include films of Buster Keaton; AIDS and mass media; and production management.

Prerequisite(s): None.

May be repeated for credit as topics vary.

RTVF 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.

Prerequisite(s): None.

RTVF 5420 - African-American Film

3 hours. Advanced study of the representation of African-American characters and concerns throughout the history of American film, drawing on current concepts from historiography, spectatorship, and critical race theory. Explores the cultural context of historical and contemporary images, as well as African-American participation within the American film industry.

Prerequisite(s): RTVF graduate status or consent of department.

Meets with RTVF 4520.

RTVF 5430 - Gender and Sexuality in the Horror Film

3 hours. Advanced study of gender and sexuality as it has been figured throughout the history of the American horror film, drawing on genre theory, psychoanalysis, feminism and queer theory. Explores the cultural context of historical and contemporary images, charting their change vis-à-vis major historical events such as World War II, the Sexual Revolution and the AIDS crisis.

Prerequisite(s): RTVF graduate status or consent of department.

Meets with RTVF 4530.

RTVF 5435 - Lesbian, Gay, and Queer Film and Video

3 hours. Advanced study of the representation of lesbian, gay and queer characters and concerns throughout the history of American film, drawing upon recent advances in historiography, spectatorship and queer theory. Explores the cultural context of historical and contemporary images, charting their change across relevant historical events such as World War II, the Sexual Revolution, the AIDS crisis and the mainstreaming of queer concerns in the 1990s.

Prerequisite(s): RTVF graduate status or consent of department.

RTVF 5440 - Broadcast Advertising

3 hours. Economics, standards and ethics of advertising in the broadcast media, including the use of broadcast research to develop an advertising campaign. Advanced sales strategies are developed from in-depth study of principles, theories and techniques of selling advertising. Learning to work with clients and serve their marketing needs.

Prerequisite(s): RTVF MA, MS or MFA status.

Meets with RTVF 4440.

RTVF 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.

Prerequisite(s): None.

Same as JOUR 5150.

RTVF 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.

Prerequisite(s): None.

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.

RTVF 5500 - Advanced Screenwriting

3 hours. Designed for advanced students to create and develop an original narrative story idea to include logline, synopsis, treatment and full-length motion picture screenplays or teleplays of 90–120 minutes in length. All submissions and re-writes are graded to the highest industry standards. Students complete five re-writes of their screenplay.

Prerequisite(s): RTVF MFA or MA/MS status.

Meets with RTVF 4500.

RTVF 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.

Prerequisite(s): None.

May be repeated once as topics vary.

RTVF 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.

Prerequisite(s): None.

May be repeated for audit once as topics vary.

RTVF 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.

Prerequisite(s): None.

RTVF 5630 - Broadcast Programming

3 hours. Theories and strategies of program selection, scheduling and evaluation for broadcast stations and cable television systems.

Prerequisite(s): None.

RTVF 5640 - Media Management

3 hours. Financial, legal and technical aspects of broadcast stations and cable television systems.

Prerequisite(s): None.

RTVF 5650 - Graduate Audio Production

3 hours. Concepts, theories and methodologies of audio production, particularly in regard to documentary production applications. Topics covered include studio recording, audio field recording and post-production.

Prerequisite(s): RTVF MFA status or consent of department.

RTVF 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.

Prerequisite(s): None.

RTVF 5680 - Media Entrepreneurship

3 hours. Covers the essential information needed to start a media business. Topics include how to identify and market a new media enterprise, legal and tax issues encountered with starting a new business, and cost structures and sources of startup capital. A key outcome is the preparation of a business plan for a new media-related startup.

Prerequisite(s): RTVF MA/MS/MFA status or consent of department.

RTVF 5701 - Video Production Topics

3 hours. Rotating topics in video production. Representative topics include documentary production and advanced television production.

Prerequisite(s): None.

May be repeated for credit as topics vary.

RTVF 5702 - Film Production Topics

3 hours. Rotating topics in film production. Representative topics include lighting for cinematography and directing for film.

Prerequisite(s): None.

May be repeated for credit as topics vary.

RTVF 5703 - Audio Production Topics

3 hours. Rotating topics in audio production. Representative topics include music for film and television and digital audio editing.

Prerequisite(s): None.

May be repeated for credit as topics vary.

RTVF 5740 - Theory and Technique of Visual Editing

3 hours. 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 is introduced using digital nonlinear editing systems.

Prerequisite(s): RTVF graduate major status or consent of instructor.

RTVF 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, RTVF 3450, or RTVF 4340.

RTVF 5760 - Documentary Preproduction

3 hours. 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.

RTVF 5770 - Documentary Production

3 hours. Production of an advanced documentary project from idea through final cut, culminating in a public screening.

Prerequisite(s): None.

RTVF 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.

RTVF 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.

RTVF 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.

RTVF 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.

Prerequisite(s): RTVF MFA status.

Students must enroll each term/semester they are in the program for a maximum of 6 total credits.

RTVF 5830 - Cinematography

3 hours. Concentrated study of the theory and craft of photographing the moving image as it applies to narrative and documentary filmmaking. Through a combination of hands-on exercises, screenings, discussion, critique and lecture, students are introduced to the current technologies and aesthetics of cinematography. Areas covered include: lighting for film and video, 16mm film cameras (synch and non-synch), high definition cameras, film stocks, camera movements and film language. Prerequisite(s): RTVF MA/MS/MFA status or consent of department.

RTVF 5900 - Special Problems

1–3 hours. Prerequisite(s): None.

RTVF 5910 - Special Problems

1–3 hours. Prerequisite(s): None.

RTVF 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): None.

May be repeated for credit.

Reading**EDRE 5030 - Practicum, Field Problem or Internship**

3–6 hours (0;0;3–6)

Supervised professional activities in reading education.

Prerequisite(s): None.

Registration is on an individual basis.

EDRE 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.

Prerequisite(s): None.

EDRE 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.

EDRE 5180 - Advanced Assessment and Evaluation in Reading

3 hours. Exploration of current techniques for assessment and evaluation in reading. Merging assessment and instruction in classrooms is emphasized.

Prerequisite(s): EDRE 5370 or equivalent.

EDRE 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.

EDRE 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.

EDRE 5370 - Advanced Reading Theory/Practice

3 hours. 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.

EDRE 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.

Prerequisite(s): None.

May be repeated for credit with advisor approval for a maximum of 6 hours.

EDRE 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.

Prerequisite(s): None.

May be repeated for credit with advisor approval for a maximum of 6 hours.

EDRE 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.

Prerequisite(s): None.

EDRE 5653 - Making the Literacy Connection: Language to Reading

3 hours. 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.

Prerequisite(s): None.

Same as EDEC 5653.

EDRE 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 on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

EDRE 5810 - 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 on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

EDRE 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.

Prerequisite(s): None.

Open only to resident students.

EDRE 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): None.

May be repeated for credit.

Real Estate**REAL 5350 - Introduction to Real Estate and Investment Analysis**

3 hours. 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.

Prerequisite(s): None.

REAL 5400 - Advanced Real Estate Valuation

3 hours. In-depth study, application and evaluation of the theory and methods of residential and income property appraisal. Topics include case study analyses of the market comparison approach, the income capitalization approach and the cost approach to estimating value. Graduate students are required to complete group work, as well as a sequence of approximately ten complete case study solutions and presentations.

Prerequisite(s): REAL 5350 or consent of department.

Meets with REAL 4400.

REAL 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.

REAL 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.

REAL 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.

REAL 5780 - Seminar in Real Estate Research

3 hours. Reading and analysis of current real estate literature and research. Topics vary.

Prerequisite(s): REAL 5350, REAL 5440, REAL 5760.

REAL 5800 - Internship

1–3 hours. Supervised work experience in a position related to the student's career objective that meets the department's internship requirements.

Prerequisite(s): Student must meet employer's requirements and have consent of the department's advisor.

Pass/no pass only.

REAL 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 CoB Graduate Programs Office prior to registration.

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.

Prerequisite(s): None.

RECR 5050 - Administration and Supervision of Recreation and Sport

3 hours. Principles and procedures involved in the administration and supervision of recreation and sport.

Prerequisite(s): None.

Same as KINE 5050.

RECR 5060 - Areas and Facilities for Recreation and Sport

3 hours. Design, construction and maintenance of recreation and sport areas and facilities.

Prerequisite(s): None.

Same as KINE 5060.

RECR 5070 - Psychosociological Dynamics of Leisure Behavior

3 hours. Examination of the psychosociological dynamics of leisure behavior.

Prerequisite(s): None.

RECR 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.

Prerequisite(s): None.

RECR 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.

Prerequisite(s): None.

Same as HLTH 5100. Same as KINE 5100.

RECR 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.

Prerequisite(s): None.

RECR 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.

Prerequisite(s): None.

RECR 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.

Prerequisite(s): None.

RECR 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.

Prerequisite(s): None.

Same as KINE 5140.

RECR 5200 - Dynamics of Commercial Recreation and Tourism

3 hours. 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.

Prerequisite(s): None.

RECR 5760 - Techniques in Therapeutic Recreation

3 hours. Study of the purposeful analysis of activities, models of change, and techniques to facilitate therapeutic recreation outcomes. Application of techniques to the needs associated with various disabling conditions are included.

Prerequisite(s): None.

Meets with RECR 4760.

RECR 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.

Prerequisite(s): None.

May be repeated for credit.

RECR 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.

Prerequisite(s): None.

RECR 5860 - Practicum in Leisure Services

3 hours. Supervised professional activities and experiences.

Prerequisite(s): None.

RECR 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.

Prerequisite(s): None.

RECR 5900 - Special Problems

1–3 hours. 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.

Prerequisite(s): None.

RECR 5910 - Special Problems

1–3 hours. 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.

Prerequisite(s): None.

RECR 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): None.

May be repeated for credit.

Rehabilitation**RHAB 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 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: psychiatric rehabilitation; biofeedback/neurofeedback; issues in private rehabilitation.

Prerequisite(s): None.

May be repeated for credit as topics vary.

RHAB 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.

RHAB 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 5715 - Disability Issues in Human Development

3 hours. Covers the effects of disability, chronic illness and addiction 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 5740 - Rehabilitation Assessment

3 hours. Orientation to the process and practice of assessing adults with disabling conditions for rehabilitation plan development and decisionmaking. 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 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 DRSWA vocational rehabilitation laboratories and in related community agencies. Course includes 1-3 hours each week of counseling lab, group supervision and seminar in ethical and professional issues in the practice of rehabilitation.

Prerequisite(s): Consent of department.

RHAB 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. Consent of department.

RHAB 5900 - Special Problems

1-3 hours. Prerequisite(s): None.

May be repeated for credit as topics vary.

RHAB 5910 - Special Problems

1-3 hours. Prerequisite(s): None.

May be repeated for credit as topics vary.

RHAB 5920 - Problems in Lieu of Thesis

3 hours. Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

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.

Prerequisite(s): None.

RMIN 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.

Prerequisite(s): None.

RMIN 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.

Prerequisite(s): None.

RMIN 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 CoB Graduate Programs Office prior to registration.

Sacred Music**MUSM 5285 - Music in Church: Gregorian Chant, Protestant Reformation and John Keble**

3 hours. 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 Heinrich 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 ever period, easy to moderate difficulty, of practical use with the volunteer church choir.

Prerequisite(s): None.

MUSM 5286 - Music in the Church: The Larger Volunteer Choir, Hymnody in the 20th and 21st Centuries

3 hours. 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.

Prerequisite(s): None.

MUSM 5287 - Church Music Intermediate Practicum

3 hours. 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. 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.

Prerequisite(s): None.

MUSM 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): MUSM 5287 recommended, not required.

Secondary Education**EDSE 5001 - Public Education and the Teaching Profession**

3 hours. Provides an overview of the teaching profession and an understanding of the history, structure, purposes, organization and management of the American education systems.

Prerequisite(s): None.

EDSE 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.

Prerequisite(s): None.

EDSE 5003 - Successful Teaching in the Secondary School

3 hours. Provides preparation for successful teaching in the contemporary secondary school. Focus on instructional planning, teaching strategies, classroom management and other teacher competencies necessary in today's diverse classrooms.

Prerequisite(s): EDSE 5001, EDSE 5002.

EDSE 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.

Prerequisite(s): None.

EDSE 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.

Prerequisite(s): None.

EDSE 5030 - Field Experiences in Secondary Schools

3 hours. Supervised professional activities in secondary schools.

Prerequisite(s): Bachelor's degree.

EDSE 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. Must show proof of employment in a school recognized by the Texas Teacher Education Agency in order to enroll.

Prerequisite(s): EDSE 5002, EDSE 5004, EDSE 5005 and EDSE 5470, or consent of program administrator.

Pass/no pass only.

EDSE 5108 - Student Teaching in the Secondary Schools

3 hours. Teaching under supervision. Research paper may be required.

Prerequisite(s): EDSE 5001, EDSE 5002, EDSE 5003, EDSE 5004, EDSE 5005.

Required for those seeking secondary certification. See student teaching program for details. Pass/no pass only.

EDSE 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.

Prerequisite(s): EDSE 5002, EDSE 5004, EDSE 5005, EDSE 5105, and EDSE 5470, or consent of program administrator.

Pass/no pass only. Must show proof of employment in a school recognized by the Texas Teacher Education Agency in order to enroll.

EDSE 5118 - Student Teaching in the Secondary Schools

3 hours. Teaching under supervision. Research paper may be required.

Prerequisite(s): EDSE 5001, EDSE 5002, EDSE 5003, EDSE 5004, EDSE 5005.

Required for those seeking secondary certification. See student teaching program for details. Pass/no pass only.

EDSE 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.

Prerequisite(s): None.

Same as EDEE 5400.

EDSE 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.

Prerequisite(s): None.

EDSE 5460 - Improvement of Secondary Teaching

3 hours. 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.

Prerequisite(s): None.

EDSE 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.

Prerequisite(s): None.

EDSE 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.

Prerequisite(s): None.

EDSE 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.

Prerequisite(s): None.

Scheduled during last resident registration in the Master of Education degree program.

EDSE 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 on specific topics organized on a limited-offering basis, to be repeated only upon demand.

Prerequisite(s): None.

Same as EDCI 5800. Same as EDEE 5800.

May be repeated for credit.

EDSE 5810 - 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 on specific topics organized on a limited-offering basis, to be repeated only upon demand.

Prerequisite(s): None.

Same as EDCI 5810. Same as EDEE 5810.

May be repeated for credit.

EDSE 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.

Prerequisite(s): None.

Open only to resident students.

EDSE 5910 - 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.

Prerequisite(s): None.

Open only to resident students.

EDSE 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): None.

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.

Prerequisite(s): None.

SOWK 5500 - Seminar in Human Behavior and the Social Environment

3 hours. 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.

Prerequisite(s): None.

SOWK 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

Sociology**SOCI 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.

SOCI 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.

SOCI 5050 - The Development of Sociology

3 hours. 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.

SOCI 5100 - Seminar on Social Psychology

3 hours. Comparative analysis of the major sociological theories of social psychology.

Prerequisite(s): None.

SOCI 5150 - Contemporary Sociological Theory

3 hours. 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.

SOCI 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.

SOCI 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.

SOCI 5260 - Topics in Sociology

3 hours. Graduate seminar devoted to investigation, analysis and discussion of significant problems in contemporary sociology.

Prerequisite(s): None.

May be repeated for credit.

SOCI 5300 - Seminar on Social Stratification

3 hours. Types of stratification; theories of stratification and its function in society; the methodology of stratification studies.

Prerequisite(s): None.

SOCI 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.

Prerequisite(s): None.

SOCI 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.

SOCI 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.

Prerequisite(s): None.

SOCI 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.

SOCI 5400 - Health Delivery Systems

3 hours. 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.

Prerequisite(s): None.

Same as AGER 5400.

SOCI 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.

Prerequisite(s): None.

SOCI 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.

Prerequisite(s): None.

SOCI 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.

SOCI 5470 - Seminar on Juvenile Delinquency

3 hours. Problems of definition and measurement, etiological theories, processing of delinquents, and treatment and prevention.

Prerequisite(s): None.

Same as CJUS 5470.

SOCI 5600 - Advanced Criminological Theory

3 hours. Examination of the major theoretical explanations of criminality, the distribution of crime and the behavior of justice agencies.

Prerequisite(s): None.

Same as CJUS 5600.

SOCI 5620 - Seminar in Victimology

3 hours. 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.

Prerequisite(s): None.

Same as CJUS 5620.

SOCI 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.

Prerequisite(s): None.

SOCI 5700 - Seminar on Social Gerontology

3 hours. 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.

Same as AGER 5700.

May be repeated for credit.

SOCI 5900 - Special Problems

1–3 hours. 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 department.

Prerequisite(s): None.

SOCI 5910 - Special Problems

1–3 hours. 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 department.

Prerequisite(s): None.

SOCI 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.

SOCI 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): None.

May be repeated for credit.

SOCI 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.

SOCI 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.

SOCI 6300 - Seminar on the Life Cycle

3 hours. 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.

SOCI 6400 - Seminar on the Metropolitan Community

3 hours. 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 SOCI 4350, or equivalent.

May be repeated for credit.

SOCI 6500 - Seminar on Social Organization and Disorganization

3 hours. 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.

SOCI 6900 - Special Problems

1–3 hours. Prerequisite(s): None.

SOCI 6910 - Special Problems

1–3 hours. Prerequisite(s): None.

SOCI 6940 - Individual Research

1–12 hours. Prerequisite(s): None.

SOCI 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): None.

May be repeated for credit.

Spanish**SPAN 5019 - Spanish for Graduate Research**

3 hours. Spanish readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool.

Prerequisite(s): None.

No prior knowledge of Spanish is required. Evaluation on a pass/no pass basis.

SPAN 5029 - Spanish for Graduate Research

3 hours. Spanish readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool.

Prerequisite(s): SPAN 5019 or equivalent.

Evaluation on a pass/no pass basis.

SPAN 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).

Prerequisite(s): None.

May be repeated for credit as topics vary.

SPAN 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

SPAN 5201 - Cervantes' Don Quijote

3 hours. Analysis of all 126 chapters of Cervantes' masterpiece Don Quijote de la Mancha. Students also become acquainted with Cervantes' life and his other works. To better understand Spain's most important literary work, courtly love and novels of chivalry are also a part of the study.

Prerequisite(s): None.

SPAN 5202 - Golden Age Spanish Novel

3 hours. Designed to acquaint students with the most important Spanish novels of the golden age period. Novels include La Celestina, El Lazarillo, El Abencerraje y la Hermosa Jarifa, Novelas Ejemplares, and La Diana.

Prerequisite(s): None.

SPAN 5203 - Golden Age Spanish Theatre

3 hours. Study of some of the most important Spanish plays of the golden age period. Plays include works by Cervantes, Lope de Vega, Tirso de Molina, Ruiz de Alarcón, Calderón de la Barca and Rojas Zorrilla, together with anonymous works such as La Estrella de Sevilla.

Prerequisite(s): None.

SPAN 5205 - Post-Civil War Spanish Novel

3 hours. Study of the main genres, authors and novels in the historical and socio-political context of Post-Civil War Spain, carried out under an analytical and critical perspective.

Prerequisite(s): None.

SPAN 5206 - Spanishness in Contemporary Spanish Peninsular Literature and Cinema

3 hours. Analytical and critical study of the plurilingual and pluricultural situation of the "Spain of the autonomies" in the context of the global era through literature and cinema.

Prerequisite(s): None.

SPAN 5209 - Mexican Short Story

3 hours. Analysis of Mexican short stories from the middle of the 19th century to the late 20th century.

Prerequisite(s): None.

SPAN 5210 - Mexican Novel

3 hours. Chronological study of canonical Mexican novels of the 20th century.

Prerequisite(s): None.

SPAN 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.

Prerequisite(s): None.

SPAN 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.

Prerequisite(s): None.

SPAN 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.

Prerequisite(s): None.

SPAN 5215 - Generation 98 Novel

3 hours. Analytical and critical study of the main writers and their novels during the period of Spanish literature known as "generación del 98". Different theories regarding "generación del 98" are explored, including Spanish critics Ortega y Gasset and Angel Ganivet.

Prerequisite(s): None.

SPAN 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.

Prerequisite(s): None.

SPAN 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.

Prerequisite(s): None.

SPAN 5240 - Spanish Linguistics

3 hours. Survey of the modern linguistic analysis and fundamentals of the phonology, morphology, syntax and semantics of contemporary Spanish. Students explore various aspects of Spanish linguistics as well as the structure and the sound system of Spanish.

Prerequisite(s): Enrollment in a Spanish graduate program or consent of department.

SPAN 5245 - Spanish Dialectology: Varieties of the Iberian Peninsula, Latin America and U.S.

3 hours. Surveys the general field of Spanish dialectology from both synchronic and diachronic perspectives with special attention given to phonetics and phonology. Covers selected books and research articles and students learn to better identify varieties of Spanish.

Prerequisite(s): None.

SPAN 5250 - Spanish Sociolinguistics

3 hours. Sociolinguistic variation of specific Spanish features (phonological, morphosyntactic, discursive) and theoretical and methodological concepts of sociolinguistic research (types of linguistic variation, types of variables, sampling, types of instruments for the collection of data, etc.).

Prerequisite(s): None.

SPAN 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.

SPAN 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.

Prerequisite(s): None.

SPAN 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.

Prerequisite(s): None.

SPAN 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.

Prerequisite(s): None.

SPAN 5343 - Latin American Indigenous Literature

3 hours. Examines how indigenous culture and history were reshaped during the colonial period and how later creative writers inherited such a reshaped indigenous tradition without taking into consideration colonial influence. Considers new critical perspectives toward indigenous people and their literature.

Prerequisite(s): None.

SPAN 5345 - Latin American Essay

3 hours. Examines the evolution of the essay genre in Latin American literature from the early 19th century to the late 20th century.

Prerequisite(s): None.

SPAN 5380 - The Spanish-American Novel

3 hours. The Spanish-American novel of the 19th and 20th centuries. Readings, lectures and term projects.

Prerequisite(s): None.

SPAN 5480 - Spanish Poetry

3 hours. Topics in the development of poetry in Spanish from its origins to the present. Readings, lectures and term projects.

Prerequisite(s): None.

May be repeated for credit as topics vary.

SPAN 5900 - Special Problems

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

SPAN 5910 - Special Problems

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

SPAN 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): None.

May be repeated for credit.

Special Education**EDSP 5010 - Characteristics of Individuals with Mental Retardation**

3 hours. 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.

EDSP 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.

EDSP 5220 - Learning Strategies for Individuals with Cognitive Disorders

3 hours. Focus on learning strategies designed for individuals with disabilities.

Prerequisite(s): EDSP 5010, EDSP 5200 and EDSP 5600.

EDSP 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 5710, or equivalent.

EDSP 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.

Prerequisite(s): EDSP 5710 or consent of department.

EDSP 5310 - Introduction to Autism Spectrum Disorders

3 hours. Overview of Autism Spectrum Disorders (ASD). Examines the history, theories, definitions and public policies related to ASD. Characteristics, diagnosis, assessment, and instructional interventions used with individuals with ASD across the lifespan are explored.

Prerequisite(s): EDSP 5710.

EDSP 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; EDSP 5600 or EDSP 5730.

EDSP 5330 - Classroom and Behavior 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.

Prerequisite(s): EDSP 5710.

EDSP 5340 - Teaching Students with High Functioning Autism

3 hours. Provides an empirical and comprehensive overview of the characteristics, educational needs and evidence-based teaching practices for individuals with High Functioning Autism (HFA) and Asperger's Syndrome (AS). Students demonstrate knowledge and skills in developing IEP goals and objectives for individuals with HFA/AS based on their educational needs and plan support systems to be delivered in general educational settings including environmental supports, curricular and instructional accommodations and behavior supports.

Prerequisite(s): EDSP 5310.

EDSP 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 5310 or equivalent, or consent of department.

EDSP 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 5310.

EDSP 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 5310.

EDSP 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 5200, EPSY 6168, EDSP 5220, EDSP 5230.

Consent of department.

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. Students must apply for consent to take this course at least six weeks prior to enrollment.

EDSP 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.

Prerequisite(s): Consent of department.

EDSP 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. Use of test data in developing individual education plans. Examines curriculum-based assessment issues. Focuses on the development and use of knowledge and practical skills necessary for effective administration and interpretation of authentic assessment and documenting student achievement gains among diverse and exceptional learners. Field experiences include administration of academic and teacher-made assessments.

Prerequisite(s): EDSP 5710.

EDSP 5520 - Special Education Law

3 hours. Provides teachers, educational diagnosticians and school administrators the opportunity to examine federal and state laws pertaining to the delivery of special education services. Addresses the legal development of the discipline of special education as well as current requirements for the provision of a free and appropriate education to students with disabilities.

Prerequisite(s): EDSP 5710 or equivalent, or consent of department.

EDSP 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.

EDSP 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, EDSP 5530.

EDSP 5560 - Assistive Technology

3 hours. Review of recent legislation governing the need and use for assistive technology for individuals with IEP or 504 plans. Issues concerning assessment, ownership, costs and availability are reviewed.

Prerequisite(s): EDSP 5710.

EDSP 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.

EDSP 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.

EDSP 5615 - Positive Behavioral Interventions in Educational and Related Settings

3 hours. Examination of the positive behavioral interventions and supports (PBIS) philosophy and its underlying assumptions regarding delivery of services to children and youth. Approaches for implementation are highlighted with a focus on school-wide, classroom-wide, and individual interventions, along with the implementation of PBIS for development of systems-of-care, wraparound, and full-service schools.

Prerequisite(s): EDSP 5600, EDSP 5710, or EDSP 5730.

EDSP 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).

EDSP 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. 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.

EDSP 5640 - Field Experience with Children/Youth with 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, EDSP 5630. Consent of department. Field experience of 2.5 hours per week required for each hour of enrollment. Students must apply for consent to take this course at least six weeks prior to enrollment.

EDSP 5650 - Special Education in Juvenile Correctional Facilities

3 hours. 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.

Prerequisite(s): EDSP 5710.

EDSP 5660 - Transition of Youth with Emotional and Behavioral Disorders

3 hours. 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. Consent of instructor.

EDSP 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.

EDSP 5670 - Teaching Social Skills to Children and Youth with Disabilities

3 hours. 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. Prerequisite(s): EDSP 5710.

EDSP 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 department.

EDSP 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. Consent of department.

EDSP 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. Prerequisite(s): None.

EDSP 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. Prerequisite(s): EDSP 5710.

EDSP 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. Prerequisite(s): EDSP 5710.

EDSP 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. Prerequisite(s): EDSP 5710.

EDSP 5755 - Adapting Curriculum to Meet Special Learning Needs

3 hours. Instructional strategies and curriculum modifications for working with students with mild/moderate disabilities across educational settings. Topics include curriculum-based assessment, differentiating instruction, effective use of technology in inclusive classrooms. Students implement strategies acquired in clinical settings. Prerequisite(s): EDSP 5710.

EDSP 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. Prerequisite(s): EDSP 5710.

EDSP 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. Prerequisite(s): EDSP 5710.

EDSP 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.

EDSP 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. Prerequisite(s): EDSP 5710.

EDSP 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. Prerequisite(s): EDSP 5710.

EDSP 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): EDSP 5710.

EDSP 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.
Prerequisite(s): EDSP 5710.

EDSP 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, EDSP 6310, EDSP 6410; EPSY 6010 and EPSY 6210.

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.

SPHS 5065 - Clinical Externship in Speech-Language Pathology

1–6 hours. Advanced clinical practicum in external practicum sites during the last semester of the speech-language pathology graduate program.
Prerequisite(s): SPHS 5060. Enrollment in master's program of speech-language pathology.

SPHS 5070 - Clinical Management in Communication Disorders

1 hour. 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): None.
Corequisite(s): SPHS 5060

SPHS 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 4050 or consent of instructor.

SPHS 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 4050 or consent of instructor.

SPHS 5755 - Neuromotor Speech Disorders

3 hours. Study of neurologically based communication disorders such as cerebral palsy, dysarthria, apraxia and demyelination.
Prerequisite(s): None.

SPHS 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.

SPHS 5780 - Diagnostics Speech Pathology

3 hours. Philosophical and practical considerations of the diagnostic process: current principles, methods, techniques.
Prerequisite(s): None.

SPHS 5800 - Fluency Disorders

3 hours. Theories of stuttering and allied disorders of rhythm, rate and fluency. Principles, methods and techniques of evaluation and management.
Prerequisite(s): None.

SPHS 5810 - Voice Disorders

3 hours. Principles, methods and techniques of evaluation and management of voice disorders.
Prerequisite(s): None.

SPHS 5820 - Language Development

3 hours. Stages of normal language acquisition in children, with consideration of current psycholinguistic theory and research issues.
Prerequisite(s): None.

SPHS 5825 - Phonologic and Phonetic Disorders

3 hours. Study of literature concerning normal aspects of phonological acquisition as well as assessment and treatment issues in regard to articulatory and phonologic disorders.
Prerequisite(s): None.

SPHS 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 3035 and SPHS 4040, or equivalents.

SPHS 5835 - Language Disorders II

3 hours. Principles, methods and techniques of evaluation and management of acquired and developmental language disorders of school age children.
Prerequisite(s): None.

SPHS 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 3035 and SPHS 4040, or equivalent.

SPHS 5870 - Seminar in Speech-Language Pathology

1–4 hours. Consideration of current research, clinical or professional trends and issues in speech-language pathology.

Prerequisite(s): None.

May be repeated for credit as topics vary.

SPHS 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.

Prerequisite(s): None.

SPHS 5920 - Research Problems in Lieu of Thesis

1–3 hours. Prerequisite(s): None.

SPHS 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): None.

May be repeated for credit.

SPHS 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.

Prerequisite(s): None.

SPHS 6020 - Clinical Audiology Clerkship

2–4 hours.

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. Supervised client care in the UNT Speech and Hearing Center.

Prerequisite(s): SPHS 6010.

SPHS 6060 - Audiology Internship

2–4 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.

SPHS 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.

Prerequisite(s): None.

SPHS 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 are required to take a total of 24 semester credit hours.

SPHS 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 3025 and SPHS 4050 or consent of instructor.

SPHS 6650 - Audiologic Assessment

3 hours. Fundamental principles and clinical application of pure tone and speech audiometry.

Prerequisite(s): None.

SPHS 6660 - Hearing Science

4 hours. Physical and psychological aspects of audition.

Prerequisite(s): None.

SPHS 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.

SPHS 6680 - Pediatric Audiology

3 hours. Evaluation and management of hearing-impaired children.

Prerequisite(s): SPHS 6650 or equivalent.

SPHS 6690 - Hearing Aids I

4 hours. Physical characteristics and clinical aspects of auditory amplification for the hearing impaired.

Prerequisite(s): SPHS 6650, SPHS 6660, or equivalents.

SPHS 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 6690 or equivalent.

SPHS 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.

Prerequisite(s): None.

SPHS 6710 - Occupational and Environmental Hearing Conservation/Instrumentation in Audiology

3 hours. Covers the effects of noise exposure on occupational/recreational audiology; describes the federal and state standards of a hearing conservation program. Also covers matters that facilitate understanding, proper utilization of and maintenance of essential instrumentation in clinical practice.

Prerequisite(s): SPHS 6650, SPHS 6660, or equivalent.

SPHS 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.

SPHS 6750 - Advanced Audiologic Assessment

3 hours. Application of pure tone, speech audiometry and electrophysiological measures to complex auditory problems.

Prerequisite(s): SPHS 6650, SPHS 6700, or equivalents.

SPHS 6770 - Electrophysiologic Assessment I

3 hours. Consideration of electrical potentials in the cochlea; electrical activity in the auditory nerve and brain stem; methodological considerations in studies of human evoked potentials; normal and abnormal cochlear, auditory nerve and brain stem responses. Otoacoustics emissions evoked and emitted and their clinical applications.

Prerequisite(s): SPHS 6650.

SPHS 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 and SPHS 6670.

SPHS 6800 - Rehabilitative Audiology: Adults

3 hours. 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.

Prerequisite(s): None.

SPHS 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.

Prerequisite(s): PSYC 2317 or MATH 1680 or equivalent and SPHS 5775.

May be repeated for credit.

Studio Art**ASTU 5000 - Topics in Studio Art**

3 hours (2;4)

Variable topics course designed to explore concepts and processes in art-making that go beyond the normal curricular parameters of traditional studio disciplines.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

ASTU 5010 - Professional Practices of the Studio Artist

3 hours (2;4)

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 artist as a productive member of the business community wherein fine art is the commodity.

Prerequisite(s): None.

ASTU 5015 - Creative Project

3 hours (2;4)

Research and practice dealing with significant problems in the field of art.

Prerequisite(s): Consent of instructor.

Should be taken with major professor.

ASTU 5020 - 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.

Prerequisite(s): Consent of instructor.

Should be taken with major professor.

ASTU 5050 - Ceramics Studio

3 hours (2;4)

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 college.

May be repeated for credit.

ASTU 5120 - Fibers: Mixed Media

3 hours (0;6)

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 college.

May be repeated for credit.

ASTU 5130 - Fibers: Weaving Studio

3 hours (2;4)

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 college.

May be repeated for credit.

ASTU 5150 - Metalworking and Jewelry Studio

3 hours (2;4)

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 college.

May be repeated for credit.

ASTU 5210 - Painting Studio

3 hours (2;4)

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 college.

May be repeated for credit.

ASTU 5215 - Drawing Studio

3 hours (2;4)

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 college.

May be repeated for credit.

ASTU 5250 - Photography Studio

3 hours (2;4)

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 college.

May be repeated for credit.

ASTU 5300 - Printmaking Studio

3 hours (2;4)

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 college.

May be repeated for credit.

ASTU 5305 - 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 form.

Prerequisite(s): 12 hours of art in the selected area and consent of college.

May be repeated for credit.

ASTU 5350 - Sculpture Studio

3 hours (2;4)

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 college.

May be repeated for credit.

ASTU 5417 - Watercolor Studio

3 hours (2;4)

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.

ASTU 5450 - New Media Studio

3 hours (2;4)

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 college.

May be repeated for credit.

Technical Communication**TECM 5170 - Grants and Proposals**

3 hours. Advanced study of technical writing that provides students with a foundation in grant seeking and persuasive writing. Covers granting in the academy, in business and for nonprofits.

Prerequisite(s): None.

TECM 5175 - Language in Professional Settings

3 hours. Offers a hands-on approach to constructing the most prominent professional genres, including summaries, research papers, position papers, resumes, proposals and correspondence. Learn and apply the basic linguistic principles of these genres as well as recognize how the dominant genre theories in writing studies have informed the current practice, teaching and study of professional discourse.

Prerequisite(s): None.

Same as LING 5050.

TECM 5180 - Professional Writing

3 hours. 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

TECM 5185 - Principles of Technical Communication

3 hours. Practical application of technical and professional communication in industry, business and the sciences, using the workshop approach.

Prerequisite(s): None.

TECM 5190 - Style and Technical Writing

3 hours. Study of the principles of technical style with intensive practice in writing and analyzing technical prose.

Prerequisite(s): None.

TECM 5191 - Communication and Information Technologies

3 hours. Examination of the strategies for presenting technical information in different media. Intensive practice in developing hyper-media e-learning materials using dynamic technologies.

Prerequisite(s): None.

TECM 5195 - Editing Technical Documents

3 hours. Practical application of technical and professional communication in industry, business and the sciences, using the workshop approach.

Prerequisite(s): None.

TECM 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.

Prerequisite(s): None.

TECM 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.

Prerequisite(s): None.

TECM 5550 - Studies in the Teaching of Technical Communication

3 hours. Survey of current scholarly opinion concerning objectives and methods of instruction in technical communication; supervised planning of the curriculum, with special attention to problems related to teaching technical communication and to developing criteria for evaluating student writing.

Prerequisite(s): None.

TECM 5550 is required for all new teaching fellows. May be repeated for credit as topics vary. Offered every fall.

TECM 5580 - Theories in Composition

3 hours. Study of composition theories, leading to the development of research techniques and compositional skills.

Prerequisite(s): None.

TECM 5640 - Practicum in Technical Communication

6 hours. Extensive independent writing project addressing a problem in business or industry. Students must develop the project while working on an internship.

Prerequisite(s): Completion of the required and elective courses and the minor.

TECM 5740 - Research in Technical Communication

3 hours. Examination of the basic materials available for research in technical communication; analysis and application of qualitative and quantitative methods of research in technical communication; evaluation of the application of research results within professional workplace settings; and practice in the conventions of reporting research results for publication.

Prerequisite(s): None.

TECM 5900 - Special Problems

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): 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.

Maximum of 3 semester hours of credit allowed for each course.

TECM 5910 - Special Problems

1–3 hours. Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): 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.

Maximum of 3 semester hours of credit allowed for each course.

TECM 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): None.

May be repeated for credit.

Theatre**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.

Prerequisite(s): None.

Required of all majors in theatre arts the first fall term/semester of their graduate enrollment.

THEA 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.

Prerequisite(s): None.

THEA 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.

Prerequisite(s): None.

THEA 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.

Prerequisite(s): None.

THEA 5320 - American Theatre

3 hours. History and technical development of the theatre in America.

Prerequisite(s): None.

THEA 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 department.

THEA 5340 - Contemporary Theatre Criticism

3 hours. Experimental and new trends in playwriting, production and criticism.

Prerequisite(s): None.

THEA 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.

Prerequisite(s): None.

THEA 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.

Prerequisite(s): None.

THEA 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.

Prerequisite(s): None.

THEA 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.

Prerequisite(s): None.

THEA 5390 - Theatre for Children, Youth and Teachers

3 hours (3;2)

Improvisation, play production, playwriting and creative dramatics as tools for teaching a variety of subjects. Emphasis on preparing the classroom or laboratory performance.

Prerequisite(s): None.

THEA 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.

Prerequisite(s): None.

THEA 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.

THEA 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.

Prerequisite(s): None.

May be repeated for credit.

THEA 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.

Prerequisite(s): None.

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.

THEA 5900 - Special Problems

1–3 hours. Problems must be approved by department chair.

Prerequisite(s): None.

THEA 5910 - Special Problems

1–3 hours. Problems must be approved by department chair.

Prerequisite(s): None.

THEA 5920 - Research Problems in Lieu of Thesis

1–3 hours. Prerequisite(s): None.

THEA 5930 - Research Problems in Lieu of Thesis

1–3 hours. Prerequisite(s): None.

THEA 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): None.

May be repeated for credit.

University Courses**UCRS 5000 - Science in Ancient and Modern Times**

3 hours. Seminars, guest lectures and readings addressing major advances in science from a technological, philosophical and historical perspective. Course meets concurrently with UCRS 4000 but requires additional readings, papers and discussions for graduate students.

Prerequisite(s): None.

Meets with UCRS 4000.

UCRS 5010 - Interdisciplinary Seminar

1–6 hours. Prerequisite(s): None.

UCRS 5800 - NTDC 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): None.

Open only to students accepted to the NTDC Cooperative Governmental Internship Program. Application information available from the Division of Student Affairs.

UCRS 5900 - Special Problems

1–3 hours. Prerequisite(s): None.

UCRS 5920 - Research Problems in Lieu of Thesis

3 hours. Prerequisite(s): None.

UCRS 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.

Prerequisite(s): None.

Women's Studies**WMST 5100 - Feminist Theory**

3 hours. Historical overview and key concepts of feminist theory in social and political contexts. Current and emerging bodies of feminist theory are used to define contemporary issues and debates in feminist terms, and to initiate discussion on wide-ranging social, political and global issues from a variety of feminist perspectives.

Prerequisite(s): None.

WMST 5200 - Gender and Globalization

3 hours. Study of globalization and its impact on local, national and international gender issues. Theoretical and practical approaches to address these issues include intensive field research and analysis.

Prerequisite(s): None.

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.

Prerequisite(s): Consent of program director.

May be repeated for credit as topics vary.

WMST 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.

WMST 5900 - Special Problems

1–3 hours. Supervised individual or small group study of special problems or topics not otherwise covered by regular offerings.

Prerequisite(s): None.

WMST 5950 - Master's Thesis

3 or 6 hours. 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): Consent of program director.

May be repeated for credit.

WMST 6900 - Special Problems

1–3 hours. Course open to graduate students doing independent research.

Prerequisite(s): Consent of program director.

Administration, faculty and librarians

UNT System and university officers

Board of Regents

Jack A. Wall, Chair (2013), Dallas
Michael R. Bradford (2015), Midland
Don A. Buchholz (2013), Dallas
Steve Mitchell (2015), Richardson
Don C. Potts (2017), Dallas
Brint Ryan (2015), Dallas
Gwyn Shea (2013), Dallas
Al Silva (2017), San Antonio
Michael R. Williams (2017), Fredericksburg

Student Regent

Appointed annually

UNT System administration

Lee F. Jackson, MPA, Chancellor of the University of North Texas System
Scott Ransom, DO, President of the UNT Health Science Center at Fort Worth
John Ellis Price, PhD, CPA, President of UNT Dallas
Rosemary R. Haggett, PhD, Vice Chancellor for Academic Affairs and Student Success
Jack Morton, JD, Vice Chancellor for Governmental Relations
Nancy S. Footer, JD, Vice Chancellor and General Counsel
Terry Pankratz, MBA, Vice Chancellor for Finance
TBA, Vice Chancellor for Administrative Services
Donald W. Holdegraver, CIA, CFE, Chief Internal Auditor

UNT administration

V. Lane Rawlins, PhD, President
Warren Burggren, PhD, Provost and Vice President for Academic Affairs
Lisa Baronio, EMBA, Vice President for Advancement and Director of Development of the UNT Foundation
Gilda Garcia, EdD, Vice President for Institutional Equity and Diversity
Andrew M. Harris, MBA, Vice President for Finance and Administration
John W. Hooper, MBA, Vice President for Information Technology and Chief Information Officer
Elizabeth With, EdD, Vice President for Student Affairs
Deborah S. Leliaert, MEd, Vice President for University Relations, Communications and Marketing
Geoff Gamble, PhD, Vice President for Research and Economic Development
Bonita J. Hairston, JD, Chief of Staff
Richard Villarreal, BS, Director of Athletics
Herman L. Totten, PhD, Vice President for University and Community Affairs

Toulouse Graduate School

Mark Wardell, PhD, Dean of the The Toulouse Graduate School
Joseph R. Oppong, PhD, Associate Dean of Research and Professional Development
Vicotor Prybutok, PhD, Associate Dean of Academic Affairs
Ben Dearman, Director of Graduate Admissions and Student Services

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

Faculty

Information regarding individual faculty members and librarians is available from the Faculty Profile System (<https://faculty.unt.edu/index.php>). Select "Faculty Profiles" from the Browse menu. To access faculty information from a specific department or from the Libraries, use the drop-down menu at the head of the faculty list.

Graduate faculty of the Graduate School of Bio-medical Sciences and the School of Public Health at the University of North Texas Health Science Center at Fort Worth (UNTHSC) 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 Graduate Catalog* for UNTHSC graduate faculty listings.

Emeritus faculty

Adkins, Cecil, Music (1963-2000).
Albertson, Roxanne, Education (1979-2000).
Altekruse, Michael, Education (1995-2005).
Alton, Louise, Music (1958-1980).
Amos, William, Community Service (1981-1995).
Anderson, Hershel, Business Administration (1962-1988).
Anderson, Miles, Arts and Sciences (1950-1992).
Aronson, Harriet, Arts and Sciences (1971-1999).
Austin, Larry, Music (1978-1996).
Ayer, Hugh, Arts and Sciences (1958-1986).
Bahnsen, Kenneth, Education (1955-2003).
Bailey, Don C., Education (1962-1999).
Bane, Robert, Education (1970-2007).
Bator, Elizabeth, Arts and Sciences (1983-2009).
Belcher, William F., Arts and Sciences (1950-1985).
Berg, Robert, Education (1968-2006).
Berger, Lorraine, Visual Arts (1964-1995).
Berkeley, Marvin, Business Administration (1973-1998); Dean.
Bezdek, Jim, Education (1967-1996).
Bilyeu, Russell, Arts and Sciences (1960-2001).
Boley, Richard, Business Administration (1990-2005).
Brady, William T., Arts and Sciences (1962-1999).
Braterman, Paul S., Arts and Sciences (1988-2006).
Breeden, Leon, Music (1959-1981).
Brock, Horace, Business Administration (1959-1992).
Brookshire, William, Education (1970-2003).
Brothers, Lester, Music (1974-2005).
Brown, Newel Kay, Music (1970-1991).
Buckalew, Mary, Arts and Sciences (1965-1998).
Buhler, June, Education (1973-2000).
Caldwell, Patsy, Education (1959-2000).
Campbell, Lloyd P., Education (1970-2006).
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 (1977-2004).
Clogan, Paul, Arts and Sciences (1971-1998).
Cobb, Elsie J., Education (1964-1989).
Coda, Bernard, Business Administration (1965-1997).
Coe, Barbara, Business Administration (1980-2005).
Coe, Teddy L., Business Administration (1980-2007).
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).
Cornelius, Bill, Education (1966-2003).
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).
Dameron, Joseph, Education (1968-1995).
Damico, Anthony, Arts and Sciences (1966-2001).
Davidson, Martin, Arts and Sciences (1967-1984).
Davis, Addie Nell, Human Resource Management (1951-1981).
Day, Kaaren, Education (1989-2008).
Deering, William, Arts and Sciences (1965-2008).
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).
Dickson, Kenneth, Arts and Sciences (1978-2005).
Ditzenberger, Roger, Education (1980-2007).
Dobson, Gerard R., Arts and Sciences (1969-1999).
Donahue, Manus, Arts and Sciences (1982-2002).
Duggan, Jerome, Arts and Sciences (1973-2008).
Earp, Wes, Education (1963-1995).
Eaton, Henry, Arts and Sciences (1966-2005).
Eddy, John Paul, Education (1979-2000).
Evans, Mary, Human Resource Management (1958-1981).
Feigert, Frank, Arts and Sciences (1977-2003).
Fink, Ron, Music (1964-2000).
Fisher, Vernon, Visual Arts (1978-2006).
Foster, Bruce, Arts and Sciences (1953-1990).
Froehlich, Hildegard, Music (1976-2001).
Garner, Cody, Music (1989-2006).
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).
Greenlaw, M. Jean, Education (1978-2005).
Gunter, Pete, Arts and Sciences (1969-2005).
Haerle, John M. (Dan), Jr., Music (1977-2007).
Halstead, Frank, Education (1966-1997).
Hardin, Robert, Arts and Sciences (1956-1994).
Harrison, Norman, Business Administration (1949-1993).
Harrison, Thomas, Arts and Sciences (1972-2004).
Haynes, Jack R., Arts and Sciences (1963-1999).
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).
Hinely, Reginald, Education (1962-2000).
Holcomb, Terry, Education (1973-2005).
Holloway, Harold, Arts and Sciences (1961-1995).
Hudnall, Margaret, Music (1968-2004).
Huffstutler, E.V., Education (1968-1981).
Hughes, Robert, Arts and Sciences (1962-1994).
Hurley, Alfred, Arts and Sciences (1980-2004).
Johnson, Charles, Education (1957-1994).
Johnson, Douglas A., Arts and Sciences (1971-2004).
Johnson, James, Jr., Visual Arts (1968-1995).
Johnson, Ray W., Arts and Sciences (1965-1999).
Johnston, Richard, Arts and Sciences (1968-1984).
Jones, Donald, Business Administration (1961-1983).
Kamman, William, Arts and Sciences (1962-2004).
Kamp, H. W., Arts and Sciences (1950-1984).
Kemerer, Frank, Education (1978-2003).
Kennelly, Kevin, Arts and Sciences (1967-2000).
Kester, Stephen A., Arts and Sciences (1967-1994).
Kesterson, David, Arts and Sciences (1968-2007).
King, Barry, Business Administration (1970-1995).
Kirkpatrick, Hugh, Arts and Sciences (1961-1992).
Kobe, Donald, Arts and Sciences (1968-2008).
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).
Lewis, Paul, Arts and Sciences (1970-2005).
Linebarger, James Morris, Arts and Sciences (1963-1996).
Lowe, Gale B., Business Administration (1965-1995).
Lucker, William, Community Service (1962-1996); Dean.
Lumsden, D. Barry, Education (1978-2006).
Lundsteen, Sara, Education (1977-1999).
Luttrell, H. Dale, Education (1970-2006).
Mackey, James, Arts and Sciences (1969-1999).
Mahoney, James H., Education (1956-1982).
Marcello, Ron, Arts and Sciences (1967-2004).
Martin, Charles B., Arts and Sciences (1964-1999).
Martin, Cora, Community Service (1967-1992).
Masaracchia, Ruthann, Arts and Sciences (1990-2002).
Mattil, Edward L., Arts and Sciences (1971-1985).
McAlister, Edgar Ray, Business Administration (1963-2005).
McCallon, Earl, Education (1965-2000).
McCarter, R. William, Visual Arts (1968-2005).
McGuire, David Charles, Music (1962-1987).
McLeod, Pat, Education (1954-2000).
McNeill, Perry, Engineering (1994-2006).
Meeks, Bruce, Education (1982-2002).
Michaelsen, Robert, Business Administration (1987-2005).
Miller, Clyde, Music (1955-1983).
Miller, James R., Education (1977-1996); Dean.
Miller, Laurel, Music (1977-2003).
Miller, William, Education (1964-1996).
Morris, William, Business Administration (1971-2001).
Morrisson, Clovis C., Jr., Arts and Sciences (1962-1997).
Moseley-Grady, Patricia, Education (1974-2002).
Nahrgang, Lee, Arts and Sciences (1965-2007).
Nash, Jerry, Arts and Sciences (1997-2007).
Neeley, Paden, Business Administration (1960-2003).
Neuberger, John, Arts and Sciences (1977-2005).
Newell, Charldean, Community Service (1965-2002).
Newsom, Herman A., Education (1962-1977).
Nichols, Margaret L., Library and Information Sciences (1956-1995).
Nichols, Martha, Arts and Sciences (1964-1997).
Norton, E. Douglas, Education (1971-2005).
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).
Papich, George, Music (1967-2000).
Pekara, Jean, Education (1966-2001).
Peters, Dale, Music (1959-2005).
Pickens, Donald K., Arts and Sciences (1965-2006).
Preston, Thomas R., Arts and Sciences (1982-2006); Dean.
Rachel, Frank, Business Administration (1962-2005).
Reban, Milan, Arts and Sciences (1967-2008).
Reynolds, Johnny Sue, Merchandising and Hospitality Management (1990-2006).
Rich, Carroll Y., Arts and Sciences (1959-1995).
Richards, John V., Arts and Sciences (1965-1993).
Richards, Thomas, Business (1983-2004).
Richardson, Peggy, Education (1970-2001).
Riney, Bobye J., Merchandising and Hospitality Management (1973-1991).
Roach, Archie W., Arts and Sciences (1950-1978).
Rogers, Robert J., Music (1948-1984).
Sale, Richard B., Arts and Sciences (1965-1995).
Saleh, Farida, Arts and Sciences (1978-2005).
Sandefur, Walter Scott, III, Education (1962-2002).
Scaggs, Don, Visual Arts (1968-1999).
Schietroma, Robert, Music (1977-1998).
Sears, Ray, Arts and Sciences (1967-2001).
Shuemaker, Ira, Visual Arts (1974-2001).
Simms, Richard L., Education (1970-2006).
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).
Tanner, James T.F., Arts and Sciences (1965-2003).
Taylor, Glen L., Business Administration (1953-1998).
Teeter, C. Russ, Education (1967-2007).

Thompson, John, Arts and Sciences (1967-1995).
Thornton, John H., Business (1971–2006).
Tipps, Steve, Education (1992-2002).
Toulouse, Robert B., Education (1948-1985); Provost.
Turner, J. William, Education (1961-1998).
Vanecek, Michael T., Business Administration (1978-2006).
Vann, J. Don, Arts and Sciences (1964-1999).
Vaughan, Nick, Arts and Sciences (1958-1998).
Vela, Roland, Arts and Sciences (1965-2000).
Vidrine, Donald, Arts and Sciences (1968-1998).
Waller, William, Arts and Sciences (1989–2004).
Warner, Roger, Music (1976-2006).
Washington, Roosevelt, Jr., Education (1974-1996).
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).
Wheless, Lawrence, Arts and Sciences (1993-2004).
Whiddon, Henry, Visual Arts (1964-1995).
Wilborn, Bobbie, Education (1971-1995).
Williamson, John, Education (1968-2006).
Wilson, William, Arts and Sciences (1968-2001).
Wright, Eugene P., Arts and Sciences (1966-2006).
Wu, Fred, Business Administration (1993-2005).
Yeric, Jerry L., Arts and Sciences (1970-2002).
Youngblood, Judy, Visual Arts (1976-1997).
Zimmerman, Earl, Arts and Sciences (1970–2006).

Dates indicate years at UNT.

Emeritus librarians

Bradley, Lou Ann (1974–2010).
Cope, Johnnye L. (1966-1988).
Davis, Iris Anne (1966-1989).
Galloway, Margaret E. (1967-1997).
***Grose, B. Donald** (1988–2009).
****Kelly, Melody** (1974–2009).
Lavender, Kenneth (1981-2001).
Mitchell, George D. III (1968-1997).
Webb, David (1953-1978).

* Dean Emeritus

**Associate Dean Emeritus

Dates indicate years at UNT.

Chancellor and president emeritus

Alfred F. Hurley (1980-2002).

Dates indicate years at UNT.

University award recipients

Lists of faculty members who are recipients of certain universitywide awards are available online. Visit www.vpaa.unt.edu/awards.htm.

Accreditation

The University of North Texas is accredited to award bachelor's, master's and doctoral degrees by the following:

The Southern Association of Colleges and Schools Commission on Colleges

1866 Southern Lane
Decatur, GA 30033-4097
404-679-4500
www.sacscoc.org

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

AACSB International—The Association to Advance Collegiate Schools of Business

777 South Harbour Island Boulevard, Suite 750
Tampa, FL 33602-5370
813-769-6500
www.aacsb.edu

ABET

Computing Accreditation Commission, Technology Accreditation Commission, Applied Science Accreditation Commission and Engineering Accreditation Commission
111 Market Pl., 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

Accrediting Council on Education in Journalism and Mass Communications

Stauffer-Flint Hall
1435 Jayhawk Blvd.
Lawrence, KS 66045-7575
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

Commission on Accreditation, Office of Program Consultation and Accreditation
750 First Street, NE
Washington, DC 20002-4242
800-374-2721
www.apa.org

American Speech-Language-Hearing Association (ASHA)

Council on Academic Accreditation in Audiology and Speech-Language Pathology
2200 Research Boulevard
Rockville, MD 20850-3289
301-296-5700
www.asha.org

Association for Behavior Analysis, International

550 W. Centre Avenue
Portage, MI 48024-5364
269-492-9310
www.abainternational.org

Commission on English Language Program Accreditation (CEA)

801 North Fairfax Street, Suite 402A
Alexandria, VA 22314
703-519-2070
www.cea-accredit.org

Council for Accreditation of Counseling and Related Educational Programs (CACREP)

1001 North Fairfax Street, Suite 510
Alexandria, VA 22314
703-535-5990
www.cacrep.org

Council for Interior Design Accreditation

206 Grandville Avenue, Suite 350
Grand Rapids, MI 49503-2822
616-458-0400
www.accredit-id.org

Council on Rehabilitation Education (CORE)

1699 E Woodfield Road, Suite 300
Schaumburg, IL 60173
847-944-1345
www.core-rehab.org

Council on Social Work Education

1701 Duke Street, Suite 200
Alexandria, VA 22314-3457
703-683-8080
www.cswe.org

Forensic Science Education Programs Accreditation Commission

410 North 21st Street
Colorado Springs, CO 80904
719-636-1100
www.aafs.org

National Association for the Education of Young Children (NAEYC)

1313 L Street, NW, Suite 500
Washington, DC 20005
800-424-2460
www.naeyc.org

National Association of Schools of Art and Design

11250 Roger Bacon Drive, Suite 21
Reston, VA 20190-5248
703-437-0700
www.nasad.arts-accredit.org

National Association of Schools of Music

11250 Roger Bacon Drive, Suite 21
Reston, VA 20190-5248
703-437-0700
nasm.arts-accredit.org

**National Association of Schools of Public Affairs and Administration
(NASPAA)**

1029 Vermont Avenue NW, Suite 1100
Washington, DC 20005-3517
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

Council on Accreditation
22377 Belmont Ridge Road
Ashburn, VA 20148-4501
800-626-6772
www.nrpa.org

Texas Education Agency

1701 North Congress Avenue
Austin, TX 78701
512-463-9734
www.tea.state.tx.us

Buildings and major office locations

Main campus buildings

Advanced Learning Classroom, Eagle Student Services Center

Art Building (ART)

College of Visual Arts and Design
Department of Art Education and Art History
Department of Design
Department of Studio Art
University Art Gallery
General Access Computer Lab

AFROTC Building (ATH1)

Department of Aerospace Studies
Athletic Ticket Office

Auditorium Building (AUSB)

Department of English
Department of Linguistics and Technical Communication
Studies in the Novel
Student Writing Lab
Multipurpose auditorium

Bain Hall (BAIN)– *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

Bruce Hall (BRUC)– *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 Leadership Building (BUSL)

College of Business
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 (CHEM)

Department of Chemistry

Chestnut Hall (CHNT) – *Named for street.*

Student Health and Wellness Center

Clinic
Health Education
Pharmacy

Cooperative Education
Counseling and Testing Services
Career Center
Risk Management Services
Student Money Management Center
Substance Abuse Resource Center

Chilton Hall (CHIL) – *Named for Joshua Crittenden Chilton, who negotiated the contract with the City of Denton that established Texas Normal College and Teachers' Training Institute on May 8, 1890. Served as president until 1893.*

Adaptive Computer Lab
Center for Learning Enhancement, Assessment and Redesign (CLEAR)
Classroom Support Services

College of Public Affairs and Community Service
Center for Public Service

Educational Consortium for Volunteerism

Department of Anthropology
Department of Behavior Analysis
Department of Criminal Justice
Department of Public Administration

Emergency Administration and Planning Institute

Department of Rehabilitation, Social Work and Addictions
Department of Sociology
Center for Public Management
College of Merchandising, Hospitality and Tourism
Media Library
General Access Computer Lab

Clark Hall (CLAR) – *Named for Miss Edith L. Clark, the first dean of women, 1916-1944.*

Residence hall

Coliseum (COL)

Racquetball courts
Multipurpose facility
Basketball coaches office
Coliseum office

College Inn (CINN)

Residence hall
Survey Research Center

Crumley Hall (CRUM) – *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 (CURY) – *Named for Dr. O.J. Curry, first dean of the College of Business Administration, 1946-1974.*

Classrooms

Eagle Student Services Center (ESSC) – *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 Graduate School

Graduate Admissions

Environmental Education, Science and Technology Building (ENV)

Institute of Applied Sciences
Department of Geography
Department of Philosophy and Religion Studies
Planetarium/Sky Theater

Fouts Field (STAD) – 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.

Track meets
Multipurpose outdoor facility

Gateway Center (GATE)

Senior Vice President for Advancement
Vice President for Governmental Affairs
Vice Chancellor and General Counsel
University of North Texas Alumni Association
Compliance
The Club at Gateway Center (restaurant)
UNT Foundation

General Academic Building (GAB)

Center for Jewish Studies
College of Arts and Sciences
Department of Communication Studies
Frank W. and Sue Mayborn School of Journalism

North Texas Daily

Department of Mathematics
Women's Studies
CAS Computer Labs (College of Arts and Sciences)
University Courses
Center of Technology Development and Transfer

Goolsby Chapel (CHAP)– Named in honor of the Goolsby family, who provided this facility as a gift to UNT.

Non-denominational chapel and reflection center

Hickory Hall (HKRY) – Named for street.

Department of Economics

Highland Parking Garage

Parking and Transportation Office

Honors Hall (HNRS)

Residence hall

Hurley Administration Building (ADMN) – 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
Vice President for Finance and Administration
Vice President for Research and Economic Development
Vice President for Student Development
Vice President for University Relations, Communications and Marketing
Vice President for Institutional Equity and Diversity
Contract Administration
Controller
Equal Opportunity
Institutional Research and Effectiveness
News Service
Sponsored Projects and Grants Accounting

Ken Bahnsen Gymnasium (MGYM)

Weight room
Intramural basketball and volleyball
Indoor soccer

Kerr Hall (KERR) – Named for S.A. Kerr of Huntsville, vice chairman of the Board of Regents, 1949-1967.

Residence hall

Language Building (LANG)

Department of World Languages, Literatures and Cultures

Legends Hall (LGNS)

Residence hall

Life Sciences Building (LIFE)

Department of Biological Sciences
Department of Biological Sciences, Advising office

Lyceum, University Union (LYCM)

Multipurpose auditorium/classroom

Lyric Theater, Murchison Performing Arts Center

Multipurpose theater

Maple Hall (MAPL) – Named for street.

Residence hall

Marquis Hall (MARQ) – Named for Dr. Robert Lincoln Marquis, who served as president of North Texas State Teachers College, 1923-1934.

Center for Achievement and Lifelong Learning (CALL)

Minicourse office

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

Matthews Hall (MATT) – 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 Educational Psychology
Department of Teacher Education and Administration
Center for Parent Education
Center for Study of Educational Reform
Texas Center for Educational Technology
General Access Computer Lab

Matthews Hall Annex (MHA) – 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 (MCON) – 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 (MOZA)

Residence hall

Murchison Performing Arts Center (PAC) – 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 (MUSA)

Opera Rehearsal Hall
Recording Technology

Music Building (MUSI)

College of Music
General Access Computer Lab

Music Practice North (MPN)**Music Practice South (MPS)**

North Texas Lofts, 217 S. North Texas Blvd.

Office of Catalog and Curriculum Support

Oak Street Hall (OSH) – Named for street.

Stafford Art Gallery
College of Visual Arts and Design ceramics and photography programs

Oak Street Hall Annex (OSHA) – Named for street.

Print Research Institute of North Texas Press

Performing Arts Center Annex (PACX)

College of Music Wind Studies Programs

Physical Education Building (PEB)

Department of Kinesiology, Health Promotion and Recreation
Racquetball Courts

Physical Plant Complex

Main Office, Facilities Planning
Custodial Services
Grounds Maintenance
Moving Services
Recycling Services

Physics Building (PHYS)

Department of Physics
Radiation Safety Office

Pohl Recreation Center (RECS) – Multipurpose indoor/outdoor recreational and fitness activities facility named for Dr. Norval F. Pohl, who served as university president from 2000-2006.

Club Sports
Faculty/Staff Fitness Program
Recreational Sports
Recreational Sports Office

Professional Development Institute East Classroom Building (PDI)**Radio, Television, Film and Performing Arts Building (RTFP)**

Department of Dance and Theatre
Ticket Box Office
Department of Radio, Television and Film
KNTU-FM and NTTV

Residence Hall Association House

Meetings and special events

Sage Hall (SAGE)

Educational Innovation
Honors College
Undergraduate Studies
First-Year Seminar
Core Academy
Office for Nationally Competitive Scholarships

Santa Fe Square (SFE)

Residence hall

Science Research Building (SRB)

Biochemistry
Center for Network Neuroscience

Scouler Hall (SCOU) – Named for Dr. Florence I. Scouler, first dean of the School of Home Economics, 1946.

Texas Fashion Collection
College of Visual Arts and Design fashion design and fibers programs

Shrader Pavilion (PAV) – 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 (SPHS), 907 W. Sycamore

Department of Speech and Hearing Sciences
Speech and Hearing Clinic

Sports Medicine/Fitness Facility

Varsity sports training
Weight training

Stovall Hall (STOV) – 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 and Higher Education
Counseling and Human Development Center

Center for Play Therapy

Student Academic Readiness Team (START) Office

Sullivant Public Safety Center (POLI) (open 24 hours)– Named for Carroll Sullivant of Gainesville, member of the Board of Regents, 1961-1978.

Police Department

Sycamore Hall (SYMR)

Computing and Information Technology Center

Academic Computing and User Services
Administrative Computing

Door Systems
Eagle Commons Library
General Access Computer Lab
International Admissions
UNT–International

Center for Global Learning and Experience
Intensive English Language Institute

Tennis Courts, West (WTEN)

Terrill Hall (TH) – 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 (TRAD) – 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 (USB)

Bulk Mail
Central Receiving
Travel
Printing Services
Property and Inventory Control
Purchasing and Payment Services
Office Supply

University Union (UU)

Banking Services
Center for Cultural Diversity
Center for Leadership and Service

Center for Student Rights and Responsibilities
 Dean of Students
 Design Works
 Disability Accommodation
 Eagle Images (copy center)
 Educational Resource Center
 Food Court
 Information, tickets
 Learning Center
 Lyceum
 Mail Room (Intercampus mail)
 Multicultural Center
 Orientation and Transition Programs
 Post office
 Student Activities Center

Student Government Association

Student Legal Services
 Syndicate
 UNT Bookstore
 Union Administration
 University Program Council

Verde Catering

West Hall (WEST)

Residence hall

Willis Library (LIBR) – *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 Room
 Government Documents
 Library Administration
 General Access Computer Lab (open 24 hours)

Wingspear Hall, Murchison Performing Arts Center

Multipurpose performance hall

Wooten Hall (WH) – *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
 General Access Computer Lab
 TRIO Center for Student Development

Discovery Park (NTDP)

College of Engineering
 Computing and Information Technology Center

Telecommunications

Department of Computer Science and Engineering
 Department of Electrical Engineering
 Department of Engineering Technology
 Department of Materials Science and Engineering
 Department of Mechanical and Energy Engineering
 General Access Computer Lab
 NanoStar, Inc.
 NUCONSTEEL
 College of Information
 Department of Learning Technologies
 Department of Library and Information Sciences

Eagle Point

Alumni Pavilion (APAV)

Apogee Stadium (APGS)

Football Games

Athletic Center (ATHC)

Athletic Administration
 Athletic Media Services

Champs Cafe

Dining Hall for Victory Hall

Victory Hall (VICT)

Residence hall

Waranch Tennis Complex (TENN)

Mean Green Village

Lovelace Stadium (WSOF)

Women's Softball Field

MGV-Building B

Higher Education Program

MGV-Building C

Texas Municipal Clerks

MGV-Building P

University Relations, Communications and Marketing

Mean Green Office Complex and Gym (MGOG)

Athletic offices
 Campus police offices (see also Sullivant Public Safety Center)
 Women's volleyball

Mean Green Softball and Golf Practice Facility (MGSG)

Mean Green Soccer Stadium (WSOC)

Student Athletic Academic Center (SAAC)

Athletics Compliance
 Student-athlete academic advisors

Off-campus locations

Astronomy Observatory

Former missile base
 North of Denton on FM 2164 (Locust Street)

Library Annex (LANX), 901 Precision Dr.

Technical Services
 Preservation Department

Power Plant

Rafes Urban Astronomy Center – *Named for Dr. Richard Rafes, who served as General Counsel for 22 years and as Senior Vice President for Administration from 2003-2006, and his wife Tommye.*

Located west of the Denton Municipal Airport.

Surplus Property, 925 Precision Dr.

Historical information about building names originally compiled by James L. Rogers, Professor Emeritus of Journalism

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 817-267-3731.