Bulletin

University of North Texas Bulletin | 2025-2026
Graduate Catalog

Official release date is July 1, 2025
Catalog goes into effect at the beginning of the 2025 fall semester
The information in this catalog is subject to necessary corrections.

If you have questions about catalog content or how to use the catalog, 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, procedures and fees in effect at the time of release. UNT reserves the right to make changes at any time to reflect current rules of the UNT System Board of Regents, university policies and procedures, changes in federal or state law, and fee changes. Information provided in 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. Updated policies and procedures can be found on departmental or university web sites.

This catalog does not include all university policies and procedures for which students are responsible. In addition to reading this catalog carefully, students should consult other publications, such as the *Student Handbook*, the *Code of Student Conduct*, *Parking Regulations*, *Housing Handbook* and specific contracts. This catalog becomes effective on the first day of the fall semester, 2025.

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 940-565-4495.

Non-Discrimination Policy

The University of North Texas System is firmly committed to equal opportunity and does not permit -- and takes actions to prevent -- discrimination, harassment (including sexual violence, domestic violence, dating violence and stalking) and retaliation on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, age, disability, genetic information, or veteran status in its application, employment practices and facilities; nor permits race, color, national origin, religion, age, disability, veteran status, or sex discrimination and harassment in its admissions processes, and educational programs and activities, facilities and employment practices. The University of North Texas System promptly investigates complaints of discrimination, harassment and related retaliation and takes remedial action when appropriate. The University of North Texas System also takes actions to prevent retaliation against individuals who oppose any form of harassment or discriminatory practice, file a charge or report, or testify, assist or participate in an investigative proceeding or hearing.

Equal Opportunity and Title IX coordinates and monitors the university's compliance with the requirements of federal and state nondiscrimination laws. You may direct questions or concerns to Equal Opportunity and Title IX at 940-565-2759, TTY access: 940-369-8652 or 800-735-2989, or by email at oeotix@unt.edu.

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The university

The University of North Texas is a place where students transform their lives through education and opportunity.

Ranked a Tier One research university by the Carnegie Classification and designated a Hispanic- and Minority-Serving Institution, UNT is the flagship of the UNT System and is located in Denton. Boasting 240 degree programs and a thriving community of more than 46,000 students, UNT serves the North Texas region and helps drive the state's economy through innovative research, educational excellence focused on career readiness and a spirit of entrepreneurship. Together, with its branch campus in Frisco, UNT students earned more than 13,000 degrees last year.

UNT has been ranked in the nation's Top 100 for students graduating with least debt by U.S. News & World Report. The Princeton Review continually names UNT as a Best in the Southwest school and Forbes has listed UNT as an America's Top College for 17 consecutive years.

Location

UNT is in Denton, a town of more than 140,000 people located 40 miles north of Dallas and Fort Worth. UNT occupies over 1,017 acres across three counties and maintains 176 buildings including Discovery Park, a 610,000-square-foot research facility, accessible from the main campus by shuttle buses. The main campus is easy to walk to or bike to, as are residence halls, athletic facilities and other areas of campus. UNT is teaching more than 3,100 students at its Frisco Landing and Inspire Park locations. Born from a partnership between UNT and the City of Frisco, Frisco Landing's 135,000-square-foot, state-of-the-art building was designed with a focus on student success, and is the first permanent building to be built on the UNT at Frisco campus, located at the southwest corner of Preston Road and Panther Creek Parkway.

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 fuels the North Texas region through innovation, education and research; forming partnerships with many businesses, industry, education, government and cultural organizations.

The university's mission

At the University of North Texas, our caring and creative community empowers our students to thrive in a rapidly changing world.

The university's purpose

Our students will be the innovative leaders of tomorrow.

The university's vision

We will become globally known for collaborative and imaginative educational innovation and scholarly activity that transforms our students and benefits the world around us.

How we will achieve our vision:

The UNT community is guided by five core values — Courageous Integrity, Be Curious, We Care, Better Together and Show Your Fire. To achieve our vision, we will work together to solve complex issues and find ways to empower our students to succeed in the face of a rapidly changing world. This challenge calls on us to become more nimble and collaborative as an institution. Because we are a caring, creative campus, we value important connections that happen through collaboration, interdisciplinary engagement, connectivity and synergistic solutions to challenges at our university, in DFW and beyond. Thus, we will dedicate ourselves to creating a stronger collaborative environment where we hear and respond to the different perspectives of our internal and external communities to empower our students and meet the needs of Texas. The cross-cutting synergies and connectivity created by building a culture based on our values will drive our success across all planning areas and enhance our reputation as an innovative, next-generation institution.

History of the university

UNT was founded in 1890 as Texas Normal College and Teachers' 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 opening-day remarks remain 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 choose UNT for its innovative programs designed to meet the ever-changing needs of the future. 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 and in consumer experience management in the U.S. and first Master of Science program in merchandising offered completely online
- First retail program in the U.S. to integrate courses in merchandising, digital retailing, store operations, finance and retail strategy
- First school library certification program in the U.S. offered completely online
- First graduate applied anthropology program in the U.S. offered completely online
- First undergraduate program in applied behavior analysis in the U.S. and first accredited master's program in behavior analysis in the world
- First and only Ph.D. 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
- First four-year aviation logistics program at a university in Texas and only such program in the nation
- First master's program in international sustainable tourism in the U.S. and the first to require a year abroad

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 and expertise for their chosen careers.

Accreditation

University of North Texas is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award associate, baccalaureate, masters, and doctorate degrees. University of North Texas also may offer credentials such as certificates and diplomas at approved degree levels. Questions about the accreditation of University of North Texas may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website (www.sacscoc.org).

Please note: SACSCOC should be contacted only to inquire about the accreditation status of UNT, to ask questions about the accreditation process, or to pursue procedures for filing complaints against UNT. General inquiries, such as admission requirements, financial aid, and educational programs, should be addressed directly to UNT and not SACSCOC's office.

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

AACSB International — The Association to Advance Collegiate Schools of Business
Accreditation Commission for Programs in Hospitality Administration
Accrediting Council on Education in Journalism and Mass Communications
American Academy of Forensic Science-FEPAC
American Chemical Society
American Library Association
American Psychological Association Commission on Accreditation
American Speech-Language-Hearing Association
Behavior Analysis Accreditation Board of ABAI
Council for Accreditation of Counseling and Related Educational Programs
Council for Interior Design Accreditation
Council on Social Work Education
National Association of Schools of Art and Design
National Association of Schools of Music
Network of Schools of Public Policy, Affairs, and Administration
Texas State Board for Educator Certification

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 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 Institute of Indian Studies
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 the Great City Colleges of Education 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
Institute of International Education
International Council of Shopping Centers
International Council on Hotel, Restaurant and Institutional Education
International Textile and Apparel Association
Mathematical Association of America
Mid-American Universities International
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
The Forum on Education Abroad
University Film and Video Association

UNT administration

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

Information regarding individual faculty members and librarians is available from the Faculty Information System (https://facultyinfo.unt.edu). Select "Faculty Name" or "Courses" from the Browse menu.

Graduate faculty of the College of Biomedical and Translational Sciences and the College of Public Health at the University of North Texas Health Science Center at Fort Worth (UNT Health) 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 *UNT Health Catalog* for UNT Health graduate faculty listings.

2025-26 Academic calendar

Dates are subject to change by official action of UNT.

Fall 2025 calendar

KEY SEMESTER DATES	Full Term Aug 18 - Dec 12	8 Week I Session Aug 18 - Oct 10	8 Week II Session Oct 13-Dec 12
Schedule of Classes Available on myUNT	Mar 3	Mar 3	Mar 3
Registration Opens For specifics by student group/class, visit the registrar.unt.edu/when-can-i-register.	Mar 17	Mar 17	Mar 17
Prerequisite Drop Students not meeting course prerequisites may be dropped from their courses.	July 30	July 30	Oct 13
Regular Registration Ends	Aug 14	Aug 14	Oct 9
Late Registration—For Students not Registered for the Term Students registering late will incur a late registration fee of $75.	Aug 15 - Aug 22	Aug 15 - Aug 22	Oct 10 - Oct 17
Last Day to Withdraw from Entire Term on myUNT Courses do not appear on the transcript. After this date, see Dean of Students to withdraw from the entire term.	Aug 17	Aug 17	Oct 12 if only 8 week II
Classes Begin	Aug 18	Aug 18	Oct 13
Last Day to Add a Class or Swap Sections A swap is switching sections of the same course in the same session.	Aug 22	Aug 22	Oct 17
Last Day to Drop a Class Section Without a W (Census) Courses dropped before this date will not appear on official transcript. (Dropping courses may impact financial aid and degree completion. See advisors.)	Aug 29	Aug 23	Oct 18
Drop with a Grade of W Begins Course appears on the transcript with a grade of W and tuition and fees remain. (Dropping courses may impact financial aid and degree completion. See advisors.)	Aug 30	Aug 24	Oct 19
Last day to change to pass/no pass grade option (undergrads)	Sept 26	Sept 5	Oct 31
Midpoint of the Semester	Oct 10	Sept 12	Nov 7
Last day for a student to drop a course or all courses with a grade of W	Nov 7	Sept 26	Nov 21
First day to request a grade of Incomplete	Nov 8	Sept 27	Nov 22
Pre-Finals Days	Dec 3-4	N/A	N/A
Last Regular Class Meeting	Dec 4	Oct 9	Dec 11
Reading Day—No Classes	Dec 5	N/A	N/A
Final Exams	Dec 6-12	Oct 10	Dec 12
Last Day of Session	Dec 12	Oct 10	Dec 12
University Grade Submission Deadline 4 p.m.	Dec 15	Oct 13	Dec 15
Grades/Academic Standing posted on the Official Transcript	Dec 17	Dec 17	Dec 17

Last Modified: 7/23/2025

Fall 2025 Holidays

Labor Day (no classes, university closed)	Sept 1, 2025
Thanksgiving Break (no classes)	Nov 24-30, 2025
University Commencement	Dec 12-14, 2025

Spring 2026 Calendar

KEY SEMESTER DATES	Full Semester Jan. 12-May 8	3 Week I Winter Session Dec. 15-Jan. 9	8 Week I Session Jan. 12-Mar. 6	8 Week II Session Mar. 16-May 8
Schedule of Classes Available on myUNT	Sept. 22	Sept. 22	Sept. 22	Sept. 22
Registration Opens For specifics by student group: https://registrar.unt.edu/when-can-i-register.	Oct. 6	Oct. 6	Oct. 6	Oct. 6
Prerequisite Drop Students not meeting course prerequisites will be dropped from their courses.	Dec. 16	Dec. 15	Dec. 16	Mar. 16
Regular Registration Ends	Jan. 8	Dec. 11	Jan. 8	Mar. 12
Late Registration—For Students not Registered for the Term	Jan. 9-16	Dec. 12-15	Jan. 9-16	Mar. 13-20
Last Day to Withdraw from Entire Term on myUNT Courses do not appear on the transcript. After this date, see Dean of Students to withdraw from the entire term.	Jan. 11	Dec. 14	Jan. 11	Mar. 15
Classes Begin	Jan. 12	Dec. 15	Jan. 12	Mar. 16
Last Day to Add a Class or Swap Sections A swap is switching sections of the same course in the same session.	Jan. 16	Dec. 15	Jan. 16	Mar. 20
Last Day to Drop a Class Section Without a W (Census) Courses dropped before this date will not appear on official transcript. (Dropping courses may impact financial aid and degree completion. See advisors.)	Jan. 24	Dec. 16	Jan. 17	Mar. 21
Drop with a Grade of W Begins Course appears on the transcript with a grade of W and tuition and fees remain. (Dropping courses may impact financial aid and degree completion. See advisors.)	Jan. 25	Dec. 17	Jan. 18	Mar. 22
Last day to change to pass/no pass grade option (undergrads)	Feb. 20	Dec. 19	Jan. 30	April 3
Midpoint of the Semester	Mar. 6	Dec. 24	Feb. 6	April 10
Last day for a student to drop a course or all courses with a grade of W	April 10	Jan. 6	Feb. 20	April 24
First day to request a grade of Incomplete	April 11	Jan. 7	Feb. 21	April 25
Pre-Finals Days	April 29-30	N/A	N/A	N/A
Last Regular Class Meeting	April 30	Jan. 8	Mar. 5	May 7
Reading Day—No Classes	May 1	N/A	N/A	N/A
Final Exams	May 4-8	Jan. 9	Mar. 6	May 8
Last Day Session	May 8	Jan. 9	Mar. 6	May 8
University Grade Submission Deadline 4 p.m.	May 11	Jan. 12	Mar. 9	May 11
Grades/Academic Standing posted on the Official Transcript 6 p.m.	May 13	May 13	May 13	May 13

Last Modified: 07/01/2025

Spring 2026 Holidays

Winter Break (no classes; university closed)	Dec. 24-26, Dec. 29 – Jan. 2
Martin Luther King Jr. Holiday	Jan. 19, 2026
Spring Break	March 9-15, 2026
University Commencement	May 7-10, 2026

Summer 2026 calendar

KEY SEMESTER DATES	3 Week I Session May 11 - May 29	5 Week I Session May 18 - June 19	10 Week Session May 18 - July 24	8 Week Session June 1 - July 24	5 Week II Session June 22 - July 24
Schedule of Classes Available on myUNT	March 2	March 2	March 2	March 2	March 2
Registration Opens For specifics by student group/class, please visit When Can I Register page.	March 16	March 16	March 16	March 16	March 16
Prerequisite Drop Students not meeting course prerequisites will be dropped from their courses.	May 5	May 5	May 5	May 5	June 22
Regular Registration Ends	May 7	May 14	May 14	May 28	June 18
Late Registration Period—For Students not Registered for the Term Students registering late will incur a late registration fee of $75. For payment deadlines, please refer to the Student Accounting page.	May 8-11	May 15-20	May 15-21	May 29-June 5	June 19-24
Last Day to Withdraw from Entire Term on myUNT Courses do not appear on the transcript. After this date, see Dean of Students to withdraw from the entire term.	May 10	May 17	May 17	May 31	June 21
Classes Begin	May 11	May 18	May 18	June 1	June 22
Last Day to Add a Class or Swap Sections A swap is switching sections of the same course in the same session.	May 11	May 20	May 21	June 5	June 24
Last Day to Drop a Class Section Without a W (Census) Courses dropped before this date will not appear on official transcript. (Dropping courses may impact financial aid and degree completion. See advisors.)	May 12	May 21	June 3	June 8	June 25
Drop with a Grade of W Begins Course appears on the transcript with a grade of W and tuition and fees remain. (Dropping courses may impact financial aid and degree completion. See advisors.)	May 13	May 22	June 4	June 9	June 26
Last day to change to pass/no pass grade option (undergrads)	May 15	May 29	June 12	June 19	July 3
Midpoint of the semester	May 20	June 3	June 19	June 26	July 8
Last day for a student to drop a course or all courses with a grade of W	May 26	June 11	July 8	July 10	July 16
First day to request a grade of Incomplete	May 27	June 12	July 9	July 11	July 17
Pre-Finals Days	N/A	N/A	N/A	N/A	N/A
Last Regular Class Meeting	May 28	June 18	July 23	July 23	July 23
Reading Day—No Classes	N/A	N/A	N/A	N/A	N/A
Final Exams	May 29	June 19	July 24	July 24	July 24
Last Day Session	May 29	June 19	July 24	July 24	July 24
University Grade Submission Deadline 4 p.m.	June 1	June 22	July 27	July 27	July 27
Grades/Academic Standing posted on the Official Transcript	July 29	July 29	July 29	July 29	July 29

Modified: 09/03/2025

Summer 2026 Holidays

Memorial Day—No Classes	May 25, 2026
Juneteenth Observance—No Classes	June 19, 2026
Independence Day—No Classes	July 4, 2026

Accreditation

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Please note: SACSCOC should be contacted only to inquire about the accreditation status of UNT, to ask questions about the accreditation process, or to pursue procedures for filing complaints against UNT. General inquiries, such as admission requirements, financial aid, and educational programs, should be addressed directly to UNT and not SACSCOC's office.

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

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.acejmc.org/

American Academy of Forensic Science-FEPAC

410 North 21st Street
Colorado Springs, CO 80904
719-636-1100
www.aafs.org

American Chemical Society

1155 Sixteenth Street NW
Washington, DC 20036
800-333-9511
www.acs.org

American Library Association

50 East Huron Street
Chicago, IL 60611
800-545-2433
www.ala.org

American Psychological Association Commission on Accreditation

Commission on Accreditation, Office of Program Consultation and Accreditation
750 First Street, NE
Washington, DC 20002-4242
202-336-5500
www.accreditation.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 49024
269-492-9310
www.abainternational.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 Cesar E. Chavez Ave. SW, Suite 350
Grand Rapids, MI 49503-2822
616-458-0400
www.accredit-id.org

Council on Social Work Education

333 John Carlyle Street, Suite 400
Alexandria, VA 22314
703-683-8080
www.cswe.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
www.nasm.arts-accredit.org

Network of Schools of Public Policy, Affairs, and Administration (NASPAA)

1029 Vermont Avenue NW, Suite 1100
Washington, DC 20005-3517
202-628-8965
www.naspaa.org

State Board for Educator Certification

1701 North Congress Avenue
Austin, TX 78701
512-463-9734
www.tea.texas.gov

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 priority dates. **Many departments have earlier deadlines that vary by program.**

Applications are submitted online through the UNT Graduate CAS (Centralized Application System) at unt2025.liaisoncas.com.

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

Admission application fee

Students applying for graduate studies at the University of North Texas must pay a non-refundable admission application fee of $75.00. 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.

Graduate application processing deadlines

Graduate program deadlines vary and should be followed for the specific program. The following are priority dates for submission of completed application materials for all students seeking on-time registration *except* those applying for admission to programs with earlier deadlines (see departmental information).

Semester offered	Fall 2025	Spring 2026	Summer 2026	Fall 2026
Application processing deadlines	June 15	October 15	April 15	June 15

Students who submit applications after these dates, if accepted, may have to register during the late registration period and pay a late registration fee of $75.00.

Requirements for admission to the Toulouse Graduate School

General admission requirements

Applications for graduate study are made through the Office of Admissions, regardless of degree program.

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

1. Applicants holding a bachelor's degree with Texas Higher Education Coordinating Board recognized accreditation, its equivalent credential from a foreign institution, or a three-year bachelor's degree that meets UNT's established criteria, are eligible to apply for admission to UNT graduate study.
2. Submit an online application through the UNT Graduate CAS (Centralized Application System) at unt2025.liasoncas.com.
3. Pay the $75.00 application fee.
4. Request official academic credentials from all colleges and universities you have attended. The mailing address for University of North Texas Office of Admissions is 1155 Union Circle #311277, Denton, TX 76203-5017.
5. Graduate applicants to UNT are evaluated holistically, based on specific departmental and program requirements. In the past, successful candidates usually have met certain GPA minima:
    - 3.0 GPA in the undergraduate degree for admission to the Master's program;
    - Or 3.5 GPA in the undergraduate degree for direct admission to Doctoral programs;
    - Or 3.5 GPA in Master's-level studies for admission to Doctoral programs.
6. Test requirements are program specific. Some programs may provisionally admit students for one semester prior to submission of standardized test scores. Others have requirements that substitute for test scores. Review the program website for details. If official test scores are required by the academic program, request that official test score reports (GRE, GMAT, MAT, etc.) from the testing agency be sent to the Graduate Admissions Office. The UNT school code for the GRE is 6481. The UNT school code for the GMAT is 6DP-8M-55. The UNT school code for the MAT is 2255.
7. The applicant may be required to take entrance examinations, either oral, written or both, before admission to the degree program is granted.
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 Dean of the Toulouse Graduate School in writing.
9. Students who hold a bachelor's degree from an institution with Texas Higher Education Coordinating Board recognized accreditation 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 at www.ApplyTexas.org.
10. When evaluating international credentials for graduate admission decisions, in addition to utilizing internal international credential evaluators, UNT Office of Admissions will accept credential evaluations from any member organizations of NACES (National Association of Credential Evaluation Services). NACES members currently include organizations such as the Educational Credential Evaluators (ECE), Foreign Academic Credential Service (FACS), International Education Research Foundation (IERF), Center for Applied Research, Evaluation and Education (CAREE), The Evaluation Company (SpanTran), Transcript Research (TR) and World Education Services (WES). Evaluation reports must be submitted to the Office of Admissions directly from the evaluation company either by mail or email. The Office of Admissions reserves the right to adjust credential analysis findings from evaluation services based on university standards.

Required standardized admissions test

Students seeking a graduate degree may be required to meet a standardized admission test score requirement as designated by the academic department. For specific advanced test requirements in certain fields, consult subsequent sections of this catalog that describe individual programs.

Admission of continuing students

Continuing students are those who have been officially enrolled at UNT at least once during the previous two consecutive long semesters **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 Office of Admissions 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 regular registration periods. Instructions are available in the schedule of classes at registrar.unt.edu.

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

Readmission of graduate students

Students who have previously been admitted but who have not enrolled at UNT at least once during the previous 2 consecutive long semesters **prior** to the term/semester of planned enrollment must follow these re-admission procedures:

1. submit an admission application through the UNT Graduate CAS (Centralized Application System) at unt2025.liaisoncas.com.
2. pay the application fee, 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. Programs are not required to readmit students who left the university on probation or suspension and reapply. (Refer to Leave of Absence procedure in the Academic Section.)

Preliminary admission of seniors to graduate study

Seniors within one year of graduation may apply for graduate study. A student in this status may not enroll for a load exceeding the maximum permitted for graduate students. Students in this status must complete the bachelor's degree within two semesters of enrollment in graduate courses. Registration beyond two semesters will not be allowed unless proof of conferral of bachelor's degree is provided.

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 and Scholarships 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 working toward the doctorate are required to submit an application for admission to their doctoral program. Those who wish to begin taking courses to be credited on the doctorate prior to receiving the master's degree must declare this intention to the Toulouse Graduate School 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 an institution with Texas Higher Education Coordinating Board recognized accreditation or an equivalent credential from a foreign institution recognized by UNT's Office of 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. Applications for second bachelor's degrees are submitted through ApplyTexas. 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 for the purpose of taking courses not necessarily leading to an advanced degree (i.e., prerequisites for admission to a degree program). Admission as a Graduate Non-Degree student 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 maintain an average of B on all such courses attempted. Some graduate-level courses may be restricted and require departmental approval for enrollment.
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 they subsequently be admitted to a degree program at UNT. **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, and the department and/or program will decide how many of the courses taken in a non-degree status are eligible for use toward their degree.** 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 should review the admission requirements for students who change majors in the Graduate Catalog.
5. International students are not eligible to apply for admission to non-degree status.
6. Enrollment for graduate credit in courses in the G. Brint Ryan College of Business must be approved in advance of registration by the G. Brint Ryan College of Business and is limited to 12 hours.

Non-degree seeking students are not eligible for financial aid. Please contact Financial Aid and Scholarships for more information.

Admission requirements for students who change major

For students who wish to change from one major to another major at UNT, the student should first consult with the academic department for the new major. Additional departmental application materials may be required for admission decision.

Conditional admission of students with low grade point average

For students who wish to pursue a graduate-level degree at the university but who do not meet recommended graduate admission grade point averages (GPA), the following regulations may apply.

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

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 Admissions Office 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 Dean of Students 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 status should apply to the Graduate Admissions Office as international students to pursue graduate studies. Applications are submitted online through the UNT Graduate CAS (Centralized Application System) at unt2025.liaisoncas.com.

Application deadlines

International applicants seeking an F-1 student visa should review the academic program for application deadlines. However, applications received prior to the following dates increase your chance of I-20 processing, if admitted:

- October 15 for the following spring enrollment
- January 1 for the following summer enrollment
- April 1 for the following fall enrollment

Three types of admission

1. **Direct UNT admission**

   Graduate: With proof of English language proficiency (See "English Language Proficiency Measure" section.) and all other departmental requirements.

2. **Conditional UNT admission* (for graduate admission, please contact the department or college for departmental requirements)**

   Some graduate programs will review applications from students who have not yet met UNT's English language proficiency (ELP) requirement for admission. Students will not be allowed to enroll until the ELP requirement has been met.

   **Applicants should be aware that the College of Music will not evaluate an applicant's file until the student passes the audition in music. For most other majors not listed, a review for conditional admission is possible.*

3. **English language study only**

   UNT's Intensive English Language Institute (IELI).

English language proficiency measure

UNT accepts any 1 of the following 4 measures as proof of English language proficiency:

1. Citizenship of one of these approved English-speaking countries

   Anguilla, Antigua/Barbuda, Australia, Bahamas, Barbados, Belize, Bermuda, British Guyana, Canada (except Quebec), Cayman Islands, Dominica, Falkland Islands (Islas Malvinas), Grenada, Guam, Guyana, Ireland, Jamaica/ other West Indies, Liberia, Montserrat, New Zealand, South Africa, St. Helena, St. Kitts & Nevis, St. Lucia, St. Vincent, Trinidad & Tobago, Turks & Caico Isle, United Kingdom, Virgin Islands

2. Degree or courses completed at an accredited institute in the U.S. or in one of the approved English-speaking countries

   Submit official transcripts showing courses, graduation, and/ or degree earned from:

   - High school/Secondary school
     - Graduation + 3 years attendance (includes U.S. Department of Defense school)
   - College/University
     - Completion of Associate's, Bachelor's, Master's, or Doctorate degree
     - Completion of two university-level, academic English courses (excludes English as a Second Language courses) for a total of 6 credit hours with a grade of C or higher in both courses
     - Completion of 30+ hours of university-level academic coursework with an overall GPA of 2.25 or equivalent. Student must be enrolled at the time of application and must have maintained continuous enrollment prior to their transfer to UNT.

3. English Language/English Proficiency Exam

High school/Secondary school exams

EXAM	MINIMUM SCORE REQUIRED	DOCUMENTATION NEEDED
AP Advanced Placement	Score of 5 in English Language & Composition	Submit official score report
IB International Baccalaureate	Grade 5 on the Higher-Level English A1 subject	Submit official score report
Cambridge International Education (CIE) Exams GCE/GCSE/IGCSE (International) General Certificate of (Secondary) Education	C or higher in English Language or English First Language	Submit official score report
WAEC/WASSCE West Africa Examination Council/ West African Senior School Certificate Examination	B (2,3) or higher in English Language	Submit official score report through the WAEC digital platform at WAEC
NECO National Examinations Council	B (2,3) or higher in English Language	Submit token with official score report
KCSE Kenya Certificate of Secondary Education	B (8,9,10) or higher in English Language	Submit official score report
SAT 1	560 or higher on both Critical Reading and Writing	Submit official score report from College Board, reporting code 6481
ACT	21 or higher in English	Submit official score report through ACT, reporting code 4136

English Proficiency Exams

- Test scores expire after 2 years. Tests must be taken within two years prior to applying.

- Expired scores are accepted for students who have been continuously enrolled at a college or university in the U.S. since before the scores expired. Students must submit official score reports.

EXAM	MINIMUM SCORE REQUIRED	DOCUMENTATION NEEDED
TOEFL iBT (excludes MyBest score)	79	Submit scores electronically through ETS; school code 6481
IELTS (Academic)	6.0 overall band	Submit scores electronically through the testing service
PTE Pearson Test of English	53	Submit scores electronically through Pearson
DET Duolingo English Test	100	Submit scores electronically through Duolingo
MET (4-skill exam) Michigan English Test	Section scores of 54	Submit scores electronically through the testing service
Cambridge C1 Advanced/C2 Proficiency	C1	Submit scores through the Cambridge Assessment Platform

4. UNT's Intensive English Language Institute (IELI)
    - Completion of level 6
    - See international.unt.edu/intensive-english/index.html for program information
    - Coursework from other Intensive English Programs does not meet UNT's ELP requirement

Application form

UNT application: applytexas.org /unt2025.liaisoncas.com.

IELI application: international.unt.edu/intensive-english/index.html.

Application fee

The non-refundable application fee of $75 USD must be received for the application evaluation to begin.

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 2.6 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 2.6. 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 certification programs. 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 an institution with Texas Higher Education Coordinating Board recognized accreditation or an equivalent credential from a foreign 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 Toulouse Graduate School and the Division of Enrollment office of graduate admissions.

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 sub-field of a major field of study. Most 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. Students need to secure academic program approval for course work to ensure degree applicability. Students must not exceed the maximum student load set by UNT and must stay within transfer hour limits.

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 applying for a concurrent degree. To apply for a concurrent program, the student should meet with the advisor of the department for which the concurrent program is sought

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

The University of North Texas requires that graduate students enrolled in programs with a thesis or dissertation requirement maintain continuous enrollment in a minimum of three credit hours of thesis or dissertation during each long semester until the thesis or dissertation has been formally approved, with a possible one-time exception, as described below. The ability to provide access to faculty time, student services, research support, and financial aid eligibility is made possible by a graduate student's official registration and continuous enrollment. Master's and doctoral students must maintain continuous enrollment subsequent to completing required coursework and passing any qualifying examination(s) for admission to candidacy. A graduate student must maintain continuous enrollment in a minimum of three credit hours of thesis or dissertation during each long semester after successful completion of required coursework and/or qualifying exams until the Toulouse Graduate School has approved the thesis or dissertation.

Thesis or dissertation registration during at least one summer session is required if the student is using university facilities and/or faculty time during that summer session. Students who successfully defend and submit their final thesis/dissertation after the current semester deadline promulgated by the Toulouse Graduate School, but by the last day of the term (per the Academic Calendar), are eligible to graduate the following semester without enrolling in thesis/dissertation hours. Once a graduate student begins enrollment in thesis or dissertation hours, the Toulouse Graduate School will send a written reminder of this policy to the student and the student's major professor each long semester until the Toulouse Graduate School has approved the thesis or dissertation.

In the event of an unexpected delay or complication with the thesis or dissertation, a graduate student who has completed all other degree requirements, except for the thesis or dissertation, may petition for a one-time exception to this policy.

If the student's petition is approved by the student's major professor, department, and the Toulouse Graduate School, the student may enroll for only one (1) credit hour of independent study in lieu of thesis or dissertation, instead of the usual three (3), during that one (1) exceptional term.

The graduate student's major professor and department will act on such a petition within ten (10) working days and the Toulouse Graduate School will act on a petition approved at the department level within thirty (30) working days.

The Toulouse Graduate School is expected to approve such petitions with assurances from the major professor and the department that the student is expected to complete the degree program during the exceptional term.

Failure to maintain continuous enrollment may invalidate any previous thesis or dissertation credits or may result in the student being dropped from the degree program, unless the student is granted an official leave of absence for medical or other exceptional reasons by the Toulouse Graduate School. See Policy 06.042.

Course numbering system

Developmental courses, 100-999.
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

Students must apply for graduation prior to the defense of the dissertation or thesis. 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 school for final approval. Graduation information and deadlines are available from the Toulouse Graduate School and at tgs.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 East Texas A&M University (ETAMU). 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 institutions.

The university's cooperative degree programs are administered through the Toulouse Graduate School. As a member of the federation, UNT offers inter-institutional 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 ETAMU 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.

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 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 Toulouse Graduate School, students should meet with the intended department to discuss admissions and requirements. All course work must be completed, and the certificate awarded, within four years of the date of the first course. Graduate academic certificates are posted on the UNT transcript. Verification forms for completion should be requested from the program director in the last semester of related course work.

Grad Track

Grad Track programs allow exceptional undergraduate students to take up to 12 hours of approved graduate level courses to complete the requirements of an undergraduate degree and apply toward the graduate degree. Grad Track is only open to students in programs with an established Grad Track Pathway. Students in the Grad Track take specific courses leading from an undergraduate to a graduate degree in a specific area.

Applications for Grad Track programs are submitted through the major department after the student has completed at least 75 credit hours with a minimum cumulative GPA of 3.5. Grad Track students may begin taking graduate-level courses after completing 90 credit hours and must complete the bachelor's degree within one academic year after beginning their first pathway course. Students in the Grad Track must apply for admission to the graduate program, generally by the end of their first term in the Grad Track program. Consult the Undergraduate Catalog for information about specific academic programs with Grad Track options.

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. If approved, the leave of absence may "stop the clock" on the time limit for the degree for a maximum of three terms (excluding summer). In the case of extenuating circumstances, a second leave of absence may be requested and may be approved by the Associate Dean of the Toulouse Graduate School on the recommendation from the student's committee, graduate coordinator, department chair, and the college or academic associate dean. A leave of absence form must be submitted to the Toulouse Graduate School and must have approval of the student's department chair and the college or academic associate dean prior to submission to the Toulouse Graduate School. Once a student returns from an approved leave of absence of one year or

longer, the student should contact Graduate Admissions and must submit an application through unt2025.liaisoncas.com to reactivate the student record. After application, the student will automatically be readmitted to the prior programs and their time limit for completion of the degree will resume.

Leaves will only be granted under conditions that require suspension of all activities associated with pursuing the degree. Scenarios such as military deployment and medical leave (including childbirth, adoption of a child, or to care for a sick parent) are examples of a leave of absence that may be approved to "stop the clock" on degree time limits. Personal leave may be approved for a leave of absence, and depending on the circumstances, it may stop the clock on the degree time limit. (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. Non-degree seeking students are not financial aid eligible. 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.

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 registrar.unt.edu.

Pass-through master's degree

Students who are admitted to a 72-hour or more 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. Students should contact their major department to initiate the application process.

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 https://studentaffairs.unt.edu/dean-of-students/policies/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, teaching fellows, research assistants, and graduate services assistants

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. A research assistant (RA) is a graduate student who is engaged in research activities under the direction and supervision of a principal investigator or faculty member working on research. A graduate services assistant (GSA) is a graduate student whose responsibilities may be administrative in nature or consist of other activities that do not generally fit within the teaching fellow, teaching assistant, or research assistant job responsibilities.

The minimal load of academic work required for these positions is outlined under "Student Load" in the Enrollment section of this catalog. The total load of course enrollment and employment assignment may not exceed 16 semester hours in any long term/semester. Approval of the Toulouse Graduate School 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. See also details regarding "Continuous Enrollment" in this catalog. See the Campus resources section of this catalog for a brief description and contact the Toulouse Graduate School for details.

Graduate Students who are also employed as a .5 FTE salaried teaching fellow, teaching assistant, research assistant, or graduate services assistant are required to be enrolled full time for long semesters. Exceptions to the full-time load requirement are specified in UNT Policy 06.020, Recruitment and Selection of Teaching Fellows and Teaching Assistants.

Term/semester/session

The academic year includes three terms/semesters: fall, spring and summer. Fall and spring include a full-term session, 8W1 (eight week one) and 8W2 (eight week two). Spring also includes a 3W1 session. Summer term includes sessions that 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 five to seven 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 dean of the Toulouse Graduate School before the time limit has expired. Information on filing a time extension can be found at tgs.unt.edu/new-current-students/request-extension-time-complete-degree. 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.

- College of Applied and Collaborative Studies
- Toulouse Graduate School
- G. Brint Ryan College of Business
- College of Education
- College of Engineering
- College of Health and Public Service
- College of Information
- Frank W. and Sue Mayborn School of Journalism
- College of Liberal Arts and Social Sciences
- College of Merchandising, Hospitality and Tourism
- College of Music
- College of Science
- College of Visual Arts and Design
- 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: 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 East Texas A&M University. 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 institutions.

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 ETAMU 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 (East Texas A&M University 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 East Texas A&M University 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 barriers 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, accommodated testing) should follow the procedures listed below:

1. Students must be registered with the Office of Disability Access (ODA) in order to request a letter of accommodation be sent to their instructor. This document will contain information relative to the reasonable accommodations approved for the student. If faculty are advised by a student that they have a disability and need accommodations, they should be referred to the ODA for assistance.
2. Preferably within the first week of class, qualified students must notify the instructor of the need for academic adjustments and confirm receipt of the letter of accommodation from the ODA. However, students may request their letters of accommodation at any point in the semester (with the exception of during Finals). Accommodations are not retroactive.
3. The qualified student should confer with the instructor (in private, by email, or during office hours) to reach mutual agreement on accommodation provision.
4. If a student does not feel the accommodations are effective, or if they are not provided, the student should contact his/her ODA Coordinator 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: studentaffairs.unt.edu/office-disability-access/grievance.

Application for graduation

It is the responsibility of the student to stay abreast of progress toward the degree and to file an application using the MyUNT student portal. Consult tgs.unt.edu/new-current-students/graduation-information 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 may not be able to graduate at the end of the term/semester or summer session/term in which the work is completed, but may receive their degree at the close of a subsequent UNT term/semester or summer session/term.

Tuition and fees information is available online at sfs.unt.edu/tuition-and-fees. Students anticipating graduation should apply through MyUNT under Academic Records when graduation applications for that semester open.

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 Doctor of Musical Arts (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.

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.

All courses of instruction are located in the Course Descriptions.

Grading system

UNT's grading system uses the letters A, B, C, D, F, P, NP, NPR, I, PR, W 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 cannot 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. Grades of I assigned to a graduate course at the end of the Fall 2017 semester and later will default to F unless the instructor has designated a different automatic grade. 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 and remaining PR grades will be changed to "P."
NPR	—	used to indicate no progress on thesis or dissertation courses numbered 5950 and 6950, 6951, 6952, 6953 or 6954 in a given term; non-punitive. No credit hours are earned when the grade of NPR is assigned.
W	—	drop or withdrawal without penalty. Given when a student drops or withdraws from the university prior to the designated day of a given semester's 10th week of class for the long terms/semesters or corresponding dates for 8 week and summer sessions (specific dates are published in the online 2025-2026 Academic calendar). See regulations for dropping and withdrawing.

Note: At the graduate level, no semester credit hours and no grade points are allowed for grades F, I, NP, NPR, P, PR, W or Z. Grades of D cannot be used toward degree completion. (Use of WF grade was discontinued fall 2018.)

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

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, and F unless replaced by a later grade. Courses with grades of I, NP, NPR, P, PR, W or Z are not counted as courses attempted.

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 to the Dean of Students office. 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).

Graduate credit for work experience

General Policy: The university has a process to award credit for non-traditional graduate-level learning on a limited basis if the prior learning is directly related to the student's academic program. Department/program faculty must complete an evaluation of learning form in accordance with UNT policy 06.001. If approved, students may receive a maximum of 6 semester credit hours in prior learning credit.

Exception Process: In exceptional circumstances, students can request and may qualify for limited credit if they:

1. Possess recognized professional credentials (certificates, certifications, or industry accreditations) directly relevant to their graduate program
2. Submit these credentials to their academic department for evaluation
3. Receive departmental faculty approval based on the credential's relevance and academic equivalency

Limitations:

- Exceptions require a request by the student to the department
- The department must provide a formal department recommendation to the Toulouse Graduate School
- A maximum of 6 graduate credit hours may be awarded through this exception process
- All awarded credit must align with the student's degree program requirements and be documented by the program faculty on the student's approved plan of study

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 of the Toulouse Graduate School 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

A student who fails to achieve the required cumulative average of 3.0 GPA (or 2.6 during their initial semester) 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 take a course a second or subsequent time. Students may duplicate graduate courses in which they received a grade of C or lower, for grade replacement. The Registrar's Office will post duplications at the request of the student, at the request of an academic advisor or upon review of the student's record. Once a duplication is processed, only the second grade received is included in the student's cumulative hours attempted and grade points earned. A single course may only be repeated once for grade replacement. Departments may submit to the Toulouse Graduate School a request for an exception to duplication processing based on extenuating circumstances.

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 through the UNT Grade Change Workflow.

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: (registrar.unt.edu/transcripts-and-records/order-transcript).

Before an official transcript can be released, applicable obligations to the university must be resolved. UNT transcripts can be ordered for electronic or mail delivery online. Paper copies can be requested in person at the Registrar's Office.

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

Grade books

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

Tests

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

Pass/no pass 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 (incomplete)

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 submits a change through the UNT Grad Change Workflow. For graduate students, the office of Dean of 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 grade will default to F unless the instructor has designated a different automatic grade. 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 them. 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. 14.009) is available at www.policy.unt.edu.

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 07.018. Information not covered by FERPA will be released only in accordance with the policy on public information found in policy number 04.002 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 UNT Policy manual with the complete FERPA policy (07.018) can be found at www.policy.unt.edu.

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

1. Inspect, review and receive copies of their own education record upon request to the appropriate records custodian (i.e.- Registrar, Dean, Department Head, or other appropriate official). The request must be provided in writing and must specifically identify the requested education records. The university will comply with all request within forty-five (45) calendar days from the date the request was received.

   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.

   The student should write to the Dean of Students Office, 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. The right to amend education records does not apply to grade appeals.

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; 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 before disclosing records in advance of compliance with the order or subpoena, except when directed not to do so by the court order or subpoena or when otherwise required by law.
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 re disclosure 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 contact the UNT System Office of General Counsel.

Chosen name policy

Policy statement

The University of North Texas recognizes that students may wish to identify themselves within the University community with a chosen first name and middle name that differs from their legal first and middle name.

Application of policy

The election for a chosen name is for currently enrolled students.

Definitions

Legal name–The name that appears on government-issued identification. It is the primary name in the EIS student record system.

Chosen first and middle name– A name a person uses to identify themself other than the legal name; students may not declare a chosen name for an inappropriate purpose, including, but not limited to misrepresentation, use of derogatory terms, or avoiding legal or financial obligation.

Procedures and responsibilities

I. Currently enrolled students may request a chosen first name and/or middle name they want to be known by, regardless of whether they have legally changed their name.

II. The University reserves the right to remove a chosen first and middle name if it is inappropriate, as defined above. Chosen names may not include symbols or numbers.

III. The legal name will continue to appear in university-related systems, business processes, and documents for reporting, for financial aid, on transcripts, for payroll and tax documents, and other records where use of legal first name is required by law or University policy.

a. The University will make every attempt possible to use a student's chosen name.

A. Legal name must appear on/in the following places:

1. Official Transcripts
2. Enrollment verification forms
3. International systems and documents
4. Financial Aid systems and documents
5. Tuition/fees, billing and refund systems and documents
6. Human Resource, Employment Records
7. State and Federal Reporting

B. In addition, the legal name will appear in most external-facing University documents, publications and communications. There are several exceptions to this policy:

1. List of candidates for degree conferral; for publication on university websites, in the Commencement program, senior and honors events, and the graduation list (student may have the chosen first and middle name appear as opposed to legal first and middle name);
2. The University-issued diploma (student may have the chosen first and middle name printed on the diploma by contacting the Registrar's Office at the time to apply for graduation);
3. Most athletic promotional materials such as event programs, announcements during competition, and press releases;
4. University marketing materials where a student has consented to have their name identified.

IV. The chosen name will appear in university systems including but not limited to the following, where use of legal name is NOT required by law or University policy.

A. Chosen first and middle name may appear in the following places:

1. Student Portal (including class rosters)
2. Enterprise Information Systems (EIS)
3. Student Learning Management System
4. Degree Audits
5. Student Evaluations
6. Case Management Systems
7. Student ID Card
8. Dining
9. Library
10. Computer Labs
11. Housing
12. Student email address- Eagle Alert
13. Thesis/Dissertations Initial Submission

Master's degree requirements

Application for admission

Applications must be submitted online at unt2025.liaisoncas.com*. Application is made through the Toulouse Graduate School. Most master's degree programs require supplemental application materials. Contact the academic unit for additional information on supplemental materials and deadlines.*

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 stated in the approved degree plan and can be based on either the *Graduate Catalog* currently in force at the time the student first matriculates or subsequent Graduate Catalog under which the student enrolled.

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.

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	5 years
43 to 49	6 years
50 or more	7 years

Time limits are strictly enforced unless a request for an extension of time to include those courses is submitted with all necessary department and college support. 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 on or before the last semester of 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 tgs.unt.edu/new-current-students/request-extension-time-complete-degree.html.

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 school 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 degree who wish to discontinue work toward the degree for a specified period of time due to exigent circumstances. If approved, the leave of absence may "stop the clock" on the time limit for the degree of master's for a maximum of three terms (excluding summer). In the case of extenuating circumstances, a second leave of absence may be requested and may be approved by the Associate Dean of the Toulouse Graduate School on the recommendation from the student's committee, graduate coordinator, department chair, and the college academic associate dean. If the student has begun their thesis 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 department, program, school or college, a student who holds a bachelor's degree and who has been admitted to the Toulouse Graduate School at UNT may apply to a master's degree. This section applies only to graduate credit not used for a degree. Subsequent sections note use of credit for concurrent and conferred degrees.

Credits earned for graduate study at other universities (both domestic and international) may be applied toward an advanced degree. Typically, semester credit hours associated with graduate courses for which grades of B or better were earned are eligible for transfer. Any additional conditions under which credit transfers may be made are determined by the departments/programs. For courses to count toward a master's program at UNT, they must have been taken from an accredited degree-granting institution.

Students who complete graduate work at another institution to be applied towards a UNT graduate degree must furnish a complete official transcript of transfer work to the Graduate School. No commitment can be made by UNT concerning the applicability of such work until official records have been received and evaluated. Due to the time required for receipt and evaluation of transcripts, students who are completing their last course(s) elsewhere may not graduate during the same semester but may be processed for the next graduation term.

In accordance with the rules of the Texas Higher Education Coordinating Board, at least one-third of the semester credit hours required for any graduate degree must be completed in course work at UNT. The graduate program committee is responsible for compliance with program accreditation requirements. For any transfer credit to count toward a master's degree, the courses transferred must have been taken within the time limit established by the Toulouse Graduate School.

The number of hours accepted by transfer from an institution within the UNT System or an accredited university is determined by a student's department and/or program.

Requirements for concurrent degrees

The maximum number of semester credit hours that are usable from one concurrent master's degree to another concurrent master's degree, is 12 hours. The maximum number of semester credit hours that are usable from a concurrent master's degree to a doctoral degree is 6 hours. A graduate student may be allowed to complete a concurrent doctoral degree with a minimum of 42 additional semester credit 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.

Use of semester credit hours from conferred degrees

Students in any graduate program may request to use a limited number of credits from a conferred degree toward the requirements of a second degree. Credits may never be used for three or more degrees; if a student seeks a third-degree, it must stand alone. A degree may overlap with only one other degree for the purpose of using credits from a previously conferred degree. This only applies to graduate-level credits earned for a graduate-level degree.

Students pursuing a second master's degree have the option to use credits where the courses meet specific requirements in a degree. In all cases the program faculty must review the courses and make a decision about the appropriateness to their program. In general, the maximum number of hours that are usable from a previously conferred master's degree is determined as follows:

- up to 6 semester hours in a 30- to 35-hour program,
- up to 9 semester hours in a 36- to 59-hour program,
- up to 12 semester hours in a program of 60 hours or more.

For any transfer credit to count toward a degree, the courses transferred must have been taken within the time limit established by the Toulouse Graduate School. The number of credits from a conferred degree counted will have to be determined on a program-by-program basis dependent upon the number of credits in the

program. Departments and programs may limit the counting of previously conferred semester credit hours below the maximum but may not allow counting above the limit. Some programs may not allow counting of previously conferred degree credit hours.

For a student who wants to use conferred doctoral credits toward a master's degree in another program, the department/program granting the master's degree will decide how many credits, up to a maximum of 6, may apply toward the master's degree.

Graduate academic certificates transfer credit:

Subject to the approval of the department, program, school or college, a student who is enrolled in a graduate academic certificate and who has been admitted to the Toulouse Graduate School at UNT may apply to a graduate degree.

Credits from graduate certificates leading to a master's degree must have been taken within the time limit established by the Toulouse Graduate School.

At the discretion of the department/program stackable certificates may be applied towards a master's degree. Students are encouraged to apply for and be admitted to a master's program as early as possible.

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 Dean of the Toulouse Graduate School, 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 school.

Courses listed on the degree plan must carry letter grades, except 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 major desired for information concerning undergraduate preparation requirements.

A minor is defined as graduate work completed outside of the student's major. 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.

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. Two committee members must come from the student's department.

   If a student is advised by a faculty member from outside of the department offering the degree, that faculty member can only be a co-chair after receiving permission from the department. The thesis examination committee will then require a co-chair who is a faculty member of the department offering the degree.
3. In cases in which the academic unit has specified particular departmental or college procedures for thesis committee members, the student will follow these procedures as long as these are consistent with this policy. In some cases in which an interdisciplinary studies program is not housed under a specific department, the interdisciplinary studies program will coordinate the selection of committee members with involved departments and the Toulouse Graduate School.

   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 Dean of the Toulouse Graduate School 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.

4. 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 satisfactory progress of enrollment until the thesis is filed with the graduate school, 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 Graduation Office and finally approved by the Dean of the Toulouse Graduate School. See the online academic calendar at tgs.unt.edu/new-current-students/graduation-information for the deadline for submitting a thesis in any given term/semester. Detailed instructions for submission of the thesis are available from the Toulouse Graduate School.

5. 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

For guidance on formatting requirements see tgs.unt.edu/new-current-students/thesis-manual.html.

Openness of theses and dissertations

The University of North Texas, as a member of the Council of Graduate Schools (CGS), endorses the fundamental tenet 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 Innovation 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 Innovation requests an additional limited period of time for the utility patent.
4. Students may place a 6-month, 1-year, 2-year, or 5-year embargo on their electronic thesis or dissertation (ETD). To allow students to receive informed guidance from their faculty advisors, embargo choice must be approved by the major professor at the time the ETD is filed with the Graduate School. An embargo prevents any and all users from viewing or downloading the ETD PDF, for the duration of the selected embargo period; however, the abstract and library catalog entry are available to all users throughout the entire embargo period. Embargo period begins on the 1st day of month following the graduation month and expires on the last day of the month at the end of the embargo period. Students have the option of adding a period of restricted access at the end of the embargo period, lasting 5 years. Faculty approval is not required for extension requests. During the restricted access period, the ETD is available to the UNT community only (i.e., users with a valid UNT login). Distribution via interlibrary loans is not permitted; however, the abstract and library catalog entry continues to be available to all users. Students will need to notify Toulouse Graduate School (email acceptable) within 30 days prior to the expiration of the embargo, if optional restriction is desired.

[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. The structure and form of the comprehensive final examination is determined by the student's major department or school, and can take a variety of different forms, including, but not limited to, a capstone experience, written exam, oral exam, recital, portfolio, or exhibition. 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 in accordance with the graduation deadlines.

No thesis credit will be recorded until the thesis has been approved by the student's advisory committee, submitted and approved by the Dean of the Toulouse Graduate School.

Continuous enrollment

The University of North Texas requires that graduate students enrolled in programs with a thesis or dissertation requirement maintain continuous enrollment in a minimum of three credit hours of thesis or dissertation during each long semester until the thesis or dissertation has been formally approved, with a possible one-time exception, as described below. The ability to provide access to faculty time, student services, research support, and financial aid eligibility is made possible by a graduate student's official registration and continuous enrollment. Master's students must maintain continuous enrollment subsequent to completing required coursework and passing any qualifying examination(s) for admission to candidacy.

A graduate student must maintain continuous enrollment in a minimum of three credit hours of thesis or dissertation during each long semester after successful completion of required coursework and/or qualifying exams until the Toulouse Graduate School has approved the thesis.

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

Students who successfully defend and submit their final thesis after the current semester deadline promulgated by the Toulouse Graduate School, but by the last day of the term (per the Academic Calendar), are eligible to graduate the following semester without enrolling in thesis/dissertation hours.

Once a graduate student begins enrollment in thesis or dissertation hours, the Toulouse Graduate School will send a written reminder of this policy to the student and the student's major professor each long semester until the Toulouse Graduate School has approved the thesis.

In the event of an unexpected delay or complication with the thesis or dissertation, a graduate student who has completed all other degree requirements, except for the thesis, may petition for a one-time exception to this policy.

If the student's petition is approved by the student's major professor, department, and the Toulouse Graduate School, the student may enroll for only one (1) credit hour of independent study in lieu of thesis, instead of the usual three (3), during that one (1) exceptional term.

The graduate student's major professor and department will act on such a petition within ten (10) working days and the Toulouse Graduate School will act on a petition approved at the department level within thirty (30) working days.

The Toulouse Graduate School is expected to approve such petitions with assurances from the major professor and the department that the student is expected to complete the degree program during the exceptional term.

Failure to maintain continuous enrollment may invalidate any previous thesis credits or may result in the student being dropped from the degree program, unless the student is granted an official leave of absence for medical or other exceptional reasons by the Toulouse Graduate School. See Policy 06.042.

Milestones for the master's student

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 of Toulouse Graduate School	Department Chair and Dean of Toulouse Graduate School	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.	Department Chair and Graduate Advisor	Graduate Advisor	Before first semester registration.
4. Establish advisory committee; prepare proposed degree program.	Graduate Advisor and Department Chair	Major Professor, Department Chair and Dean of Toulouse Graduate School	During the first semester when planning classes for second semester.
5. Submit degree plan to the Graduate School for approval.	Advisory Committee, Major Professor, Graduate Advisor and Student	Dean of Toulouse Graduate School	By the end of the second semester.
6. Check Graduating Graduate Student web site. http://studentaffairs.unt.edu/orientation-and-transition-programs/graduating-year-expereience/graduate-student	Orientation and Transition Programs		The beginning of your final year.
7. File graduate application to continue graduate study, if the student so plans.	Dean of Toulouse Graduate School	Department Chair and Dean of Toulouse Graduate School	During your final year
8. If thesis is required, determine procedure.	Advisor Committee	Dean of Toulouse Graduate School	Per departmental requirements.
9. Apply for graduation.	Dean of Toulouse Graduate School	Dean of Toulouse Graduate School	When registering for final semester. See graduate deadline at tgs.unt.edu/new-current-students/graduation-information.
10. Check to be sure degree plan and Advisory Committee are up to date and all course work is complete.	Student		Before final semester or comprehensive examination. Follow regular procedures for changes.
11. Schedule and complete final comprehensive examination or schedule final defense of thesis.	Advisory Committee		Follow deadlines at tgs.unt.edu/new-current-students/graduation-information.
12. Submit final defended copy of thesis.	Advisory Committee and Dean of Toulouse Graduate School	Dean of Toulouse Graduate School	By deadline date in academic calendar at tgs.unt.edu/new-current-students/graduation-information.
13. 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 unt2025.liaisoncas.com*. Most doctoral programs require supplemental application materials. Contact the academic program for additional information on supplemental materials and deadlines.*

General requirements

The candidate must earn a minimum number of hours of graduate credit beyond the master's degree or hours beyond the bachelor's degree as specified by the degree program. These minimum graduate credit hours as developed by the program's graduate faculty and approved by graduate council will vary by discipline as required to achieve a level of research expertise that is competitive for graduates from the program.

Program quantitative requirements must be regarded as a minimum. The quantity of coursework to be completed by each candidate is arranged individually by the supervisory committee, subject to the approval of the graduate school, 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. 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 for certain graduate degrees. Consult subsequent sections of this publication for specific regulations governing the degree sought.

Residence requirement

Every doctoral degree candidate must complete the residence requirement at UNT. The residence requirement in a doctoral program is to ensure the educational immersion of students in a research and learning environment with faculty, peers and staff. This involvement can take place in forms other than those of a student being physically on campus. Programs are allowed to set the residence requirements that best fit their program. Students are expected to consult with their departments regarding specific residence requirements for their degree.

Level of work required

All courses required for the doctorate above the level of the master's degree must be numbered 5000 or above. The number of hours permitted to be counted towards the doctorate from the master's degree is limited.

Time limitation

All work to be credited toward the doctoral degree beyond the master's degree must be completed within 8 years from the date doctoral credit is first earned. Course credit beyond the master's degree that is more than 8 years old at the time the doctoral program will be completed will not be counted toward the doctorate, unless a request for an extension of time to include those courses is submitted with all necessary department and college support.

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 *during* their *eighth* year of study. For information regarding extensions go to tgs.unt.edu/new-current-students/request-extension-time-complete-degree. 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 school 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. If approved, the leave of absence may "stop the clock" on the time limit for the degree for a maximum of three terms (excluding summer). In the case of extenuating circumstances, a second leave of absence may be requested and may be approved by the Associate Dean of the Toulouse Graduate School on the recommendation from the student's committee, graduate coordinator, department chair, and the college academic associate dean. **If the student has begun their dissertation and is under the continuous enrollment requirement, a waiver of continuous enrollment must also be requested and approved by the Toulouse Graduate School.** Degree requirements and graduation must be completed within the appropriate time limit for completion of the degree.

Transfer credit

Subject to the approval of the department, program, school or college, a student who holds a bachelor's degree and who has been admitted to the Toulouse Graduate School at UNT may apply to a doctoral degree. This section applies only to graduate credit not used for a degree. Subsequent sections note use of credit for concurrent and conferred degrees.

Credits earned for graduate study at other universities (both domestic and international) may be applied toward an advanced degree. Typically, semester credit hours associated with graduate courses for which grades of B or better were earned are eligible for transfer. Any additional conditions under which credit transfers may be made are determined by the departments/programs. For courses to count toward a doctoral program at UNT, they must have been taken from an accredited degree-granting institution.

Advanced study may be accepted and credited toward the doctorate, provided the candidate's advisory committee and/or department recommends acceptance of transfer credit to the graduate school. 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.

In accordance with the rules of the Texas Higher Education Coordinating Board, at least one-third of the semester credit hours required for any graduate degree must be completed in course work at UNT. The graduate program committee is responsible for compliance with program accreditation requirements. For any transfer credit to count toward a doctoral degree, the courses transferred must have been taken within the time limit established by the Toulouse Graduate School.

The number of semester credit hours accepted by transfer from an institution within the UNT System or an accredited university is determined by a student's department and/or program.

Students who complete graduate work at another institution to be applied towards a UNT graduate degree must furnish a complete official transcript of transfer work to the Graduate School. No commitment can be made by UNT concerning the applicability of such work until official records have been received and evaluated.

Due to the time required for receipt and evaluation of transcripts, students who are completing their last course(s) elsewhere may not graduate during the same semester but may be processed for the next graduation term.

Requirements for the concurrent degree

Subject to the approval of the Dean of the Toulouse Graduate School and the department, division, school or college concerned, a graduate student may be allowed to complete a concurrent doctoral degree with a minimum of 36 additional semester credit 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.

The maximum number of semester credit hours that are usable from a concurrent master's degree is 6 hours. A graduate student may be allowed to complete a concurrent doctoral degree with a minimum of 36 additional semester credit hours.

The 36-hour minimum 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.

Transfer credit for conferred semester credit hours

Students in any graduate program may request the use of a limited number of credits from a conferred degree toward the requirements of a second degree. Credits may never be used for three or more degrees; if a student seeks a third degree, it must stand alone. A degree may overlap with only one other degree for the purpose of using credits from a previously conferred degree. This only applies to graduate level credits earned for a graduate level degree.

The maximum number of semester credit hours that are usable from a previously conferred master's degree is 6 hours.

Students pursuing two overlapping degrees have the option to use credits from a prior degree, where the courses meet specific requirements in a degree such as a minor or specific tool requirement. In all cases, the program faculty must review the courses and make a decision about the appropriateness to their program.

For any transfer credit to count toward a degree, the courses transferred must have been taken within the time limit established by the Toulouse Graduate School. The number of credits counted from a conferred degree will have to be determined on a program-by-program basis dependent upon the number of credit hours in the program. Departments and programs may limit the counting of previously conferred semester credit hours below the maximum but may not allow counting above the limit. Some programs may not allow counting of previously conferred degree semester credit hours.

For a doctoral student who wants to use their doctoral credits toward a master's degree in another program, the department/program granting the master's will decide how many credits may apply toward the master's degree as long as they are within the limits allowed for as described above. Departments must include documentation for approved transfer courses, stating what course(s) the transfer work is substituting, and the reasons for allowing the substitution.

Graduate academic certificates transfer credit

Subject to the approval of the department, program, school or college, a student who is enrolled in a graduate academic certificate and who has been admitted to the Toulouse Graduate School at UNT may apply to a graduate degree.

Credits from graduate certificates leading to a doctoral degree must have been taken within the time limit established by the Toulouse Graduate School.

At the discretion of the department/program, stackable certificates may be applied towards a doctoral degree. Students are encouraged to apply for and be admitted to a doctoral program as early as possible.

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 2025-2026 Academic calendar.
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.
3. 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.
4. 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 or by working with their academic department to obtain evidence of proficiency that is relevant to the discipline. If the academic department establishes proficiency, a letter documenting the process and stating the proficiency should be sent to the graduate school for the student's file.

Tool subject requirements are designated at the academic program level. Students must check with their program advisor for courses that satisfy the tool subject requirement.

Candidates for graduate degrees to be awarded at the close of any summer session/term must have satisfied the foreign language or tool subject 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 or tool subject requirements prior to the last day for filing dissertation in the graduate school. Consult tgs.unt.edu for deadlines.

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 school at an early point in the student's progress toward the degree, preferably soon after the second 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 school.

Specific graduate degree requirements are stated in the approved degree plan and can be based on either the *Graduate Catalog* currently in force at the time the student first matriculates or subsequent *Graduate Catalog* under which the student enrolled.

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 graduate school.

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 school upon successful completion of the qualifying examination and other requirements. The department should notify the Office of the Dean of the Toulouse Graduate School when a student passes the qualifying examination and is admitted to candidacy.

Dissertation requirement

Continuous enrollment

The University of North Texas requires that graduate students enrolled in programs with a dissertation requirement maintain continuous enrollment in a minimum of three credit hours of thesis or dissertation during each long semester until the dissertation has been formally approved, with a possible one-time exception, as described below. The ability to provide access to faculty time, student services, research support, and financial aid eligibility is made possible by a graduate student's official registration and continuous enrollment. Doctoral students must maintain continuous enrollment subsequent to completing required coursework and passing any qualifying examination(s) for admission to candidacy.

A graduate student must maintain continuous enrollment in a minimum of three credit hours of thesis or dissertation during each long semester after successful completion of required coursework and/or qualifying exams until the Toulouse Graduate School has approved the dissertation.

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

Students who successfully defend and submit their final dissertation after the current semester deadline promulgated by the Toulouse Graduate School, but by the last day of the term (per the Academic Calendar), are eligible to graduate the following semester without enrolling in thesis/dissertation hours.

Once a graduate student begins enrollment in dissertation hours, the Toulouse Graduate School will send a written reminder of this policy to the student and the student's major professor each long semester until the Toulouse Graduate School has approved the dissertation.

In the event of an unexpected delay or complication with the dissertation, a graduate student who has completed all other degree requirements, except for the dissertation, may petition for a one-time exception to this policy.

If the student's petition is approved by the student's major professor, department, and the Toulouse Graduate School, the student may enroll for only one (1) credit hour of independent study in lieu of dissertation, instead of the usual three (3), during that one (1) exceptional term.

The graduate student's major professor and department will act on such a petition within ten (10) working days and the Toulouse Graduate School will act on a petition approved at the department level within thirty (30) working days.

The Toulouse Graduate School is expected to approve such petitions with assurances from the major professor and the department that the student is expected to complete the degree program during the exceptional term.

Failure to maintain continuous enrollment may invalidate any previous dissertation credits or may result in the student being dropped from the degree program, unless the student is granted an official leave of absence for medical or other exceptional reasons by the Toulouse Graduate School. See Policy 06.042.

Composition of the dissertation examination committee

A dissertation committee is composed of graduate faculty with the expertise needed to support the research goals of the student. Dissertation committee members serve in a mentoring capacity, offering constructive feedback on research and the written and oral presentation of that research. Within the program's guidelines and upon collaboration with faculty, a dissertation committee is established that creates a balanced academic experience that exceeds the needs of the student. The University of North Texas and the Toulouse Graduate School rely upon committee members to oversee all aspects of a student's dissertation/thesis research. The committee is responsible for ensuring that the student complies with all the policies and regulations of their program, college, and the university. 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 the specified procedures provided they do not conflict with this policy. In cases in which an interdisciplinary program is not housed under a specific discipline, the interdisciplinary program will coordinate the selection of committee members with involved disciplines and the Toulouse Graduate School.

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 graduate faculty membership. The Graduate Faculty is composed of Full Members and Associate Members. 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. 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 to the Toulouse Graduate School. Associate members typically cannot chair a thesis or dissertation committee. With the approval of the department, associate members who have a terminal degree may serve as co-chairs of master's and doctoral committees in partnership with a full member of the graduate faculty. Exceptions may be permitted in limited circumstances for associate members with a terminal degree to serve as chair, at the request of the department and with the approval of the graduate school. The majority of committee members must hold regular UNT faculty status.

Format

For guidance on formatting requirements, see tgs.unt.edu/new-current-students/thesis-manual.html.

Openness of theses and dissertations

The University of North Texas, as a member of the Council of Graduate Schools (CGS), endorses the fundamental tenet 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 Innovation 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 Innovation requests an additional limited period of time for the utility patent.
4. Students may place a 6-month, 1-year, 2-year, or 5-year embargo on their electronic thesis or dissertation (ETD). To allow students to receive informed guidance from their faculty advisors, embargo choice must be approved by the major professor at the time the ETD is filed with the Graduate School. An embargo prevents any and all users from viewing or downloading the ETD PDF, for the duration of the selected embargo period; however, the abstract and library catalog entry are available to all users throughout the entire embargo period. Embargo period begins on the 1st day of month following the graduation month and expires on the last day of the month at the end of the embargo period. Students have the option of adding a period of restricted access at the end of the embargo period, lasting 5 years. Faculty approval is not required for extension requests. During the restricted access period, the ETD is available to the UNT community only (i.e., users with a valid UNT login). Distribution via interlibrary loans is not permitted; however, the abstract and library catalog entry continues to be available to all users. Students will need to notify Toulouse Graduate School (email acceptable) within 30 days prior to the expiration of the embargo, if optional restriction is desired.

[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 in accordance with graduation deadlines.

No dissertation credit will be recorded until the dissertation has been approved by the student's advisory committee, submitted and approved by the Dean of the Toulouse Graduate School.

Requirements for the second doctorate

Applicants who hold an earned doctorate from an institution with Texas Higher Education Coordinating Board recognized accreditation or an equivalent credential from a foreign 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.

Milestones for the doctoral student

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 of Toulouse Graduate School	Department Chair and Dean of Toulouse Graduate School	At least six weeks prior to registration (7 to 8 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.	Department Chair and Graduate Advisor	Graduate Advisor	Before first semester registration.
4. Establish advisory committee; prepare proposed degree plan.	Graduate Advisor and Department Chair	Major Professor, Department Chair and Dean of Toulouse Graduate School	During first semester when planning classes for second semester.
5. Submit degree plan to the Graduate School for approval.	Advisory Committee, Major Professor, Graduate Advisor and Student	Dean of Toulouse Graduate School	By the end of third semester.
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.	Major Professor		Per departmental requirements.
8. Submit form to add university member to doctoral committee.	Major Professor	Dean of Toulouse Graduate School	Well in advance of dissertation proposal presentation.
9. Submit proposal for dissertation.	Major Professor and Advisory Committee		Well in advance of expected graduation semester.
10. Prepare dissertation.	Advisory Committee		Per departmental requirements.
11. Check Graduating Graduate Student website http://studentaffairs.unt.edu/orientation-and-transition-programs/graduating-year-experience/graduate-student.	Orientation and Transition Programs		The beginning of your final year.
12. Apply to graduate.	Student	Dean of Toulouse Graduate School	When registering for final semester. (See deadline at tgs.unt.edu/new-current-students/graduation-information).
13. Schedule final defense of dissertation.	Advisory Committee	Dean of Toulouse Graduate School	No later than 4 to 5 weeks prior to filing deadline. Notify graduate school of date and time.
14. Submit final defended copy of dissertation.	Advisory Committee and Dean of Toulouse Graduate School	Dean of Toulouse Graduate School	See deadline at tgs.unt.edu/new-current-students/graduation-information.
15. Arrange for cap and gown at University Bookstore.			By deadline date for placing order.

Enrollment

Student load

Fall/spring

Graduate students may, in general, 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. See "Continuous enrollment" in this catalog and policy 06.042 for instances in which the semester hours considered to be a full load may be reduced.

Graduate students may schedule a maximum of 9 hours in an eight-week session (8W1 or 8W2). For 3W1 (three-week one) the normal load for full-time students is 3 hours. Graduate students may schedule a maximum of 4 hours in 3W1 session.

Individual graduate programs may have the option to set lower maximum credit hour enrollment limits.

Graduate students enrolled only in undergraduate courses, for undergraduate credit, may request special consideration by the graduate school.

Note: Special restrictions apply to the load permitted to graduate teaching fellows, teaching assistants, research assistants, and graduate services 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 school 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 3.0 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 the 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 school.

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 "Financial information" 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. Doctoral and master's students enrolled in 3 or more hours of dissertation or thesis (courses numbered 5950/6950/6954) are considered full time. See "Continuous enrollment" in this catalog and policy 06.042 for instances in which the semester hours considered to be a full load may be further reduced. Students who receive Veteran's benefits should work with the Veteran Benefits office (940-369-8021) to ensure benefits are applied correctly.

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 (Marquis Hall, first floor) to issue letters of enrollment for the use of foreign governments, embassies, scholarship agencies and banks.

Verification of enrollment/enrollment certificate

UNT student enrollment verifications are supplied by the National Student Clearinghouse (NSC). Third parties such as health care companies, prospective employers, or insurance agencies seeking verification of enrollment may contact the NSC online by going to https://secure.studentclearinghouse.org/vs/Index.

Student enrollment verification self-service

Current and former UNT students may request their own enrollment verification/certification through a direct link in MyUNT. Enrollment verification certificates printed via the National Student Clearinghouse (NSC) should be accepted as official and can be used for insurance companies, scholarships, military IDs, employment and all other services that require proof of enrollment at the University of North Texas. For more information, please see the Enrollment Verification/Certification page of the Registrar's web site.

Auditing

Admitted students may elect to audit a course for no academic credit.

- Students elect to audit a course in consultation with their academic advisor. Election must occur by the census date for the term/session. Once the election is made a change cannot be made after the census date.
- If the course enrollment reaches the maximum capacity, students will not be allowed to audit the course.
- Auditors cannot claim credit based on attendance or petition to change the course to academic credit after census for that term.
- Auditors will be included on the class roll; however, the instructor will not require or accept any papers, tests, or examinations.
- Auditors pay a fee per semester, regardless of the number of courses audited. Tuition and fee information is available online at studentaccounting.unt.edu.
- Auditing a credit-bearing course does not change the status of the course from being an academic credit course to a noncredit credit course.
- Auditors are expected to abide by all class policies and procedures including regular and timely attendance.
- A grade of AU is assigned to students and will appear on their academic transcript.
- 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. (Texas Education Code, Subchapter 54, Section 54.210 as added in 1975)

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 registrar.unt.edu and at my.unt.edu.

Late registration

Students who did not enroll during the official registration periods must pay an additional fee to enroll late. Refer to Academic Calendars at registrar.unt.edu for additional information.

Concurrent enrollment at another institution

Graduate students must secure written permission from their academic program **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 East Texas A&M University 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, East Texas A&M University 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. The Federation representative will register students in the desired ETAMU 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 "Special Problems" and the course topic will be identical to that of the course being offered by the other institution. Class schedules for both TAMU–C and TWU may be searched on their perspective university's web site.

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 may enroll for graduate (or upper division undergraduate) courses offered by UNT at the Universities Center at Dallas (UCD), a Multi-Institutional Teaching Center (MITC) located at 1901 Main St. in downtown Dallas. The University of North Texas and the University of North Texas-Dallas cooperate in offering upper-division undergraduate courses and graduate courses at UCD. For more information, call 214-752-5533.

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/infoprospective, or call the UNT Office of Admissions at 940-565-2681.

UNT Health Fort Worth

The University of North Texas Health Science Center at Fort Worth (UNT Health Fort Worth) is located in the heart of the Fort Worth Cultural District. HSC trains the health care providers, public health workforce and scientists of the future in an interprofessional ecosystem. In UNT Health's six colleges, students learn to work in teams and to develop an innovative mindset that prepares them for a rapidly changing health landscape. HSC Health, the clinical enterprise of the Health Science Center, provides patient-centered care to people across Tarrant County. HSC's research enterprise provides a foundation to expand the frontiers of scientific discovery to improve health and well-being.

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 admission'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 with UNT courses.

Schedule changes

Adding courses

Graduate students must initiate all requests for adding courses in their academic department after online registration ends. 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 8 week and summer sessions may do so at my.unt.edu. Students applying for financial aid are required to notify Financial Aid and Scholarships before dropping any class to learn how it will affect current or future financial aid eligibility.

Students who drop a course between the 12th day of class and the designated day of a given semester's 10th week for fall or spring terms/semesters or the equivalent dates for 8 week and summer sessions, will receive a grade of W.

If a student fails to drop a course, even if the student does not attend the course, a grade of F will be recorded.

Faculty and staff will not drop a student from a course automatically for nonattendance; the student must initiate the process and complete the necessary steps to ensure the class is dropped.

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

See the online Registration Guides at registrar.unt.edu 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 part of the grade, the instructor should inform students at the semester's beginning by a written notice. 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.

Authorized absences

Absences will be approved by the university for:

- Religious holy days, including travel for that purpose;

- Participation in an official university function;
- Required military service, including travel for that purpose;
- Pregnancy and parenting under Title IX.

Absences due to participation in an official university function must be approved in advance by the Dean of Students Office. Athletic team member absences must be approved by the athletic director or designee. Excused students will be permitted to make up missed work when practicable or will be given special consideration so they are not penalized for their absence. The academic dean/ athletic director or designee must notify the Dean of Students' office regarding the excused absences. Within three business days of receipt of the absence notice, the Dean of Students will provide absence documentation to the student for them to present to all instructors.

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 to the Dean of Students office. 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 8 week and summer sessions by making a request in the Dean of Students Office. The grade of W is recorded for each course in which a withdrawn student was enrolled.

Official dates and deadlines for withdrawing are specified in the online academic calendar.

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

Non-Academic Administrative Withdrawal

A non-academic administrative withdrawal may be requested by students experiencing a significant and unforeseeable medical or mental health condition, or extraordinary personal circumstances such as care of a seriously ill child or spouse or the death of a student's immediate family member compromising the student's ability to effectively participate in their educational courses and or program.

The expectation is for all students to make every effort to abide by all deadlines set each semester in the Academic Calendars. Students are responsible for withdrawing from courses they do not anticipate completing and should do so before requesting a non-academic administrative withdrawal. This process is not applicable once a degree has been conferred.

After the last day to withdraw from the session or term, a student who has an urgent, substantiated, and significant nonacademic extenuating circumstance which impacts the student's academic functioning may request an administrative withdrawal. In general, a request for non-academic withdrawal must apply to all courses in which a student is enrolled. Selective course withdrawal will be permitted only under exceptional circumstances.

Documentation on the extenuating circumstance must be provided. Failure to provide documentation to support the extenuating circumstances will result in automatic denial of the request.

A petition for a non-academic withdrawal does not exempt students from their financial obligations to the University. Non-academic withdrawals are intended to provide academic relief only. Each semester, students have the option to purchase tuition insurance, which can help mitigate financial loss resulting from a non-academic withdrawal during an academic session. If a student is seeking both academic and financial relief, the student non-academic withdrawal petition and supporting documentation will be forwarded to student accounts. However, students must contact Student Accounting directly to request a financial appeal and may need to provide other necessary information. For questions or clarification about a financial account, students should work directly with Student Accounting.

If the non-academic withdrawal is approved and the effective date of the unforeseen circumstance occurred before the census date of the session or term in which the class(es) were taught, the classes will no longer appear on the student's transcript. The effective date is determined by documentation submitted by the student, and university records.

If approved and the effective date of the unforeseen circumstance occurred after the census date of the session or term in which the class(es) were taught, the classes will remain on the transcript with a grade of WA, an administrative withdrawal.

Grade points for approved non-academic administrative withdrawn classes will not be included in the UNT grade point average. For undergraduate students, the withdrawals will not count in the six-withdrawal limit calculation.

Some examples of **unacceptable reasons** for requesting a non-academic withdrawal:

- Poor performance in class not related to the extenuating circumstance
- Attempting to improve your GPA
- Grade dispute
- Failure to verify class schedule through myUNT
- Failure to monitor waitlist position
- Change of major or program that results in a course no longer being a requirement
- Failure to attend/participate in class on a regular basis
- Failure to abide by drop and withdrawal deadlines

This policy does not supersede other specific UNT policies relative to student complaints or appeals including grade appeals, academic integrity investigations, discrimination, academic policies, or the Code of Student Conduct. These processes must be completed before a petition can be considered for review.

Non-Academic Withdrawal Process

Step 1: Speak with your academic advisor and/or Dean of Students office

Academic advisors and staff in the Dean of Students office are extremely helpful resources in determining if a non-academic withdrawal is the right process for you or what other options may be available.

Step 2: Write a personal statement

The non-academic withdrawal form requires students to include a personal statement. A well-written personal statement should:

- include a rationale for why you are requesting a retroactive change to your record,
- be highly detailed,
- be chronological, and
- be well organized. Be sure to *include dates of specific events.*

Step 3: Gather supporting documentation

Applications without supporting documentation will not be approved.

Supporting documentation should:

- be relevant to the circumstances outlined in the personal statement.
- come from resources that assisted during the circumstance such as:
    - health care providers, campus resources that were utilized
    - or other forms of documentation that can help corroborate any claims made.
- Your case is based on the information you provide to the committee. Be thorough. It is important that documentation includes dates.

Step 4: Submit the online form with all supporting documentation

After speaking with an academic advisor in the student's primary college or a staff member in the Dean of Students office and verification of eligibility to petition is given, students can submit the online petition form. The student must submit the online form and attach a personal statement and all related supporting documentation. The form will be available in the student's myUNT portal the following day.

Completed petitions are reviewed twice a month. Students will be notified of the final decision through their UNT email.

Ongoing Support and Re-Enrollment

The Dean of Students Office can provide consultation services to students experiencing a significant and unforeseeable medical or mental health condition, or extraordinary personal circumstances.

Repeated Non-Academic Withdrawal

Because the grounds for an approved non-academic withdrawal are severe and outside of the student's control, the University is sensitive to students' unique needs. As timely graduation is beneficial, any student's record may be referred to the Undergraduate Associate Dean of that student's college for further review. The Associate Dean may contact the student should there be suggestions for improving the student's academic progress and timely graduation as well as to advise the student of the requirements to maintain adequate academic progress. In some circumstances, consultation with the Dean of Students' Office may be required to return to the university.

Pre-finals days

So that students can more adequately prepare for their final examinations, the University of North Texas (UNT) sets aside days preceding final examinations during which no new material may be disseminated and extracurricular and organizational activities are suspended.

During pre-finals days, no new curricular content will be disseminated; student organizations do not meet; and no extracurricular activities will be required. Any deviation from these requirements must be approved in advance by the appropriate dean or director.

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

Final examinations

Faculty members are required to administer final exams at the designated times during the exam week of each long semester and during the specified day of each summer term if a final examination for the course is required. Any deviation from the published schedule must be approved in advance by the appropriate academic dean.

Students who have more than two final examinations scheduled on one day may request to reschedule one of the examinations on another day during the final examination period.

Commencement exercises

Commencement exercises are held in December and May. 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 tuition and/or fee amounts due resulting from post audits and corrections (i.e., registration assessing errors, changing from off-campus to on-campus classes, invalid employment waivers, etc.).

For current information on tuition and fees, visit the Student Accounting website (studentaccounting.unt.edu).

Explanation of fees

(Fees are subject to change)

Visit the Student Accounting website (studentaccounting.unt.edu) for current fees.

Student service fees

Student service fees are assessed per semester credit hour 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. Prorated in Summer sessions.

Learning support fee

The Learning support fee is collected in proportion to the number of credit hours for which a student registers to defray costs associated with technology, library, academic advising, as well as university printed and electronic communications. This fee also provides critical resources which enable student success as well as enhance research and learning outcomes.

Medical services fee

The fixed medical services fee is collected from each enrolled student to operate, maintain, improve, and equip the Student Health and Wellness Center. Prorated in Summer sessions.

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. Prorated in Summer Sessions.

Recreational facility fee

A fixed recreational facility fee is collected from each enrolled student for the purpose of operating the Pohl Recreation Center. Prorated in Summer sessions.

Transportation fee

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

Master's advising fee

This fee is assessed each semester to students in the Colleges of Engineering; Health and Public Service; Merchandising, Hospitality and Tourism; Education; Information; as well as programs offered by the Toulouse Graduate School (Advanced Data Analytics, Interdisciplinary Studies, graduate non-degree seeking and graduate preparation programs).

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.

Property deposit

All students, except those enrolled in only off-campus courses or covered by other specific waivers, must pay a $10.00 General Property Deposit at the time of first registering at the university. The deposit may be forfeited to cover any outstanding financial obligation at the university. The fee will otherwise be refunded to the student upon withdrawal or graduation from the university. If the deposit has not been refunded to the student within 4 years of the last enrollment, it will be forfeited as specified by state law.

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, capped at 15 hours.

Environmental services fee

The Environmental Services Fee is used to fund environmentally related projects/activities on campus such as energy and water conservation, waste reduction and recycling, sustainable campus dining, and student projects. The fee is applied for students enrolled in courses on the Denton and/or Frisco Landing campus. The fee is waived for students taking all their courses online and are not charged in summer sessions.

Instructional fees

Instructional fees vary by course and fall into the following two fee categories. Please note that for billing purposes, these fee categories are grouped together and billed as one instructional fee.

Instructional fees will be 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 at 940-565-3225.

Academic fees

Academic Fees are assessed at the college/school level based on the estimated costs of goods and services related to instruction. Academic fees are charged to cover consumable supplies, syllabi, tests, classroom guest lecturers, 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.

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.

Admission application fee

All graduate applicants to the University of North Texas Toulouse Graduate School must pay a $75 nonrefundable admission application fee.

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 940-565-2383, 888-UNTGRAD [868-4723], Dallas–Fort Worth metro 817-267-3731, or by e-mail at gograd@unt.edu.

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. Please check for current per credit fee at studentaccounting.unt.edu/explanation-fees.

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. Please check for current per credit fee at studentaccounting.unt.edu/explanation-fees.

International Student Health Insurance fee

Health insurance is required for international students and will be assessed automatically at the time of registration for classes. For further information, please contact the UNT Student Health and Wellness Center.

Optional Practical Training fee

All F-1 international students who choose to apply for Optional Practical Training (OPT), will be required to pay the OPT Case Management Fee. This fee is separate from the USCIS application fee. This fee will be used to subsidize the costs associated with the mandatory case management for students on Optional Practical Training after graduation.

G. Brint Ryan College of Business Graduate Program Fee – Master's

G. Brint Ryan College of Business master's students are charged a Master's Program Fee. The fee is a flat $500.00 per semester. The purpose of the fee is to provide enhanced support services to G. Brint Ryan College of Business master's students.

Distance Education Fee

A distance education fee of $35 per semester credit hour will be assessed to all distance education courses to support and enhance instructional design, management, delivery, maintenance, coaching and technology for distance education courses. The fee will be capped at $315 per semester.

School of Journalism Field Trip Fee

The School of Journalism faculty led field trip of $1,345.29 is assessed to students who participate in a trip to New York to study the city's advertising industry. The fee covers lodging and limited group meals (Effective Fall 2018).

College of Information PhD Learning Technology online distance delivered students

This program is a cohort-based program consisting of up to seven semesters (including summer). The purpose of the fee is to provide enhanced support services.

Executive MS in Computer Science – New College at Frisco

Students enrolled in the Executive MS in Computer Science at the New College at Frisco are charged a program fee of $523.00 per semester credit hour. The purpose of the fee is to provide specialized program costs and support services for the Executive Master's students at the Frisco Campus. (Effective Fall 2017)

Out-Of-State-Teaching Fee (OSTF)

Non-resident students living outside of Texas while taking UNT courses (typically online) are charged an Out-of-State Teaching Fee in lieu of tuition and instructional fees. This fee must cover the cost of instruction and is set by each academic department annually. The OSTF rates (per semester credit hour) can be found at studentaccounting.unt.edu/explanation-fees.

** The following fees are waived if students are only enrolled in courses at locations other than the Denton or Discovery Park campus: Property Deposit, Medical Service Fee, Student Union Fee, Recreational Facility Fee, Transportation Fee, Environmental Services Fee and Intercollegiate Athletics Fee.*

Option to pay tuition by payment plan

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, spring, and summer 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 payment 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.

Non-refundable fees for tuition by installment

Administrative fee: $35.00

A $35.00 non-refundable administrative fee will be charged each semester the payment plan is selected. Students who choose the payment plan option recognize they are in a contractual relationship and accept the terms of the payment plan contract.

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

See Student Accounting at studentaccounting.unt.edu for payment plan information.

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. Credit and debit card payments are assessed an additional 2.79% service fee to cover the processing cost for the payment. Electronic checks are accepted with no additional fee.

Tuition and fee payments also may be made by personal check, money order, cashier's check or cash at the Student Accounting office in the Eagle Student Services Center. Student Accounting requires the student identification number to be recorded on all check and money order payments made in person.

Account balances and schedule information may be obtained through self-service at my.unt.edu.

Cash payments

Cash payments are accepted at Student Accounting 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 studentaccounting.unt.edu.

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 studentaccounting.unt.edu.

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 www.collegeforalltexans.com.

In general, students must physically reside in Texas for the 12-month period before 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/Exemptions" below for further information.

Responsibility of the student

The student is responsible for knowing residence status and for providing accurate residency information to the Office of the Registrar. 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 incorrectly 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 the student applies for reclassification as a resident 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 address must notify the Registrar of such change immediately. Students who believe they have been erroneously classified have the opportunity for appeal to the office that classified the residency: The Office of Admissions or the Office of the Registrar.

Tuition and fee waivers/exemptions

Several exemptions and waivers are available to qualifying students who meet the specific state requirements for each individual waiver or exemption. 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 or at studentaccounting.unt.edu. **Posted waivers/exemptions are subject to post audit and correction.**

Information on tuition waivers and exemptions for qualified veterans are available online at studentaccounting.unt.edu/va-education-benefits.html and studentaccounting.unt.edu/military-tuition-assistance.html or at Student Veteran Services, Sage Hall, Suite 236.

Exemptions and waivers

For a complete list, please see studentaccounting.unt.edu/waivers-and-exemptions.

Tuition and fee adjustments

A student who drops a course or withdraws from the university within certain time periods may be entitled to a partial tuition adjustment. These adjustments are calculated according to the category (drop or withdrawal) and time schedule listed at. Tuition adjustment 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 adjustments will be made.

Class drop tuition adjustments

Tuition adjustments are made for any course dropped through the 12th class day for the long term/semester; corresponding dates are set for 8 week and summer terms/sessions. See the 2025-2026 Academic calendar 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 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 proration of tuition and fees and are mandated Texas Education Code 54.006. Prorated withdrawals from the term or session are calculated based on the first day of class up to the date of the withdrawal.

Additional information may be found online at studentaccounting.unt.edu or by contacting Student Accounting.

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 Financial Aid and Scholarships regarding pro-rata refund schedules and percentages.

Schedule of withdrawal refunds

Please see: studentaccounting.unt.edu.

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 deposit

Each student who enrolls pays a property damage deposit that is refundable upon final withdrawal or graduation provided that money is not owed to the university.

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.

Room and board charges are assessed on the Student Accounting bill and available through self-service at my.unt.edu. All charges are deducted from any financial aid payments before refunds are issued.

General financial policies

As a public institution within the State of Texas, UNT is subject to state laws and regulations regarding the assessment and collection of tuition and fees. Extension of credit is prohibited and all financial obligations to the university must be paid by the established due dates.

UNT will not withhold a transcript if a student has a past-due balance on their student account and has received a Title IV federal student financial aid disbursement during their career at UNT. Examples of Title IV aid may include federal grants (examples: Pell, SEOG, TEACH) and federal loans. UNT has implemented these actions to comply with regulations published by the U.S. Department of Education related to withholding official transcripts for students who have outstanding financial obligations to the university. Past-due balances will remain in effect until they are paid in full or otherwise resolved. For more information regarding resolution of past-due balances, visit studentaccounting.unt.edu.

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 sent to the student 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 once the returned payment and returned payment fee is charged to the student account. Only cash, cashier's check or money order is accepted for payment of the returned check and service charge ($25 per check).

Refund issuing and online payment options 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 will be 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 may 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.

Hazlewood Act for Texas Veterans

Information on tuition exemptions and other veterans educational benefits is available online at studentaccounting.unt.edu.

Financial assistance

Financial Aid & Scholarships (FAS) at the University of North Texas offers a variety of options to assist students in financing their education. For more information on Financial Aid & Scholarships at UNT, please visit *financialaid.unt.edu*, visit the UNT One Stop on the 2nd floor of the Eagle Student Services Center, call 940-565-2302, or contact us via ScrappySays.unt.edu.

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.

See tgs.unt.edu/future-students/funding.

Tuition Benefit Program for graduate assistants

UNT will pay some, or all, of the tuition for certain graduate students. Recipients must be newly admitted or continuing UNT graduate students pursuing a master's or doctorate program. Additionally, recipients must be awarded competitively a half-time salaried assistantship position as a TA/TF, RA, or GSA, and must be in academic good standing with the academic program as well as the Toulouse Graduate School. All tuition decisions must comply with UNT Policy 1.3.7 Nondiscrimination/Equal Opportunity, Affirmative Action, and Non-Retaliation.

Aid application period and priority dates

The Free Application for Federal Student Aid (FAFSA) is available each October 1 for the upcoming UNT academic year (fall, spring, summer). Students whose financial aid application is completed by the applicable priority date are ensured first consideration for awards. A complete financial aid application means the university has received the results of your FAFSA and any additional documents requested by Financial Aid & Scholarships (FAS). Students are encouraged to apply online at www.fafsa.gov at least two weeks before the priority dates to ensure students have had time to provide any additional information requested.

UNT's Priority Dates:

Financial Aid priority dates are posted annually on the Financial Aid & Scholarships website.

A separate UNT summer aid interest form must be completed for summer financial aid. This form 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 federal aid eligibility requirements

Before any federal aid is offered, general eligibility and program requirements must be met. To be eligible for federal financial aid students must:

- establish eligibility by completing and submitting the Free Application for Federal Student Aid (FAFSA);
- be a U.S. citizen or eligible noncitizen;
- have a valid Social Security Number (unless you are from the Republic of the Marshall Islands, Federated States of Micronesia, or the Republic of Palau);
- have a high school diploma, GED (general equivalency diploma), or the equivalent;
- be accepted as a regular student for admission by the university and enrolled in a degree or certification program;
- not be in default on any federal loan or owe a refund or repayment of educational funds received at any institution;
- as a graduate student, enroll in and maintain at least a half-time class load;
- be making Satisfactory Academic Progress (SAP);
- use all funds received through financial aid for educational purposes.

Note: Visiting/transient 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 programs.

Doctoral and master's students enrolled in 3 or more hours of dissertation or thesis (courses numbered 5950/6950/6954) are considered full time. Doctoral and Master's financial aid or scholarship recipients enrolled in only dissertation or thesis hours should contact the Financial Aid and Scholarships Office (940-565-2302) regarding any potential impact to their financial aid due to the associated reduction in costs and/or confirmation of scholarship enrollment requirements.

Please review the Financial Aid Terms and Conditions relating to enrollment for further information.

Courses must be required for a student's program of study in order to be considered for financial aid eligibility. Therefore, 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 financial aid recipient has registered for classes and decides not to attend UNT, please review information on withdrawing and associated financial aid impacts.

If circumstances require that the student withdraw from all classes, FAS strongly encourages the student to contact his or her academic advisor before making the final decision. Financial Aid & 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 academic calendar.

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. Students enrolled in sessions (i.e., 8W1, 8W2) who have successfully completed the equivalent of half-time enrollment and/or a session or combination of sessions comprising at least 49% of the total term length are not considered to have withdrawn for Return of Title IV Funds purposes. 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 FAS (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 Financial Aid & Scholarships personnel apply 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:

- Federal Direct Unsubsidized Loans
- Federal Direct Subsidized Loans
- Federal Direct Grad PLUS Loans
- Federal Direct Parent (PLUS) Loans
- Federal Pell Grants
- Iraq Afghanistan Service Grants
- Federal Supplemental Educational Opportunity Grants (FSEOG)
- Teacher Education Assistance for College and Higher Education (TEACH) Grant

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 FAS. The student can also check the balance owed through the myUNT student portal.

Summer term official withdrawal from UNT

For Title IV (Federal Aid) purposes, a student who has enrolled in a session(s) offered in the summer term/semester and does not complete the session(s) in which the student was enrolled is considered to have withdrawn and a Return to Title IV calculation (R2T4) will be completed. Students will not be considered to have withdrawn for the summer term/semester if the student successfully completes (receives a passing grade):

- The student gives the Financial Aid & Scholarships office at UNT written confirmation that they will attend a session in the summer term/semester that begins within 45 days from the date of withdrawal. The written confirmation must be provided at the time that would otherwise have been a withdrawal.
- All requirements for graduation from his or her program before completing the days or hours in the period that the student was scheduled to complete.
- Title IV-eligible coursework in one session or a combination of sessions that includes 49% or more of the number of countable days in the payment period; or
- The student successfully completes Title IV-eligible coursework equal to or greater than what the school considers to be half-time enrollment for the payment period or period of enrollment.

That student may change the date of their attendance in a later session than originally indicated, provided that:

- The later session begins in the summer term/semester;
- The student makes the change in writing prior to the date they had previously confirmed.

If the student does not attend the later session(s), the date of withdrawal from the previous session will be used as the official withdrawal date to determine the amount of Title IV (Federal) aid to be returned to the U.S. Department of Education (R2T4 calculation).

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 Federal Direct Subsidized Loan
    - $1,562.00 Federal Pell Grant
    - $2,874 total
    - 47.8 percent of the $2,874 total 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 returns the **lesser** of the total unearned ($1,500.23) aid **or** the unearned institutional charges ($547.20) multiplied by the unearned portion of the aid (52.2 percent) which equals $285.64.
- In this example, 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.

No calculations are required for students who attend past the 60 percent completion point. However, there are other consequences to consider. Withdrawing from classes will affect future eligibility for financial aid and possibly affect future scholarship disbursements. Students must meet Satisfactory Academic Progress (SAP) requirements to maintain eligibility for financial aid as defined by Financial Aid & Scholarships. Loan repayment grace periods will begin and repayment of loan funds begins six months after graduation or the last day of at least half-time enrollment.

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. If 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.

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

Unofficial Withdrawal from UNT

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 fails to earn a passing grade in all their classes, the student is considered an Unofficial Withdrawal. Financial Aid & Scholarships (FAS) is required to calculate the amount of Federal Title IV funds (aid) earned during the term in which the student did not earn at least one passing grade. The student will be required to have at least one of the student's instructors indicate the student's last date of attendance in an academically related activity. If the instructor provides FAS with the student's last date of attendance by the prescribed deadline, then FAS 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 the funds (aid) are considered to have not been earned. As a result, all funds (aid) will be cancelled and returned to the programs from which they were awarded. The student will then owe a complete repayment to the university.

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 (Federal) grant or loan assistance and does not begin attendance in a payment period or period of enrollment, the student is ineligible for any Title IV aid.

Unofficially withdrawing from classes, not beginning attendance or failing to complete and pass registered hours may affect future eligibility for financial aid. Satisfactory Academic Progress requirements must be met to maintain eligibility for financial aid as defined by FAS.

Satisfactory Academic Progress (SAP)

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 using the following quantitative and qualitative standards.

- Students must successfully complete at least two-thirds of the cumulative attempted credit hours to be meeting the course completion rate requirements and maintain satisfactory academic progress. Course completion rate is measured by dividing the cumulative number of hours successfully completed by the cumulative number of hours attempted.
- 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.
- Graduate students must earn a minimum 3.0 cumulative UNT grade point average to maintain satisfactory academic progress.

Information on Satisfactory Academic Progress (SAP) can be found online at https://financialaid.unt.edu/sap.

Minimum Hour Requirement

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 programs.

Failing Grades

If a student fails to earn a passing grade in any of their classes within a term, attendance in all classes within that term will be reviewed. If attendance cannot be confirmed via official UNT records, or the last date the student participated in an academically related activity cannot be documented, Financial Aid & Scholarships 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 (or parent), 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 repayment. Eligibility for grant aid is determined through the Free Application for Federal Student Aid (FAFSA) process.

The FAFSA is needed annually to be considered for federal, state, and institutional. However, eligibility for a grant program does not guarantee an award. However, eligibility for a grant program does not guarantee an award. Applicants are considered based on the date of their application while considering the FAFSA-determined Student Aid Index (SAI). The earliest applicants with a completed award file have the best opportunity to be considered for available grant funding. We encourage students to apply early making sure to complete any requests made for additional information so 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)
- 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 Sage Hall, Suite 236 and can be reached at 940-369-8021. Veterans or dependents/spouses who have questions concerning the administration of benefits should contact the Regional VA Office at 1-888-442-4551.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government Web site at https://www.benefits.va.gov/gibill.

Pending Payment Compliance

In accordance with Title 38 US Code 3679(e), University of North Texas adopts the following additional provisions for any students using U.S. Department of Veterans Affairs (VA) Post-9/11 G.I. Bill® (Ch. 33) or Veteran Readiness & Employment (Ch. 31) benefits, while payment to the institution is pending from VA. University of North Texas will not:

- Prevent the student's enrollment;
- Assess a late penalty fee to the student;
- Require the student to secure alternative or additional funding;
- Deny the student access to any resources (access to classes, libraries, or other institutional facilities) available to other students who have satisfied their tuition and fee bills to the institution.

However, to qualify for this provision, such students may be required to:

- Produce the VA Certificate of Eligibility (COE) by the first day of class;
- Request to be certified; and
- Provide additional information needed to properly certify the enrollment as described in other institutional policies.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at https://www.benefits.va.gov/gibill.

Hazlewood Act for Texas Veterans

Information on tuition waivers and exemptions for qualified veterans is available online at studentaccounting.unt.edu 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 Financial Aid & 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 15–25 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 provides a variety of career coaching and education, student employment, internship, and job opportunities on and off campus to currently enrolled students. New first-year students engage in UCAR1000Z: Career Readiness First Year Seminar, a one-semester required zero credit online seminar to provide them career exploration and professional foundation skills. Second-year students participate in UCAR 2000Z Career Readiness Seminar that provides a practice professional communications experience in applying for an internship (zero credit and online). Third-year students are participating in a college-specific required professional development class, internship, or an optional and supplemental college-specific UCAR 3000Z Career Pathways experience. Individual appointments for all majors and academic levels with Career Coaches may be scheduled through Navigate. Information regarding on- and off-campus jobs can be accessed on each student's my.unt.edu web site. Just click on the Resources and then click on the Jobs icon on the page and use your EUID and password to log into Handshake. Alumni with earned UNT degrees have lifetime access to the Career Center's resources.

For information, call 940-565-2105 or e-mail careercenter@unt.edu

Loan programs

Federal Direct Loans

Federal Direct Loans are available to federal aid eligible students who have completed the Free Application for Federal Student Aid (FAFSA) process, are enrolled at least halftime in an eligible degree or certificate program, have remaining loan eligibility, are not in default or owe a repayment to a federal aid program, and are meeting Satisfactory Academic Progress (SAP) standards. Federal Direct Unsubsidized Loans may be offered to graduate students, regardless of federal need. The Graduate PLUS Loans is a credit-based loan available for graduate students for education expenses. The Free Application for Federal Student Aid (FAFSA) must be completed before an award will be determined. Maximum annual, lifetime, and Cost of Attendance (COA) limits will be imposed based upon loan type, classification, and enrollment level.

Repayment begins six months after graduation or the last day of at least half-time enrollment.

Scholarships

The University of North Texas offers competitive academic scholarships to new and continuing 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 and spring term. We recommend students apply and complete admission to UNT as early as possible to compete for available scholarship opportunities.

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 Financial Aid and Scholarships (FAS) coordinates all scholarship awards once they have been submitted for processing.

The majority of scholarships for new and continuing graduate students are awarded through Toulouse Graduate School, and other academic departments. Check with the department of your major for additional scholarship opportunities.

Entering and continuing students may complete a scholarship profile by accessing the Eagle Scholarship Portal (unt.academicworks.com) to be considered for a number of scholarship opportunities. The portal becomes available annually in late fall. Students are encouraged to complete their scholarship profile as early as possible. Students must use their campus credentials assigned during the admission process (active EUID and password) to access the portal.

We encourage you to visit the UNT Financial Aid & Scholarships website for additional scholarship details at financialaid.unt.edu/scholarships.

Campus resources

Division of Student Affairs

The Division of Student Affairs creates a student experience that supports academic success, social engagement, and personal and professional growth. We enhance student experience through a wide array of intentional programs, services and activities that support the educational 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 Belonging & Engagement, Center for Fraternity and Sorority Life, Center for Leadership and Service, Center for Student Affairs at Discovery Park, Coliseum and Gateway Center, Counseling and Testing Services, Dean of Students Office, Dining Services, Distinguished Lecture Series, Emerald Eagle Scholars, First Generation Success Center, Green Jackets, Housing and Residence Life, North Texas in D.C., Off-Campus Student Services, Office of Disability Access, Orientation and Transition Programs, Recreational Sports, Recovery and Intervention Support and Education Program (RISE), Student Activities, Student Government Association, Student Health and Wellness Center, Student Legal Services, Student Veteran Services, Survivor Advocacy, TRIO Programs, University Union, UNT Food Pantry presented by Kroger, and We Mean Green Fund.

For more information call, 940-565-4909 or visit studentaffairs.unt.edu.

UNT Libraries

The UNT Libraries facilitate teaching, learning, and research for students, faculty, and information seekers at UNT and around the world. Our expert staff, spaces, services, and collections support academic success and lifelong learning. As an essential component of education and research at UNT, the Libraries offer access to more than six million print and digital items, along with expert personnel to assist patrons in achieving their academic and scholarly goals. Visit us online at library.unt.edu.

Services

UNT Libraries' services include:

- Willis Library open 24/7 during long semesters
- Mac and PC laptop checkout
- Free video games, movies, music and more
- Electronic resources, including journals, books and other research materials
- Library instruction, subject guides and tutorials
- Research assistance from subject experts
- The Spark Makerspace in Willis Library, a service promoting the creative use of technology
- Accessible tables, study carrels, study spaces, and computers in Willis, Sycamore, Discovery Park libraries, and Frisco Landing libraries

Libraries and collections

UNT Libraries have many 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.
- Special 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 holdings 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. Other collections include the Lesbian, Gay, Bisexual, and Transgender Archive; the Latino/Latina Archive; and the Photography and Visual Materials Collection, which includes the photographic archives of several prominent photographers.
- The Media Library 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 Media Library is also home to the Nest, it is a gaming and game design space.
- The Government Information Connection assists with questions or advice about finding government, business, geographic, or legal information. Our subject provides a starting place for individuals looking for government information or services. 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 over 520 partners at libraries, museums and archives across Texas. The UNT Digital Library includes UNT electronic theses and dissertations, the Federal Communications Commission Record, UNT Scholarly Works, a Virtual Music Rare Book Room and World War poster collections.

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

- The Discovery Park Library, which supports the College of Engineering and the College of Information.
- The Sycamore Library is home to the Juvenile and Curriculum Materials Collections, government documents, law, political science, geography, business collections and the nonprofit information resource center. The Collaboration and Learning Commons, housed within the library, offers student computing services, group and individual study spaces and two study rooms with presentation capabilities.
- The Frisco Landing Library is located on the second floor of the UNT at Frisco campus. The library provides resources, services, and spaces in an open library environment that promotes collaboration and supports student learning.
- The Library Annex and the Research Collection Library—both located off-campus—provide storage and house office space for a variety of library faculty and staff.

University Information Technology Services

The AITS Campus Helpdesk provides support services for students, faculty and staff for account-based issues as well as the usage of UNT issued resources such as email, Virtual Labs and more. Users can request support over the phone, in person or online for any issues related to their UNT account or related sources. The AITS Campus Helpdesk can be reached at 940-565-2324, in Sage 330, or at helpdesk.unt.edu.

Student campus and virtual services

Students receive many online resources, such as the University's virtual lab offerings, Office 365, and LinkedIn Learning services. Active students can see a full list of services by going to helpdesk.unt.edu.

UNT offers many on-campus resources, including in-person support, WiFi, and computer labs spread throughout campus. Find a list of available computer lab resources at computerlabs.unt.edu. UNT offers WiFi in all buildings and most public spaces to all currently enrolled students, faculty and staff. Students can contact the HelpDesk at 940-565-2324 for more information regarding in-person support, or by going to Sage 330.

Student services, activities and information

Lifelong Learning and Community Engagement

Lifelong Learning and Community Engagement (LLCE) provides the administrative structure for lifelong learning programs that meet the needs of the 50 and better community as well as programming for UNT retirees.

Lifelong learning and community engagement programs are offered year-round through LLCE. Programming includes classes, events, trips, special lectures and activities.

Programs include the Osher Lifelong Learning Institute at UNT (OLLI at UNT, formerly Emeritus College) and the UNT Retiree Association (UNTRA). OLLI at UNT offers non-credit classes and activities for adults 50 and older. The UNT Retiree Association offers engagement opportunities, events and activities for UNT's retirees.

Lifelong Learning and Community Engagement is located at 1500 N. Interstate 35 Denton, TX 76205 in the Support and Services Building (SSB). For additional information, call 940-369-7293, visit the web site at olli.unt.edu or untra.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, Stovall Temporary Union Building, Room 155; studentaffairs.unt.edu/student-activities-center/index.html; or call 940-565-3807.

UNT Alumni Association

The mission of the UNT Alumni Association is to foster a lifelong spirit of belonging and pride by connecting alumni and friends to the University of North Texas and each other. This organization creates networking and engagement opportunities for alumni in every stage of life. It also operates a Student Alumni Association and offers scholarships to support UNT students and build a strong alumni legacy. For more information, visit untalumni.com or call 940-565-2834.

Athletic organizations and activities

Intercollegiate Athletics and Recreational Sports 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 fitness rooms, Smoothie King and lounge area. The Waranch Tennis Complex has 12 lighted tennis courts.

Pohl Recreation Center

Located at the corner of North Texas Boulevard and Chestnut Street, the Pohl Recreation Center, managed by Recreational Sports, is open daily to provide a variety of facility space and programming for the recreation and fitness needs of the students, faculty and staff at UNT.

The Rec Center has a 14,500 sq. ft. weight and cardio area, 3 multi-purpose courts for basketball, volleyball, and badminton, an indoor soccer gymnasium, a 45 ft. climbing wall and 10 ft. bouldering wall, an 8-lane lap pool and 5,510 sq. ft. leisure pool with a hot tub, and an 1/8 mile indoor track. Also located in the facility are locker rooms, Smoothie King, a lounge and seating areas, meeting rooms, two group fitness rooms, lighted outdoor sand volleyball and basketball courts, and the Recreational Sports office.

The Rec Center is open to all currently enrolled UNT students with a valid UNT ID who pay the recreation fee included in tuition. 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 up to three individuals over the age of 16 for membership. Members can sponsor up to three guests per day for a fee (sponsored guests under 16 years of age are free).

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 recreation fee.

For more information about the Pohl Recreation Center, contact Recreational Sports by calling 940-565-2275 or emailing recsports@unt.edu. Information is also available on the UNT Rec Sports app and on the Rec Sports web site at recsports.unt.edu.

Recreational Sports

Recreational Sports is located in the state-of-the-art 138,000 square-foot Pohl Recreation Center and offers an incredible array of programs and experiences designed to support and inspire the wellness of the UNT Community. We also pride ourselves on being a welcoming and engaging family, committed to helping students, faculty, and staff live happy, healthy, and active lives by participating in our seven different program areas:

Fitness
The fitness program offers fitness assessments, personal training, RMR testing, body composition testing and small group training classes. The group exercise program offers students exciting, instructor-led aerobic activities like cycling, kickboxing, Pilates, yoga, Zumba and others. Group exercise class schedules and registration can all be done through the UNT Rec Sports app. The fitness staff also oversee the 14,500 square foot weight room, located in the Rec Center, which offers a variety of cardio machines including treadmills, ellipticals, free weights, and a functional training space.

Intramural Sports
UNT students versus UNT students! Any student who pays the recreation fee may participate in intramural events. Team sports are arranged on a round-robin basis, and individual and dual sports are set up by elimination tournaments, meets and special events. Major sports include flag football, outdoor soccer, basketball, softball, volleyball, and indoor soccer, while single-day events can include sand volleyball, table tennis, dodgeball, flag football and basketball tournaments, as well as PS5 and Nintendo Switch tournaments.

Esports
Esports at UNT is a varsity program dedicated to developing, guiding, and encouraging our varsity players to compete at the highest level within the collegiate arena, as well as training and facilitating the competitive growth of each player and team. The esports program also supports our students in the gaming community through club and intramural sports competitions. Varsity teams include League of Legends, Rocket League, and Overwatch.

Outdoor Pursuits
The Outdoor Pursuits program offers a 45-foot indoor climbing wall, 10-foot bouldering wall, rental of outdoor equipment like tents, sleeping bags, coolers, stoves, canoes and kayaks. Outdoor Pursuits also oversees an adventure trip program that takes members out on day, weekend, and even extended trips within Texas and beyond. Free clinics are also offered throughout the year that give instruction on various topics like stargazing, survival, campfires and a kayak roll. The outdoor staff also oversee the Outdoor Pursuits Center, located behind the climbing wall, which rents high-quality outdoor equipment including tents, sleeping bags, canoes, kayaks, coolers and more.

Sport Clubs
The sport club program provides an opportunity for UNT students to compete against other colleges and universities in the Texas region and nationally. Nearly 40 student-led clubs compete recreationally

and competitively and welcome all those interested in the sport, regardless of skill level. Club leader information and club practice times can be found on the UNT Rec Sports app or by visiting the Rec Sports web site.

Aquatics
The aquatics staff oversee an indoor lap pool and indoor leisure pool and spa. The program offers private swim lessons and instructional classes for adults and children, as well as American Red Cross certification courses for lifeguards and water safety instructors. The aquatics program also hosts free special events throughout the semester like dive-in movies and swim challenges, and is home to the Mean Green women's swim team.

Informal Recreation
Informal recreation offers drop-in activity at the Rec Center for basketball, indoor soccer, swimming, badminton, volleyball and more, and can check out equipment to you at no charge. Informal Recreation also oversees the Waranch Tennis Complex offering 12 lighted tennis courts, equipment checkout, and is home to the Mean Green women's tennis team. For more information about the Waranch Tennis Complex please call 940-565-2275.

Employment
Recreational Sports is one of the largest employers of students on the UNT campus. Rec Sports offers a wide range of job opportunities for students throughout the seven program areas including membership services, weight room, personal training, group fitness instruction, lifeguarding, outdoor pursuits, or officiating their favorite intramural sports.

For more information and program details, download the UNT Rec Sports app or visit the Rec Sports web site at recsports.unt.edu. Follow @UNTRecSports on social media for the latest news, program reminders, and special giveaway events.

Career Center

Within the Career Center, **Student Employment (SE)** assists students with 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 Handshake at careercenter.unt.edu. Career fairs and networking events are conducted throughout the semester for students seeking off-campus employment. Once a student is hired for an on-campus position, they are required to take an online student employment orientation. The student's supervisor may also request the student to attend additional career readiness training courses offered through the Career Center.

Students may receive more information or learn how to access Handshake, Monday through Friday, between 8 a.m. and 5 p.m. in the Career Center office, Sage Hall, Suite 202, or by calling 940-565-2105. Student employment I-9 drop-in hours are held Monday-Friday, 11 am - 4 pm.

The Career Center provides the following services to students and alumni from 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, but not limited to, What Can I Do with a Major In ...," "Cover Letter and Resume Writing," "Interviewing Skills," "Networking and Pitches" "Job and Internship Search Strategies, and Graduate School Planning."

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 Coaches assist students and alumni in career exploration and research, resume writing, interview preparations, career transitions and general job search and graduate school strategies through individual advising, presentations, and group workshops.

A web-based career services job listings system (Handshake) contains current job and internship vacancy announcements from UNT-friendly employers. Students and alumni must formally register with Handshake to utilize this service.

More than 1,330 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 in their area(s) of interest. A wide variety of business, industry, government, public service, and school districts visit campus annually. Registration for on-campus recruitment is required through Handshake.

All services and resources the Career Center offers are provided at no cost to students and alumni.

Visit the Career Center in Sage Hall, Room 202 and meet with Career Coaches in the Colleges:

Main Career Center - Sage Hall, Suite 202
Alumni Career Coaching – Sage 280
Business Leadership Building, Suite 195 - RCOB - Wilson Jones Career Center
CENG - Discovery Park - CENG – E201
CLASS - Career Coaches for CLASS - GAB 201, GAB 220 AA, GAB 111 N, Wooten 129, Sycamore 205 (Journalism Career Coach)
CMHT - Chilton Hall 333
COE - Matthews Hall – 103
COI - Discovery Park G-153
COS - Hickory Hall 254C
CVAD - Art Building Suite 230
HPS - Sage Hall 202
Frisco Landing 180 - Frisco Majors and CACS – Gupta Career Center
Music - MU 204A

For additional information, call 940-565-2105 and or visit careercenter.unt.edu.

UNT Internships

Many 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.

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

Students may pursue academic credit and non-credit internships. Students are encouraged to inquire within their academic departments about internship requirements and credit experiences. Internship Information by Academic Department is also available on the internship section of the Career Center website.

The Career Center helps students obtain high-quality internships by working closely with potential and existing employers to promote internships within their organizations.

The Career Center also hosts a number of career and internship-related career fairs, networking events, and workshops open to all enrolled students throughout the academic year.

All students who complete an internship are eligible to earn an Internship Cord for graduation.

Internships

Internships are work experiences (typically one semester) related to a student's field of study and provide a competitive advantage in the job market by:

- providing transferable skills through work in a professional environment,
- creating a valuable network of contacts within an industry or occupational specialty,
- reinforcing choice of major and career path.

The Career Center works with thousands of employers who offer internship programs as well as full-time job opportunities at companies such as Toyota, H-E-B, DACTU, Omni Hotels, PGA, Walt Disney Company/ESPN, Goldman Sachs, American Airlines, Schwab, Texas Instruments, Enterprise, NTT Data, Peterbilt, GM Financial, Baylor, Scott & White and many others.

Internships can be part-time or full-time and are available throughout the year; however, the summer is the most popular season for obtaining them. Depending on a student's major, academic credit

may be received for completing an internship. Completing an internship is mandatory in some degree programs.

The Career Center strongly promotes paid internships; however, in some cases certain employers may not offer a paid internship. Some degree programs require students to fulfill an internship as part of their course work and may require an internship to be paid to meet curriculum requirements. If a student accepts an unpaid internship, they may apply for a stipend through the Career Center's Unpaid Internship Scholarship Program.

Students may schedule an appointment with their designated Career Coach through Navigate for internship search support and strategies.

Off-Campus Student Services

Part of Student Activities, Off-Campus Student Services (OCSS) functions as a resource for UNT's off-campus, commuter, online and non-traditional students. Resources include an off-campus housing and roommate search database, childcare resource and referral service, and information about transportation services (e.g., carpooling, bus schedules). OCSS also coordinates events for these populations, including Commuter Week, Housing Fair, Family Fun Night, and Non-Traditional Student Week.

Off-Campus Student Services is located in the Student Activities Center, University Union, Room 345. Call 940-565-3807 or visit studentaffairs.unt.edu/center-for-belonging-and-engagement/non-traditional-and-commuter-student-support/commuter-student/ for more information.

Counseling and Testing Services

The center provides short-term, confidential, professional psychological services to currently enrolled students. Individual counseling related to personal, social, and emotional concerns, and vocational counseling for help with selection of a major field of study or career plan, are offered at the center. Outreach programs and consultation are available for faculty/staff and student groups.

The Counseling and Testing's group program includes both workshops as well as group therapy. Daily workshops are designed to increase students' coping skills in a safe space, and a student can drop into any of our workshops that fit their needs. Additionally, therapy groups provide students an opportunity to obtain support from both clinicians and other students, regarding a variety of mental health topics. In order to join a group, students must contact CTS for an individual appointment.

Counseling and Testing Services also includes a national testing center and administers professional and academic testing (e.g., TSI, CLEP, Pearson Vue exams, Meazure Learning exams, TCFP/FIDO, and other proctored, paper-based, and computer-based exams).

The Counseling Center is in Chestnut Hall, Room 313 or call 940-565-2741; or visit studentaffairs.unt.edu/counseling-and-testing-services/index.html.

Professional and Academic Testing is located in Gateway Center, Room 140, or call 940-369-7617; or visit studentaffairs.unt.edu/testing-services.

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 students who may need assistance in resolving complex social, personal, financial and academic matters. We strive to help all students achieve their academic and personal goals and enhance the UNT student experience.

One of the primary aspects of the Dean of Students Office is to help students resolve university-related issues. We can assist students with pregnancy and parenting accommodations, withdrawals, military activation of enrolled students, temporary disabilities, food insecurity, significant extenuating circumstances and a variety of other issues that may impact a student's ability to be successful in the classroom.

Student Conduct: The Dean of Students (DOS) is responsible for addressing student conduct, enforcing university policies and procedures, and providing students with the resources necessary to resolve their own personal disputes. DOS 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, DOS 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. DOS is committed to enhancing students' competencies as productive citizens and promoting life-long learning and community standards.

The University of North Texas is committed to providing a safe environment for all community members. Dating violence, domestic violence, sexual harassment, sexual coercion, sexual exploitation, sexual violence, and stalking are prohibited. Please see studentaffairs.unt.edu/dean-of-students/policies/sexual-misconduct.html.

By Texas law UNT employees are mandated to report sexual misconduct, sexual assault, dating violence and stalking to the Title IX Coordinator or the Deputy Title IX Coordinator if they witnessed or information received while in the course and scope of their employment; that the employee reasonably believes constitutes an incident of sexual harassment, sexual assault, dating violence, or stalking; committed by or against a student who was enrolled at the institution at the time of the incident; an employee employed by the institution at the time of the incident. Reports can be made to report.unt.edu or to TitleIX@unt.edu.

The UNT Title IX office is located in the Hurley Administration Building, Suite 175. The Title IX Coordinator is LaToya Haynes, available at LaToya.Haynes@unt.edu or 940-565-2759.

Survivor Advocacy: The UNT Survivor Advocate's role is to connect students who have been impacted by violence to resources (counseling, health, safety, academics, legal, etc.), and act as their advocate. The Survivor Advocate can assist a student by filing protective orders, completing crime victim's compensation applications, contacting professors for absences, working with housing to facilitate a room change (if needed), and connecting students to the many other resources that are available, both on and off campus. You can contact them at survivoradvocate@unt.edu or at 940-565-2648 or by visiting the Union 411.

Student Withdrawals: The Dean of Students Office is committed to helping students when they intend to withdraw for the semester. Students wishing to withdraw must do so in person at the Dean of Students Office during office hours. During their visit, students will obtain the official University Withdrawal form and meet with a staff member who will ensure students are informed of any pertinent implications related to their withdrawal. Students will also be informed of any obligations they may have with the university and items they may need to fulfill prior to withdrawing and/or upon returning to UNT.

Students may only withdraw from the first class day until the official last day to withdraw as indicated in the academic calendar. Please note that a withdrawal implies dropping ALL courses. Students wishing to drop classes but who will remain enrolled in at least one course can obtain the Request to Drop Class form from the Registrar's Office.

If by chance a student is incapacitated and the student cannot make the request on their own, the Dean of Students Office will assist. Verified documentation related to their condition will be required. For more information please contact the Dean of Students Office directly.

Student Complaints: The Student Standard Complaint Policy of the University of North Texas provides students with a procedure for resolving complaints against UNT faculty, staff, and agents of the university. Students with questions concerning discrimination, grade appeal, academic integrity, disability, financial aid, accommodations, or the Code of Student Conduct must contact the appropriate academic personnel or compliance officer and refer to the appropriate policies. Students can file complaints at report.unt.edu.

The Dean of Students Office will assist the student throughout the complaint process. UNT believes that most complaints can be resolved informally. All university contacts with the aggrieved student will stress the preferred mechanism of an informal resolution. A complaint filed, either formally or informally, will not be considered unless it is filed no later than 120 days after the event or occurrence, giving rise to the complaint or knowledge of the event or occurrence. A student's complaint may be withdrawn at any point by the student, thereby halting the complaint.

Academic Advocacy: Students are expected to attend classes regularly and to abide by the attendance policy established by the professor. However, the university is aware that there will be times when a student is unable to attend class due to emergency situations, health or the death of a loved one. The Dean of Students Office is also available to assist you by providing academic advocacy. Students must provide the Dean of Students with official and verifiable documentation related to the reason for absence. Ultimately, attendance is a matter between the student and professor.

Authorized Class Absences/ Field Trips: All travel by students off the campus for the purpose of participation in athletics, music groups, AFROTC activity, dramatics, exhibitions, debate, student government, conventions and field trips must be authorized by the dean of the school or college of the sponsoring department. Absence lists must be approved by the department chair and sent to the office of the dean in advance of the travel date. Sponsors must report to the Dean of Students Office all students listed who did not make the trip.

Within three days after the absence, students must obtain authorized absence cards from the Dean of Students Office for presentation to instructors of classes missed. Students with authorized absence cards may make up for the work missed when practicable or be given special allowance so that they are not penalized for the absence. Additional information regarding Authorized Class Absences may be found in the Faculty Handbook.

Military Activation of Enrolled Students: The University of North Texas is deeply committed to supporting students who serve in the military. A student who is a member of the National Guard, Reserve or other branch of the United States Armed Forces and is unable to complete classes because of military activation may request course withdrawals, incompletes or grades, depending on the timing of the activation and the individual needs of the students. This will ensure understanding and standardized guidelines for awarding grades to students called to active military duty during an academic semester.

The student will be required to provide documentation of military orders to the Dean of Students Office and follow procedures for withdrawal. This will ensure understanding and standardized guidelines for awarding grades to students called to active military duty during an academic semester. The Dean of Students will meet with the student to discuss options and consider all areas that affect the student upon withdrawal. If incompletes or grades are requested, the student will be referred to the faculty member or academic department for assistance. The Dean of Students will send notifications to faculty, academic department and Associate Dean of the verification of military orders and student's preference for incomplete or grade assigned.

Per Texas Education Code 54.0006 (f) 3, either grades are assigned or incompletes granted. If a student receives an incomplete, they will have one year from the end of their active duty to complete the course. The Dean of Students office will complete the official withdrawal of the student and full refund of appropriate tuition and fees. If a student opts for an incomplete or grades are assigned, no refund will be given.

Pregnant and Parenting Students: Title IX of the Education Amendments of 1972 ("Title IX"), 20 U.S.C. §1681 *et seq.*, is a Federal civil rights law that prohibits discrimination on the basis of sex—including pregnancy and parental status—in educational programs and activities. All public and private schools, school districts, colleges, and universities receiving any Federal funds ("schools") must comply with Title IX. Students can request parenting and pregnancy accommodations at report.unt.edu.

The requirements and suggestions include:

Schools must excuse student absences because of pregnancy or childbirth for as long as the student's doctor deems the absences medically necessary.

Absence policies in classes must accommodate pregnancy or childbirth related absences and allow for make-up work. "A teacher may not refuse to allow a student to submit work after a deadline that she missed because of absences due to pregnancy or childbirth. Additionally, if a teacher's grading is based in part on class attendance or participation, the student should be allowed to earn the credits she missed so that she can be reinstated to the status she had before the leave."

"A school may offer the student alternatives to making up missed work, such as retaking a semester, taking part in an online course credit recovery program, or allowing the student additional time in a program to continue at the same pace and finish at a later date, especially after longer periods of leave. The student should be allowed to choose how to make up the work."

Temporary Disabilities: Temporary disabilities are not afforded the same consideration for accommodation and/or waivers that is provided under federal law for permanent disabilities. However, the Dean of Students Office can act as an advocate for students dealing with temporary disabilities. If a student has a temporary disability (i.e., broken leg, broken arm, etc.) and is in need of accommodation, they may contact the Dean of Students Office and request we advocate on their behalf. Student must submit proper documentation to the office. Upon receipt and verification, DOS will make contact with the student's professors confirming that the temporary disability exists. Ultimately, it is up to each individual instructor to make any accommodations pertaining to temporary disabilities.

CARE Team: The University of North Texas cares about our students' success, not only academically, but emotionally and physically as well. This commitment to the holistic development and well-being of our students is the fuel behind the hundreds of departments, services and resources across campus that seek to respond to their unique needs. Nevertheless, students do not always ask for help when they need it. In an effort to identify those students proactively, UNT has created a campus wide network of professionals who are committed to caring and responding to the unspoken needs of students. The CARE Team ensures a confidential program of identification, intervention and response in order to provide our students with the greatest chance of success and our community with the greatest level of protection.

Questions or concerns for the CARE Team regarding a student or an incident can be directed to careteam@unt.edu or deanofstudents@unt.edu referrals to the CARE team can be made at report.unt.edu.

Student Death: The Dean of Students Office is the main point of contact in the case of a student death. The dean's staff will notify all appropriate people and departments on campus. Information needed is the student's full name and the contact name and number for the student's family. A staff member will be identified by the Dean of Students to make direct contact with the family and serve as the university liaison to assist the family as needed. The names of the student's friends should be forwarded to the Dean of Students for the purpose of outreach to those affected by the death of their friend and fellow student.

The Dean of Students Office organizes the annual Fallen Eagles Memorial, an event where the UNT community recognizes all students who have passed away over the past year. All family members of those who will be honored are welcome and encouraged to attend the memorial. Please contact the Dean of Students at deanofstudents@unt.edu or by calling 940-565-2648.

For more information, contact the Dean of Students Office, 940-565-2648; deanofstudents@unt.edu; or visit us on the web at deanofstudents.unt.edu.

Free Speech

The University of North Texas (UNT) recognizes that freedom of expression and public assembly are fundamental rights of all people and are essential components of the education process. These activities promote debate and the sharing of ideas, which are the foundation of educational institutions.

The responsibility of the university to operate and maintain an effective and efficient institution of higher education requires regulation of the time, place and manner of assembly, speech, and other expressive activities on the grounds of the university. In keeping with this responsibility, students, faculty, staff and visitors

are free to exercise the rights to assemble and engage in expressive activity in a constitutionally-protected manner subject only to the content-neutral regulations necessary to fulfill the mission and obligations of the university; preserve the rights of others, coordinate multiple uses of limited space; assure preservation of the campus facilities and grounds; and assure financial accountability for any damage caused by these activities.

The UNT Free Speech policy can be found at policy.unt.edu/policy/07-006.

Annual Security and Fire Safety Report

The personal safety and security of every member of the university community is of paramount concern to all at the University of North Texas. In keeping with this concern, each year the university publishes the Annual Security and Fire Safety Report informing the campus about programs and services to enhance campus security, crime statistics, fire safety, fire statistics, and student disciplinary referrals for certain crime-related conduct. The Annual Security and Fire Safety Report is available at clery.unt.edu.

The following notification is mandated by Texas Education Code Sec. 51.219.

Notification of Penalty for False Alarm or Report

A person commits an offense if he knowingly initiates, communicates or circulates a report of a present, past, or future bombing, fire, offense, or other emergency that he knows is false or baseless and that would ordinarily:

(1) cause action by an official or volunteer agency organized to deal with emergencies;

(2) place a person in fear of imminent serious bodily injury; or

(3) prevent or interrupt the occupation of a building, room, place of assembly, place to which the public has access, or aircraft, automobile, or other mode of conveyance.

An offense under this section is a Class A misdemeanor unless the false report is of an emergency involving a public or private institution of higher education or involving a public primary or secondary school, public communication, public transportation, public water, gas or power supply or other public service, in which event the offense is a state jail felony.

A false threat can be communicated through any means (e-mail, phone, in writing, verbally, social media, etc.). An individual adjudged guilty of a state jail felony shall be punished by confinement in a state jail for any term of not more than two years or less than 180 days and, in addition to confinement, may be punished by a fine not to exceed $10,000.

UNT students should be aware that the State of Texas takes these threats seriously, and the legal consequences, which are severe, go beyond anything that the University's Code of Student Conduct will address.

Hazing

The university wants to take this opportunity to inform the university community about the dangers and consequences of hazing.

Hazing is a criminal act under the state law of Texas.

By definition, hazing is any intentional, knowing or reckless act by one person alone or acting with others, directed against a student, that endangers the mental or physical health or safety of a student for the purpose of pledging, being initiated into, affiliating with, holding office in or maintaining membership in an organization" whose members are or include UNT students.

Examples of hazing include but are not limited to:

- Any type of physical brutality, such as whipping, beating, striking, branding, electronic shocking, placing a harmful substance on the body, or similar activity.
- Any type of physical activity that involves sleep deprivation, exposure to the elements, confinement in a small space, calisthenics, or other similar activity that subjects the student to an unreasonable risk of harm or that adversely affects the mental or physical health or safety of the student;
- Any activity involving consumption of alcoholic beverages, liquor, drugs, food, liquid or any other substance that exposes a student to unreasonable risk of harm or that adversely affects the mental or physical health or safety of the student.
- Any activity that intimidates or threatens a student with ostracism or that subjects the student to extreme mental stress, shame or humiliation that adversely affects the mental health or dignity of the student or discourages the student from entering or remaining registered at UNT, or that may reasonably be expected to cause the student to leave the organization or UNT rather than submit to hazing whether the act is committed in person or communicated by other media including social networking.
- Any activity that induces, causes or requires a student to perform a duty or task that involves a violation of the Code of Student Conduct; other university policies; or local, state, or federal laws.

Hazing occurs regardless of whether the act is committed on or off the university campus and regardless of whether the student victim may have consented to or acquiesced in the activity.

A person engages in hazing not only by directly engaging in hazing activity, but also by soliciting, directing, encouraging, directing, aiding or attempting to aid another in hazing; or by recklessly allowing hazing to occur; or by knowingly failing to report firsthand knowledge that a specific hazing incident is planned or has occurred; any person reporting a specific hazing incident involving a student to the dean of students or other appropriate university official is immune from civil or criminal liability that might otherwise be incurred as a result of the report.

Penalties for Hazing

UNT will discipline any student or student group found responsible for hazing. Sanctions for students found responsible for hazing can include probation, loss of privileges, suspension, or expulsion. Sanctions for student groups can include probation, loss of privilege, and suspension. Students and student groups can also be assigned educational sanctions designed to change behavior and reduce the risk of future misconduct.

When hazing happens within a student group, UNT may find both the student group and individual students responsible. A student group can be found responsible if it condones or encourages hazing, or if its officers, members, or alumni commit or assist in the commission of hazing. Those found responsible for hazing will be listed on the UNT Hazing Violations website in accordance with the Texas Education Code, sections 37.151 (5) and (6).

Students may be prosecuted for committing an act of hazing or for failing to report first-hand knowledge of hazing.

Incidents or planned incidents of hazing must be reported in writing to any one of the following:

- Dean of Students Office, 940-565-2648 or 940-565-2039
- UNT Police Department, 940-565-3000
- UNT Hazing Hotline, 940-369-STOP (7867)

Amnesty

The university may elect not to pursue disciplinary sanctions for a violation of this policy against people who voluntarily and in good faith provide information to the Dean of Students or an appropriate university official related to hazing.

The UNT Hazing policy can be found at policy.unt.edu/policy/07-013.

Dining Services

It's About the Food. UNT Dining Services serves up affordable great-tasting food, made fresh daily from whole ingredients in our on-campus kitchens. With our 20+ Retail Restaurants, five Dining Halls, upscale restaurant Avesta, Clark Bakery, hydroponic garden and Catering, you're never far from a great meal. Our award-winning food service program has been ranked No. 1 in Texas by Niche.com for the past three years. We are also a part of the health

and sustainability-focused Menus of Change University Research Collaborative. Learn more and find hours of operation — including late-night and weekend options — at dining.unt.edu, 940-565-2462 or dining@unt.edu.

Dining offers a variety of full and part-time job opportunities with unique benefits and flexible shifts that fit around your class schedule. Build your résumé, jumpstart your career or simply support your college education by joining the Dining Services team.

Meal Plans for On-campus Living

Select upperclassman residence hall rooms are bundled with an Everyday Unlimited or Weekday Unlimited Meal Plan. These Plans include unlimited meals in any of our five Dining Halls as well as Flex to use at your favorite on-campus retail locations, including The Market at Eagle Landing, Chick-fil-A, The Campus Chat Food Court and more. Meal Plans (including additional selections) are optional but recommended for graduate students living in Honors, Legends, Mozart, and Traditions. Choose your Plan when you apply for Housing or purchase at *dining.unt.edu/plans*.

Meal Plans for Off-campus Living

Graduate students living off campus can save big by purchasing a Student Meal Plan designed with you in mind. Preparing your own meals can be costly in time and money. Our Plans allow you to supplement or completely replace your home cooking with convenient, freshly prepared meals on campus. We do the hard work of cooking and cleaning so you can focus on your university experience.

There's a Plan for every appetite and budget, whether you want to enjoy our Dining Halls, retail locations or both. Meal Plan purchases are routed through your MyUNT account for payment with financial aid, scholarships, installments and other methods. Find the right Meal Plan for you at *dining.unt.edu*/plans.

Office of Disability Access

The Office of Disability Access (ODA) is the campus resource 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. Part of the mission of the ODA is to provide reasonable accommodations and auxiliary aids to eligible students and assist with the resolution of student disability-related access barriers. In order to reduce or remove disability-related access barriers on campus, ODA works with faculty and campus partners to facilitate accommodations and services. Students who are approved for accommodations are responsible for requesting a letter of accommodation, which is generated on ODA letterhead, to be sent to their instructor by the ODA.

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), textbooks in alternative accessible formats, and various forms of adaptive equipment and technologies. ODA also houses an accommodated Testing Center for the administration of accommodated course examinations and works closely with academic departments and course instructors in making such arrangements.

The Office of Disability Access also works with campus partners to support students with disabilities in having access to all services and programs at UNT. For more information, call 940-565-4323, visit Chestnut Hall, Suite 102; or go to studentaffairs.unt.edu/office-disability-access.

Distance education (web-based and digital communication)

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 100% web-based courses can be taken from any location worldwide that has Internet access and the appropriate computer equipment available. Visit online.unt.edu to see the current 100% Online and Hybrid programs.

Distinguished Lecture Series

The UNT Distinguished Lecture Series was organized and chartered as a university wide program in 2004 with the assistance of the UNT Student Government Association and the Division of Student Affairs. 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 UNT. 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. Programs have featured President George W. Bush, anthropologist and author Jane Goodall, former Secretary of State Condoleezza Rice, financial planner Suze Orman, activist Cornel West, former Mexican President Vicente Fox, TV scientist Bill Nye, environmentalist Robert F. Kennedy Jr., actress Keke Palmer and Jennette McCurdy, and more. For more information, visit studentaffairs.unt.edu/dls.

Eagle Ambassadors

The UNT Eagle Ambassadors are a group of outstanding students with various majors and backgrounds, who are selected to provide a student perspective about our university through campus tours. They introduce thousands of prospective students and visitors to the University of North Texas annually and are known for their friendliness, genuine love for UNT and excellent customer service.

Being an Eagle Ambassador is a prestigious honor and a unique chance for personal and professional growth. Students chosen to be part of this elite group receive valuable training and experience, making them more marketable for today's workforce. In addition to monetary compensation and scholarship opportunity, Eagle Ambassadors participate in special events with the Office of the President, Enrollment and Advancement.

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 everyone with an active EUID account who has registered with the system. All students, faculty and staff are automatically enrolled in the Eagle Alert system using the telephone numbers provided to UNT during the registration or hiring process.

You should check your contact information regularly and update it as soon as it changes by logging in at my.unt.edu and following the "Update your information" link under the Eagle Alert banner. For more information on UNT Eagle Alert, visit *www.unt.edu/eaglealert*.

EagleConnect

UNT has designated email as an official form of communication between the university and students. UNT provides email accounts to all students registered at the university through EagleConnect, eagleconnect.unt.edu. Students automatically are assigned email accounts during the application process, please contact the HelpDesk for more information.

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 University Union Event Planning and Scheduling Services One Stop Shop at 940-565-3804.

Student organizations wishing to reserve facilities should contact the Student Activities Center, Stovall Temporary Union Building, Room 155, or call 940-565-3807.

Fine Arts Series

Established in 1903, the Mary Jo and V. Lane Rawlins Fine Arts Series provides a wide variety of visual, performing, and literary arts events for both the university and the greater Denton community.

The series is overseen by a committee comprised of students, faculty, and staff who ensure educational and entertaining opportunities are available throughout the year.

All Fine Arts Series events are offered at no cost to UNT students. Faculty and staff can enjoy admission at a discounted rate. For further details, please contact 940-565-3825 or visit finartsseries.unt.edu.

Graduate Student Council

The Graduate Student Council (GSC) is the official voice and student government for graduate students. GSC, founded in 1968, 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 GSC (http://tgs.unt.edu/gsc) are invited to attend Graduate Council meetings as non-voting members.

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 Union, Third Floor, Suite 345. For more information call 940 565-3021.

Student Legal Services

Student Legal offers free legal advice and consultation to currently enrolled students. Students are encouraged to contact the department to schedule an appointment. For more information, please visit our website studentaffairs.unt.edu/dean-of-students/programs-and-services/student-legal-services/, email us at StudentLegal@unt.edu or call 940-565-2614.

Living accommodations

More information regarding university-owned residence halls may be obtained by calling 940-565-2610, or online at housing.unt.edu.

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 do not discriminate because of race, color, sex, age, disability, veteran status or national origin.

Center for Belonging and Engagement

Location: University Union, Room 335
Phone: 940-565-3424
Web site: https://belong.unt.edu

The Center for Belonging and Engagement is committed to cultivating a campus environment where people of all identities and experiences are appreciated and able to thrive. Engagement in the Center's programs and services seek to increase the awareness and understanding of underserved student populations in the UNT community, promote a sense of belonging, and ensure their success.

Student organizations policy

The University of North Texas recognizes the right of any group of students to form a voluntary organization for purposes not forbidden by local, state or federal law or university policy. All organizations that wish to obtain benefits (e.g., room reservations) must register each fall with Student Activities.

Policies regulating the approval, functioning and privileges of registered organizations are available from Student Activities, University Union, Room 345; studentactivities.unt.edu; or 940-565-3807.

Parking

Parking regulations, maps detailing parking facilities, parking hours, contact information, and the links to paying parking citations online or to purchasing a parking permit online may be obtained at transportation.unt.edu. All student, staff and faculty parking permits (except TF permits) are sold online, based on availability.

Speech and Hearing Center

The University of North Texas Speech and Hearing Center offers services to adults and children in the Denton-Dallas-Fort Worth areas with speech, language, reading, swallowing, and hearing disorders. Audiology services include hearing testing, hearing aid dispensing and management, repair of hearing aids, management of cochlear implants, assessment of auditory processing disorders, assessment of tinnitus, vestibular assessment, and aural (re)habilitation programs. Speech-Language Pathology services include evaluation and treatment of language, articulation, fluency, voice, resonance, and swallowing disorders.

The Speech and Hearing Center offers many specialized services designed to meet the needs of UNT students, including testing and support for students with language-learning disabilities and social/pragmatic difficulties. Speech and language services are offered on an individual and group basis. The Center also provides assessment and treatment services to students in the performing arts, including a hearing conservation program for musician's ear protection, tinnitus management for musicians, and voice evaluation and treatment for performance-related disorders.

Based on the availability of clinical supervisory personnel and clinic scheduling options at the time of service requests, hearing screenings as well as assessment and treatment services for speech and language disorders are provided free of charge to full-time UNT students with any one or combination of the following disorders: articulation and speech production, fluency, language-learning disability, receptive and expressive language ability, cognitive communication, social-pragmatic language, swallowing, voice. Services are also provided for students desiring to improve English competency skills, and UNT transgender students requesting guidance and direct training for voice and communication modifications.

The Speech and Hearing Center accepts payment through cash and credit card, and is network for a number of insurance plans, including most Medicare and Medicaid insurances. To schedule an appointment or inquire about fees and payment options, please call 940-565-2262. Additional information can be found at aslp.hps.unt.edu/clinic.

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. Programs and services housed within the center include: GRE course prep help, tutoring (one-on-one and online), Supplemental Instruction, Academic Coaching, academic-based workshops, Graduate Student Services and the Academic Resource Library. For additional information see learningcenter.unt.edu.

Financial Aid & Scholarships

Financial Aid & Scholarships (FAS) at the University of North Texas offers a variety of options to assist students in financing their education. For more information on Financial Aid & Scholarships at UNT, please visit financialaid.unt.edu, visit the UNT One Stop on the 2nd floor of the Eagle Student Services Center; call 940-565-2302 or contact us via ScrappySays.unt.edu.

Student Health and Wellness Center

The Student Health and Wellness Center (SHWC), located on the second floor of Chestnut Hall, is equipped with examination and treatment rooms, as well as a clinical laboratory and digital x-ray machine. Medical services are available to enrolled students paying the medical service fee. Medical care is not available on official university holidays. The SHWC operates on an appointment system. Call 940-565-2333 or go online to myosh.unt.edu to make an appointment. Forms, hours and additional information are available online at healthcenter.unt.edu.

Services available to students include routine visits for injury and illness as well as monitoring of chronic conditions. Charges are assessed for office visits, medications, supplies for procedures and

treatments, laboratory testing, vaccinations, allergy injections, and most other services. Specialty services include psychiatric services, dietitian consultation, travel medicine consultations, and gynecological services. The SHWC accepts most major insurance plans and will file claims on behalf of the patient. The SHWC must have prior parental consent on file to treat patients under 18 years of age. Anyone with a complex medical condition is urged to meet with a medical provider to review their medical history within the first few weeks of attending UNT.

Allergy injections can be administered at the SHWC. Patients must have allergy serum and orders from their allergist prior to receiving allergy injections in the clinic. For more information, please visit our website.

If you are having a medical emergency, call 911. If a student needs medical care when the SHWC is closed, they can check the SHWC website for available options. Students enrolled in the student insurance plan may use the 24-hour Telehealth Line listed in their insurance benefits. Students enrolled in other health insurance should consult their carrier for medical advice options. All students may call Parkland's Nurse Call Line at 214-266-8777 free of charge.

Medical information is confidential and is not provided to others without a release signed by the patient. If a parent or guardian requests information on a patient under 18 years of age, the SHWC provides the information as allowed under the law.

Dental, optical, chiropractic, and massage services are available for UNT students and their families through contracted partnerships. These services are not covered by student fees but can be covered under some insurance policies. Please contact the UNT Dental Office at 940-273-2184, College Optical Express at 940-369-7441, L-Evated Chiropractic at 940-323-2335, and Massage Therapy at 940-565-2787 for pricing, information on services, and other questions.

The Office of Health Promotion (OHP) provides individual health education and outreach programs for students and campus groups, as well as special programs to address specific health needs. Visit our website for information about services and programs. Contact the OHP at 940-565-2787 to request information or schedule a program. Wellness consultations are provided by a certified health education specialist.

The SHWC recommends that all students have current immunizations for diphtheria, pertussis, tetanus, rubella, mumps, measles and hepatitis B. Effective October 1, 2013, a bacterial meningitis vaccination is required by Texas state law for any new or transfer student under the age of 22 who is attending UNT for the first time, or for any returning students who have not been continuously enrolled for the previous long semester. Additional information on this requirement, including forms and the submission process, is available at healthcenter.unt.edu/immunization-requirements. The SHWC recommends that all UNT students consider receiving the bacterial meningitis vaccination, even if not required by state law.

Health insurance program

A group student health insurance plan is offered for students enrolled at UNT. Interested students can enroll online at https://unt.myahpcare.com.

International student health insurance requirement

Since 1982, UNT has required all international students to have medical insurance. Consequently, international students are automatically charged a student health insurance fee to cover the premium for the UNT-sponsored health plan each semester after registration.

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

1. an international student has a government sponsored plan (these waivers are processed in the Sponsored Student Office),
2. an international student has insurance through a U.S. employer group policy that meets the waiver requirements, or
3. an international student is a dependent on a parent or relative's U.S. employer group policy that meets the waiver requirements.

Students will be required to go to unt.myahpcare.com to waive out of the Plan, underwritten by United Healthcare Student Resources. For students requesting an insurance waiver, supplemental insurance to cover medical evacuation and repatriation will also be required. This coverage may also be purchased from United Healthcare. A waiver will not be granted until proof of acceptable insurance and medical evacuation and repatriation coverage are provided. Waiver requests are processed up until the official 12th class day.

Questions about the UNT-offered health plan or about a waiver from the plan may be addressed to SHWCinsurance@unt.edu.

Tuberculosis (TB) screening requirement

UNT requires all incoming international and IELI students from high-risk tubercular disease countries to be screened for TB. These students must be screened and, if required, tested for TB their first term of study on the UNT campus or provide documentation of a previous TB test with results done in the United States within the past six months. Failure to complete the TB screening requirement will prevent students from registering for future semesters. For more information, please read the TB screening section at studentaffairs.unt.edu/student-health-and-wellness-center/services/international-students.

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 the university community.

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

University Program Council

The University Program Council (UPC) is a student-run programming board that coordinates fun and exciting programs around the UNT campus. UPC is dedicated to providing programs that are entertaining, educational, and free for students. UPC is comprised of several student executive positions and a student volunteer board that plans and implements events on campus. Students have the opportunity to join UPC at the beginning of each semester and assist in developing new ideas for future events, as well as to promote and organize events. All of our UPComing events can be found on our website https://unt.edu/upc, by liking our Facebook page at "UNTUPC" or following @UNT_UPC on Instagram.

For the most up-to-date information regarding the Union, please visit union.unt.edu or contact the Union at 940-565-3804. Like us at facebook.com/UNTUnion and follow us on Instagram @UNTUnion.

University Union

The University Union is situated at the heart of campus. offering an array of essential services, programs, and opportunities. It serves as a focal point for both formal and informal interactions, fostering community, engagement and understanding among its members.

Within the University Union, individuals can access a wide range of offices, services, and student organizations essential to their academic and personal needs. These include Barnes & Noble at UNT, Union Administration, Student Activities, Student Affairs, Dean of Students, DATCU, ESSC, Eagle Post, Design Works, Center for Belonging and Engagement, Center for Leadership and Service, University Program Council (UPC), the Union Arts Center, Orientation and Transition Programs, Student Government Association (SGA), and Graduate Student Council (GSC).

The University Union also offers a variety of dining options like Starbucks, Jamba Juice, Chick-Fil-A, Burger King, Fuzzy's Taco Shop, Krispy Krunchy Chicken, Verde Everyday Express, Campus Chat and Avesta. Whether students are in the mood for a quick snack

or a full meal, there is something to satisfy every palate. Beyond its dining options, the University Union also serves as a welcoming space for students to unwind between classes or participate in the numerous events held here each week. Whether seeking a moment of relaxation or wanting to engage with campus life, the University Union provides an atmosphere for all members of the UNT community.

For the most up-to-date information regarding the Union, please visit union.unt.edu or contact the Union at 940-565-3805. Like us at facebook.com/UNTUnion and follow us on Instagram @UNTUnion.

Student Veteran Services

Student Veteran Services, 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 Sage Hall, Suite 236, call 940-369-8021, or e-mail veteranscenter@unt.edu for further assistance.

Writing Center

The UNT Writing Center offers free tutoring to all UNT students in all disciplines and at all stages of their academic careers—from freshman English composition students to graduate students writing theses and dissertations.

We offer in-person appointments at the Writing Center in Sage Hall 150 from 9:00 a.m. –9:00 p.m. Monday-Thursday and from 9:00 a.m. – 3:00 p.m. on Fridays. We offer walk-ins at Willis Library from 5:00 p.m. to 9:00 p.m. on Sunday-Thursday evenings. You can stop by at 5:00 p.m. when the tutor arrives to sign up for a slot that night—first come, first served. Please note that graduate students working on dissertations, theses or longer projects should make appointments at our main center.

We have online appointments from 9:00 a.m. – 9:00 p.m., Monday–Thursday, and from 9:00 a.m. – 3:00 p.m. on Fridays. Our graduate tutors also offer online appointments for graduate students. Please email gradwriting@unt.edu to schedule.

Students may have up to 1 hour of instruction total per day. Graduate students working with our Toulouse Graduate Tutors can schedule 1 hour of instruction per week, either online or in-person.

All appointments can be scheduled by calling 940-565-2563 or emailing us at writingcenter@unt.edu.

To learn more about, visit writingcenter.unt.edu.

Policies

The Graduate Council

The Graduate Council (https://facultysenate.unt.edu/graduate-council) establishes all university policies governing graduate programs, approves new programs, and approves all substantive changes in existing programs. It consists of voting and non-voting members. The voting members are: eight graduate status faculty members, one elected from each of the eight voting groups of the Faculty Senate along with four graduate status faculty members appointed at-large by the Faculty Senate (with the assistance of the Executive Committee and the Committee on Committees) for a total of twelve voting members. Elected faculty members serve staggered, three-year terms on the council and represent the interests of the graduate faculty of the university. Voting members elect a faculty chair from amongst themselves for a one-year term at the beginning of each academic year.

Non-voting members are: two graduate students selected by the Graduate Student Council, the vice provost of the Toulouse Graduate School (who serves as this Council's co-chair ex officio), the associate deans of the Toulouse Graduate School, the registrar, and deans or their representatives from each of the colleges, schools, and library. The Toulouse Graduate School staff implement the policies determined by the Graduate Council.

Academic policies

The general policies of the Toulouse Graduate School are determined by the Graduate Council and administered by the Toulouse Graduate School dean's administration.

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

Student Standards of Academic Integrity

A research university is built upon the academic integrity of its members. As an intellectual enterprise, a research university 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. The policy 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. The policy 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 (06.003) 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 to appeal. Students with questions concerning discrimination, grade appeal, academic integrity, disability, financial aid, accommodations, or the Code of Student Conduct must contact the appropriate academic personnel or compliance officer and refer to the appropriate policies. 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 Dean of the Toulouse Graduate School. 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 Dean of the Toulouse Graduate School.

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 Dean of the Toulouse Graduate School.

Appeal to the Toulouse Graduate School

After the determination of the student's home college Dean, the student can appeal further by initiating an appeal to the Dean of the Toulouse Graduate School (TGS) in writing. The appeal to the Dean of TGS can only be made based on at least one of the following grounds:

1. The decision was based on unfair treatment;
2. Procedural error

This appeal must be made within fifteen (15) calendar days of the date of the college's decision. If the Toulouse Graduate School determines that the appeal is not based on one of these criteria, the appeal will be dismissed, and the matter is resolved.

If it is determined that the appeal is based on at least one of the grounds mentioned above, the Toulouse Graduate School shall provide the Dean of the student's home college with a copy of the written appeal within three (3) calendar days of its receipt.

The Toulouse Graduate School may consult with the student and the Dean of the student's home college to resolve the appeal. If the Toulouse Graduate School is unable to resolve the appeal in consultation with the student and the Dean of their home college, the Toulouse Graduate School will forward the appeal to a faculty committee within seven (7) calendar days of its receipt.

Committee Review

Committee Membership: An ad hoc appeal committee is composed of three full graduate faculty, none of whom will be from the student's department or involved in the decision process that took place prior to this appeal. The student will be given the right to select one of the three faculty members on the committee. Should the student opt to select a faculty member, that member must be a member of UNT's full graduate faculty.

Committee Process

1. The home college Dean shall submit a written response to the appeal to the committee. The committee may request additional information and may meet with the student, the instructor, and/or others, as it deems appropriate.
2. After reviewing the student's statement, the college's response, and any additional information requested and provided by the student or the instructor, the committee issues one of the following recommendations to the department and college:
    1. The decision should remain unchanged, as it was not assigned as the result of unfair treatment or a departure from procedural standards.
    2. The decision should be changed, in which instance the committee must provide a written explanation of this finding to the department and college.
3. If the committee recommends a change and the department disagrees, the department must provide a written explanation of the disagreement to the committee. The committee then makes a final recommendation to the Dean of the student's home college, taking into consideration the department's response.

Upon the conclusion of steps 1, 2, and, if applicable, 3, directly above, the committee submits its final recommendation in writing to the Dean of the Toulouse Graduate School.

Dean, Toulouse Graduate School

The Dean of the Toulouse Graduate School shall review the appeal committee recommendation, and all information gathered during the appeal process, make a determination, and notify the department, college, and student and process appropriately.

Failure of Response

If any person, whether student, faculty, or administrator, fails to respond to requests made as part of the appeal process within seven (7) calendar days of the request, the requester will proceed as needed to advance the appeal process.

General policies

Americans with Disabilities Act

The University of North Texas does not discriminate on the basis of disability in employment, admission, treatment, or access to its programs or activities. UNT is committed to providing equal educational access for qualified students with disabilities in accordance with state and federal laws including the Americans with Disabilities Act of 1990 as Amended (ADA) and Section 504 of the Rehabilitation Act of 1973. Additionally, the University is committed to making all UNT sponsored programs and activities accessible, as required by the Texas Accessibility Standards and the ADA Accessibility Guidelines. To this end, all academic units are willing to make reasonable and appropriate adjustments to the classroom environment and the teaching, testing, or learning methodologies in order to facilitate equality of educational access for people with disabilities.

For information about student accommodations, contact the Office of Disability Access at 940-565-4323. Faculty and staff should contact Workplace Accommodations (UNT System) at Workplaces.Accommodations@untsystem.edu or visit hr.untsystem.edu/office-of-eo/title-vii/americans-with-disabilities-act.php for more information.

Changes of address

It is the responsibility of the student to provide correct enrollment, permanent, and local mailing address information at all times and on all documents at the university. Students who change their enrollment or 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 official UNT identification card is distributed during registration. The ID card provides access to several on-campus amenities, such as: athletic events, events on campus, access to dining halls and recreational center, material checkout in certain locations, and more. As the student's official university identification, it must be presented to any UNT official upon request.

Lost ID cards may be replaced with a $10 charge. 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 of or damage to possessions on campus, including possessions in dormitories and vehicles.

Motor vehicle regulations

People 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 transportation.unt.edu.

Emergency closures

Weather conditions may temporarily disrupt university operations in that university administration may determine whether it is necessary to delay opening time, close early or close for the day.

Courses taught online via Web CT are unaffected by inclement or severe weather closings unless instructors inform students otherwise. Those students should continue course work as regularly scheduled.

Closings due to inclement or severe weather are posted on the UNT web site (unt.edu) and released to the Dallas–Fort Worth news media outlets. Registered students, faculty and staff will be notified via the Eagle Alert system as appropriate. Students can update their Eagle Alert contact numbers by going to my.unt.edu. Updates on inclement or severe weather can also be found by checking Facebook (@ northtexas), following X (@UNTEagleAlert) and listening to local media outlets.

Detailed information, guidelines, safety tips and resources pertaining to inclement weather can be found at unt.edu/weather.

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 UNT Shuttle serves the Denton campus, including Discovery Park, Eagle Point and various off-campus student housing complexes. Additionally, students can access the Denton local bus service fare free by presenting a valid UNT ID.

During the fall and spring semesters the Night Flight service provides transportation around the UNT campus and Eagle Point for areas not served by the campus shuttle. Between the hours of 2 a.m. and 7 a.m., a late-night service operated by Lyft is available to students. Visit transportation.unt.edu for current e-ride information.

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 their website at transportation.unt.edu.

Other policies in print

Additional policies and guidelines pertaining to particular subjects or for specific publics are listed in other publications, such as the *Housing Handbook* available in the Housing and Residence Life office; *Parking Regulations,* available from Parking Services in the Parking Office and the UNT Bookstore in the University Union; *The Financial Connection,* available in 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 sfs.unt.edu/tuition-and-fees.

Other policies may be found in the "Code of Student Conduct." The code is available on the UNT web site (may be found at studentaffairs.unt.edu/dean-of-students/conduct).

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 deanofstudents.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 Recovery and Intervention Support and Education Center at 1800 W. Chestnut, Chestnut Hall, Suite 301, or by calling 940-565-3177.

- *Alcohol and Other Depressants (barbiturates, benzodiazepines, sedatives, and tranquilizers)*
- Accidents as a result of impaired ability and judgement, alcohol poisoning, overdose when used with other depressants, damage to heart, liver, pancreas, and a developing fetus, increase risk on cancer, decrease effectiveness of immune system. Overdose can occur when used with other depressants. Tolerance, physical dependence, and withdrawal can occur.
- *Cannabis (also known as marijuana)*
- Short term effects include problems with memory, thinking, problem solving, and physical coordination. It can cause confusion, anxiety, and paranoia, and increase the risk of respiratory ailments. Can interfere with judgement, attention span, concentration, and overall intellectual performance. Impairs driving ability. May cause psychological dependence.
- *Opioids (heroin, fentanyl, oxycodone, hydrocodone, codeine, morphine)*
- Harmful effects include drowsiness, confusion, nausea, slowed breathing. Long term effects include liver and kidney disease, lung complications, mental disorders, and sleep disruption. Tolerance, physical dependence, withdrawal, and overdose can occur.
- *Stimulants (amphetamines, methamphetamine, cocaine, and methcathinone)*
- Chronic, high dose use can cause agitation, hostility, panic, aggression, chest pain, excessive sweating, vomiting. Tolerance, physical dependence and overdose can occur.
- *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. Physical dependence and withdrawal from nicotine can occur.
- *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. The use of these drugs slows down many body functions. Chronic use of some of these chemicals can lead to irreversible liver damage and other health problems. High doses can cause loss of consciousness and sudden death.

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 Recovery and Intervention Support and Education Center, 1800 W. Chestnut, Chestnut Hall, Suite 301, 940-565-3177. 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

catalog.unt.edu

Schedule of Classes

registrar.unt.edu/

Web registration

my.unt.edu

Campus tour information

940-565-4104
Web site: tours.unt.edu/

Admissions Offices

Office of Admissions

Eagle Student Services Center, 3rd Floor

Mailing address:
1155 Union Circle #311277
Denton, TX 76203-5017
940-565-2383
Fax: 940-565-2032

Web site: tgs.unt.edu/future-students/graduate-admissions
E-mail: gograd@unt.edu

Undergraduate Admissions

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
Web site: admissions.unt.edu

The Office of Admissions provides application, admission and status information and advice to new and former graduate and undergraduate students. UNT-International provides advice regarding English Language Institute students, Sponsored Student Support and Immigration.

Toulouse Graduate School

Chestnut Hall, Room 103

Mailing address:
1155 Union Circle #305459
Denton, TX 76203-5017
940-565-4495
Fax: 940-565-2141
E-mail: graduateschool@unt.edu
Web site: tgs.unt.edu

For information regarding general policies, regulations and degree requirements; final approval of graduate degree plans; graduation.

General offices

The Career Center

Main Career Center - Sage Hall, Suite 202
Alumni Career Coaching – Sage 280
Business Leadership Building, Suite 195 - RCOB - Wilson Jones Career Center
CENG - Discovery Park - CENG – E201
CLASS - Career Coaches for CLASS - GAB 201, GAB 220 AA, GAB 111 N, Wooten 129, Sycamore 205 (Journalism Career Coach)
CMHT - Chilton Hall 333
COE - Matthews Hall – 103
COI - Discovery Park G-153
COS - Hickory Hall 254C
CVAD - Art Building Suite 230
HPS - Sage Hall 202
Frisco Landing 180 - Frisco Majors and CACS – Gupta Career Center
Music - MU 204A

Mailing address:
1155 Union Circle #310859
Denton, TX 76203-5017
940-565-2105
Web site: careercenter.unt.edu

Counseling and Testing Services

Chestnut Hall, Room 313

Mailing address:
1155 Union Circle #310968
Denton, TX 76203-5017
940-565-2741

Dean of Students

University Union, Room 409

Mailing address:
1155 Union Circle #305069
Denton, TX 76203-5017
940-565-2648
Web site: deanofstudents.unt.edu

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

Office of Disability Access

Chestnut Hall, Suite 102 (Main Office)
Chestnut Hall, Suite 115 (Testing Center)

Mailing address:
1155 Union Circle #310770
Denton, TX 76203-5017
940-565-4323

Financial Aid & Scholarships

Eagle Student Services Center, 2nd Floor

Mailing address:
1155 Union Circle #311370
Denton, TX 76203-5017
Local: 940-565-2302
Toll Free: 877-881-1014
Web site: financialaid.unt.edu

Global Engagement Office

Marquis Hall, Room 105

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-369-5292

E-mail: GlobalPartnerships@unt.edu, Fulbright@unt.edu

Web site: international.unt.edu/global-dashboard.html.

The **Global Engagement Office** *advises colleges on the development of global programs, manages UNT's international agreements and contracts, and oversees the division's data collection and analysis. Global Engagement acts as steward for campus internationalization by encouraging global scholarship, administering Fulbright and intramural grants, and promoting other global opportunities for faculty and students.*

Housing Office

Welcome Center, 1st Floor

Mailing address:
1155 Union Circle #311310
Denton, TX 76203-5017
940-565-2610
Fax: 940-369-8764
Web site: https://housing.unt.edu/

Residence license agreements, payments, room assignments and problems; residence hall disciplinary action and appeals.

Intensive English Language Institute

Marquis Hall, Room 223

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

E-mail: ieli@unt.edu

Web site: international.unt.edu/ieli

The **Intensive English Language Institute***, established in 1977, is the longest-standing program of its kind in North Texas and one of the most prestigious programs for learning academic English in the United States. IELI also conducts the International Teaching Assistants testing and training program for UNT.*

International Affairs

Marquis Hall, Room 105

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

International Affairs is a guide and champion for campus internationalization at the University of North Texas. International Affairs supports international teaching, research and service. We strive to enrich campus life by welcoming international students and scholars, cultivating global citizens among students, and fostering global connections between UNT and institutions, communities and people around the world.

International Affairs functions in a leadership and facilitation role to support the university's global endeavors and international initiatives. We provide expertise, assistance, and support to faculty, staff, students and administration in all international activities, and direct and support the activity of six constituent units: Global Engagement, International Programs & Communication, Intensive English Language Institute, International Recruitment, International Student and Scholar Services, and Study Abroad.

International Programs & Communication

Marquis Hall, Room 105

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-369-7795

E-mail: internationalaffairs@unt.edu

Web site: international.unt.edu/programs-and-events/index.html.

The International Programs & Communication office provides UNT students opportunities for cross-cultural learning and engagement via a full schedule of international events and activities, provides international student support programs to help new students adjust to life in the U.S., and manages and awards International Affairs scholarships and grants.

International Recruitment

Marquis Hall, Room 209

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017

940-369-7624
Fax: 940-369-7342

E-mail: studyatunt@unt.edu

Web site: international.unt.edu/international-students/index.html.

The **International Recruitment Office** *recruits well-qualified and diverse international students to UNT colleges and schools. Its core activities include converting international prospects to applicants via digital outreach and recruitment at feeder institutions both abroad and in the U.S. Office staff work regularly with high school counselors, foreign faculty, U.S. higher education advisors and UNT alumni.*

International Student and Scholar Services

Marquis Hall, Room 110

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2195
Fax: 940-565-4145
E-mail: internationaladvising@unt.edu
Web site: international.unt.edu/international-scholar-services/index.html.

The **International Student and Scholar Services Office** *provides culturally sensitive immigration advice and support to international students and scholars engaged in academic activities at the University of North Texas. The office serves as the primary campus and system resource on immigration matters pertaining to all non-immigrant visa types.*

The Center for Leadership and Service

University Union, Suite 345

Mailing address:
1155 Union Circle #305007
Denton, TX 76203-5017
Phone: 940-565-3021

Web site: studentaffairs.unt.edu/center-for-leadership-and-service/index.html.

Professional and Academic Testing
Gateway Center, Room 140

Mailing address:
1155 Union Circle #311333
Denton, TX 76203-5017
940-369-7617

Email: GatewayTesting@unt.edu

Web site studentaffairs.unt.edu/counseling-and-testing-services/testing-services/index.html.

Registrar's Office

Eagle Student Services Center, First Floor, #123

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

Registration; transcripts; grade reports; academic status information; residency determination for **continuing** *and* **former** *students; enrollment verification/certification; notary service; and athletic eligibility and graduation.*

Student Accounting

Eagle Student Services Center, Room 160

Mailing address:
1155 Union Circle #310620
Denton, TX 76203-5017
940-565-3225

Website: studentaccounting.unt.edu
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

Stovall Temporary Union Building, Room 155

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 Health and Wellness Center

Chestnut Hall, Second Floor

Mailing address:
1155 Union Circle #305160
Denton, TX 76203-5017
Physical address:
1800 Chestnut St
Denton, TX 76201
Main phone: 940-565-2333
Fax: 940-369-7042
Email: askSHWC@unt.edu
Web site: www.healthcenter.unt.edu
Online appointments: myosh.unt.edu

See web site for care options when the clinic is closed.

Student Legal Services

Chestnut Hall Suite #115

Mailing address:
1155 Union Circle #305058
Denton, TX 76203-5017
940-565-2614
Fax: 940-369-7251
Web site: studentaffairs.unt.edu/dean-of-students/programs-and-services/student-legal-services/

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

Study Abroad Office

Marquis Hall, Room 145

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

The **Study Abroad Office** *coordinates affiliate, exchange and faculty-led programs for UNT students in collaboration with the university's colleges and schools. The office works to create programs that inspire global citizenship, enhance curriculum, and support the academic and personal goals of UNT students from all majors and backgrounds. The office also serves as a U.S. Passport Acceptance Facility and is open to the UNT and North Texas communities.*

Transportation Services Office

Highland Street Parking Garage
621 Avenue A
Denton, TX 76201

Transportation Services: 940-565-3020
Night Flight Transportation: 940-565-3014
E-mail: transportation.services@unt.edu

University Police Department

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

Police Department: 940-565-3000
Fax: 940-369-8788

UNT at Frisco

UNT at Frisco*
12995 Preston Road
Frisco, TX 75033

972-668-7100

Email: UNTFrisco@unt.edu

Web site: frisco.unt.edu

*As a branch campus of UNT, the accreditation status of UNT at Frisco is dependent on the continued accreditation of University of North Texas. University of North Texas is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award associate, baccalaureate, masters, and doctorate degrees. University of North Texas also may offer credentials such as certificates and diplomas at approved degree levels. Questions about the accreditation of the University of North Texas may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website (www.sacscoc.org).

UNT at Frisco - Inspire Park
6170 Research Rd.
Frisco, TX 75033

496-362-6474

Email: inspirepark@unt.edu

Web site: frisco.unt.edu

Programs of Study

UNT at Frisco offers undergraduate programs in the following areas:

- Advertising and Brand Strategy, BS
- Applied Arts and Sciences, BAAS
- Applied Project Design & Analysis, BS
- Biology, BA/BS
- Business Integrated Studies, BBA
- Computer Science, BS
- Data Analytics undergraduate certificate
- Data Science, BS
- Education, BS (EC-6 with ESL certification) (UNT at Frisco and UNT at Frisco-Inspire Park)
- Event Design and Experience Management, BS
- Event Management certificate
- Finance, BBA
- General Business, BS
- Hospitality Management, BS
- Industrial Distribution, BS
- Information Technology, BS
- Integrative Studies, BS
- Logistics and Supply Chain Management certificate
- Management, BBA
- Marketing, BBA
- Marketing with a concentration in Professional Selling, BBA
- Project Design & Analysis, BS
- Psychology, BA/BS
- Residential Property Management certificate
- Sport Entertainment Management, BBA (hybrid program)
- Supply Chain Management, BS

UNT at Frisco offers graduate programs in the following areas:

- Advanced Data Analytics, MS
- Business Analytics, MBA/MS
- Business Administration, MBA (UNT at Frisco-Inspire Park only)
- Doctor of Business Administration, DBA
- Counseling, MEd/MS
- Data Analytics graduate certificate
- Data Science, MS
- Educational Leadership, EdD
- Educational Leadership, PhD
- Health Informatics, MS
- Information Science, PhD (hybrid program)
- Interdisciplinary Studies, MS
- Interdisciplinary Studies, MA
- Learning Technologies, MS
- Sport Entertainment Management, MBA

Academic Advising

Academic advising for students wanting to attend UNT at Frisco is available for students through their academic college. Please be sure to indicate to your advisor that you intend to be a Frisco student and would prefer a Frisco schedule. For academic advising office information, please use the following links: Undergraduate Advising Office Directory & Graduate Advising Directory.

Career Services

Career and professional development workshops are frequently available each semester; check the UNT Frisco Events Calendar to see what is coming up next. Career advising appointments can be made through your student account on Navigate. For additional questions email UNTFrisco@unt.edu.

Counseling Services

Counselors will be available on campus Tuesday and Thursday 8am-5pm. Services available are group workshops, therapy dogs and individual counseling. To make an appointment, call 940-565-2741 and ask for Frisco availability. For more information and resources including Therapy Assistance Online and anonymous mental health screenings, read more here studentaffairs.unt.edu/counseling-and-testing-services.

For after-hours needs, you may call the UNT Police at 940-565-3000 and ask for the On-Call Counselor.

For emergencies, please call 9-1-1.

Disability Accommodations

Students requesting reasonable accommodations for a disability should register through the Office of Disability Access (ODA) as a first step. Click here to start the process: https://disability.unt.edu/services/apply. Once you receive your Letter of Accommodations (LoA) from your ODA Coordinator, you will provide a copy of your LoA to each instructor at the start of every semester to begin receiving accommodations in your courses.

Financial Aid and Scholarships

Students with questions about financial aid or scholarships should be checkinh the my.unt.edu Student Center regularly. To Do List Items and Holds will give detailed descriptions with the next steps. Students can receive help on financial aid at UNT Frisco by contacting the front desk at 972-668-7100. Students can also contact the Financial Aid and Scholarships Office directly at 940-565-2302 or by email at financialaid@unt.edu.

Food Pantry

Our food pantry is available for students who are dealing with food insecurities of varying levels. Confidentiality will be maintained for students visiting the food pantry, and where appropriate, referral to additional campus and/or community resources can be made. Ask about this service at the welcome desk or by calling 972-668-7100.

Frisco Fitness Center

Located on the first floor and managed by Recreational Sports, the Frisco Fitness Center provides fitness equipment and programming to meet the need of the students, faculty and staff at Frisco Landing. The Fitness Center is open to all currently enrolled UNT students with a valid UNT ID who pay the recreation fee included in tuition. Current and retired faculty and staff may purchase memberships. All members of the Frisco Fitness Center also have access to enter and use the Pohl Recreation Center on main campus. For more information about the Frisco Fitness Center, email Friscofitness@unt.edu. Information is also available on the UNT Rec Sports web site at recsports.unt.edu.

Health and Wellness

Look for activities and workshops on the events calendar such as Fall Flu Shot Clinics, stress-reduction activities, dietitian consultations and more. Medical appointments can be held virtually through the Student Health and Wellness Center. Visit the Health Center Patient portal. A Nurse Hotline is available 24/7 to answer questions on treatment of medical issues or how to determine severity 214-266-8777.

Student Organizations

As our campus grows, the need for specialized connections among students is becoming increasingly important. Please contact UNTFrisco@unt.edu if you would like to find other like-minded peers with common goals and create new student organizations for our campus. To search current UNT at Frisco organizations, visit OrgSync and use the key word Frisco to search by location.

Tutoring and Academic Success

Students can meet with an academic coach in Frisco Landing or virtually. Academic coaching can assist with study, test, and note taking tips as well as time management, test anxiety and more. Set up an appointment for academic coaching via Navigate. Tutoring at Frisco Landing is in room 250 and provides one-on-one tutoring, drop-in tutoring, and SI sessions virtually. Please visit the Learning Center's webpage for dates and time for each semester. The Writing Lab is available to all students to assist with grammar, punctuation, and citations, as well as theses and dissertations. Online tutoring is also available. Please visit the UNT Writing Center web page to schedule an appointment.

Volunteer Opportunities

Volunteering to serve the community around us is a great way to make meaningful connections with our area partners, your peers, and within your field of interest. To find available service projects, check the events calendar, or email UNTFrisco@unt.edu to propose a new project.

Occasionally other offices will visit our campus to deliver workshops, activities, or information such as Student Legal Services, Student Money Management Center, Off-Campus Student Services, Student Health and Wellness Center, etc. Watch the events calendar *for updates on visits.*

Toulouse Graduate School

Main Office
Chestnut Hall, Room 103

Mailing address:
1155 Union Circle #305459
Denton, TX 76203-5017
940-565-4495
E-mail: graduateschool@unt.edu
Web site: tgs.unt.edu

Victor R. Prybutok, Vice Provost for Graduate Education and Dean of the Toulouse Graduate School
Joseph R. Oppong, Academic Associate Vice Provost and Academic Associate Dean of the Toulouse Graduate School

Faculty

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 through The University of North Texas Graduate CAS, the Centralized Application Service (CAS™) for graduate programs at the University of North Texas 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, academic departments may require additional information specific to their degree programs. Consult the department for degree-specific admission standards and procedures.

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.

College of Applied and Collaborative Studies

Denton Campus Location
Sage Hall, Suite 394
1155 Union Circle #311190
Denton, TX 76203-5017

Frisco Campus Locations
UNT at Frisco - Frisco Landing
12995 Preston Road
Frisco, TX 75033
Phone: 972-668-7100

Frisco Inspire Park Location
Inspire Park
6170 Research Road
Frisco, TX 75033

Email: CACS@unt.edu
Website: CACS.unt.edu/
Phone: 940-369-8129

Audhesh Paswan, Dean
Shari M. Childers, Associate Dean

Faculty

Mission

The College of Applied and Collaborative Studies prepares students to engage in a rapidly changing world through partnership and innovation. We create ongoing opportunities for students to learn and grow in an inclusive, challenging environment.

Vision

The College of Applied and Collaborative Studies will cultivate excellence among the faculty, staff, and the next generation of scholars and global community leaders. We will earn recognition as a leader in multidisciplinary, project-based education, and in providing educational opportunities for adult learners and diverse populations. These redesigned educational opportunities will serve our triple bottom lines, improving economic, social, and environmental outcomes in our region and the world.

Values

- Collaboration: We work across traditional boundaries, within and across the university and with partners in the public and private sectors.
- Community: We invest in public interest practices that prioritize ecological, social and economic benefits for all.
- Innovation: We reimagine and co-create the modern role of the academy, encouraging risk-taking and fostering creative, promising futures for faculty, staff, and students and the communities they touch.
- Authentic Learning Experiences: We identify and craft learning experiences that interweave liberal arts, data analysis, and design principles within the context of problems and projects that build 21st-century professional skills.

Department of Multidisciplinary Innovation

Denton Campus Location
Sage Hall, Suite 394
1155 Union Circle #311190
Denton, TX 76203-5017

Frisco Campus Locations
UNT at Frisco - Frisco Landing
12995 Preston Road
Frisco, TX 75033

Frisco Inspire Park Location
Inspire Park
6170 Research Road
Frisco, TX 75033

Email: CACS@unt.edu
Website: CACS.unt.edu/
Phone: 940-369-8129

Pamela Scott-Bracey, Chair

Faculty

Master's Degree

Interdisciplinary Studies with a concentration in Advanced Data Analytics, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Advanced data analytics concentration

Expertise in data analytics is increasingly important for advancement in nearly every career. The advanced data analytics concentration provides students with an understanding of the fundamental concepts of contemporary data analytics methods, as well as experience in obtaining, wrangling, and learning from big data through machine learning and deep learning tools. The core courses in the concentration emphasize applications of theory and tools to solving real-world problems in business, industry and science.

Data analysis teams are essential in all industry sectors from large technology firms to manufacturing companies to the growing number of data analytics consulting businesses. The advanced data analytics concentration prepares students to conduct sophisticated analysis through industry-based case studies, allowing graduates to play important roles in their organizations.

Requirements

The interdisciplinary studies master's with a concentration in advanced data analytics is a 30-graduate credit hour program across advanced data analytics and two other fields of study. Students work with an advisor to identify appropriate and relevant supporting fields, as well as to identify and complete an appropriate capstone experience. Students completing the required ADTA courses (or relevant substitutions approved by the ADTA advisor) may receive the graduate academic certificate in data analytics (assuming the other certificate requirements are met).

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5250 - Large Data Visualization
- ADTA 5340 - Discovery and Learning with Big Data

For further information about advanced data analytics at UNT, please contact the interdisciplinary studies program coordinator, Toulouse Graduate School, Chestnut Hall, Room 103; 1155 Union Circle #305459, Denton, TX 76203-5017; 940-565-4495; insd@unt.edu.

Interdisciplinary Studies with a concentration in Applied Analytics, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Applied analytics concentration

The concentration in applied analytics is designed to prepare you for a wide variety of employment opportunities, such as data analyst, operations research analyst, quantitative marketing specialist, predictive analyst, research and modeling analyst, statistician and the like. Potential places of employment could include retail and investment banks, healthcare providers, insurance providers, e-commerce portals, airlines, market research firms, sport consulting, telecommunications firms, petroleum and renewable energy industries, institutions of higher education and government agencies, including the FBI and the CIA.

The applied analytics concentration in the interdisciplinary studies master's program could include courses from, but not limited to, offerings in the College of Business and the College of Arts and Sciences. Students will formulate a degree plan that reflects their academic and career goals. Courses for credit must be approved by the program coordinator, and the coordinator will provide a list of recommended courses in business analytics, economics, etc.

Both thesis and non-thesis options are available for completion of the degree. Students will develop a degree plan with the aid and approval of the program coordinator, the concentration director and a three-member faculty advisory committee composed of representatives from their three primary areas of study. This committee will also serve to evaluate the thesis, portfolio or project.

For further information about applied analytics at UNT, please contact the interdisciplinary studies program coordinator, Toulouse Graduate School, Chestnut Hall, Room 103; 1155 Union Circle #305459, Denton, TX 76203-5017; 940-565-4495; insd@unt.edu.

Interdisciplinary Studies with a concentration in Applied Gerontology, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Applied gerontology concentration

The concentration in applied gerontology instills a sound understanding of the processes of aging, a commitment to the pursuit of new developments and research, and a belief that the latter years of life have intrinsic value and offer potential for human fulfillment. The vision, knowledge and skills of professionals who embrace this philosophy will be increasingly necessary as our global communities seek to meet the needs of their growing populations of older adults.

Students in the interdisciplinary applied gerontology concentration may take as many as 18 graduate credit hours in their primary field of gerontology and must complete course work in two other related academic disciplines, such as anthropology, criminal justice, geography, health care management or sociology. At least 6 credit hours must be completed in each of the three academic areas. Knowledge of a second language is required for the Master of Arts degree.

Both thesis and non-thesis options are available for completion of the degree. Students will develop a degree plan with the aid and approval of a three-member faculty advisory committee composed of representatives from their three academic areas of study. Unless a capstone course is selected to meet the graduation requirements, the committee will also serve to evaluate the thesis or final portfolio or project.

For further information about the interdisciplinary applied gerontology program at UNT, please contact the interdisciplinary studies program coordinator, Toulouse Graduate School, Chestnut Hall, Room 103; 1155 Union Circle #305459, Denton, TX, 76203-5017; 940-565-4495; insd@unt.edu.

Interdisciplinary Studies with a concentration in Computational Linguistics, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Computational Linguistics concentration

Computational linguistics (CL) is the scientific study of language from a computational perspective. CL lives at the intersection of language and technology; it is inherently interdisciplinary. The CL concentration in the interdisciplinary studies master's program brings together course work in linguistics and computer science to develop two different skill sets in students. First, our graduates develop keen skills in linguistics and linguistic analysis, learning how languages work in the abstract. This knowledge can then be applied to the design of computational systems for automating linguistic analysis. The second major goal of the concentration is for students to develop a thorough knowledge of the methods used in automated natural language processing (NLP), as well as the programming skills to undertake research in computational linguistics. These two skill sets will be augmented by a pair of courses selected to strengthen background relevant for the student's intended career path. These course sequences are to be selected in consultation with the concentration advisors; possible topics include learning technologies, digital data curation, business analytics or information science.

Concentration structure

The concentration in computational linguistics is a 30-credit-hour program. The degree plan in the concentration is a mix of required courses and electives, with the Department of Linguistics as the primary academic area. A total of 18 credit hours from linguistics will be earned from courses in theoretical linguistics, research methods, experimental design and computational linguistics. The CL courses are designed to coordinate with courses in computer science (total of 6 credit hours). The third area of study (total of 6 credit hours) is to be selected by the student in coordination with the concentration advisors, and at the end of the program, students will complete a capstone course in linguistics which will include both a substantial research component and professional development, to support students in career placement following completion of the degree plan.

Additional application items

Applicants for admission to the computational linguistics concentration must submit the following items in addition to the interdisciplinary studies master's application:

- A one-page, single-spaced statement of purpose in-lieu of the required theme statement.
- Scores on the verbal, quantitative and writing sections of the Graduate Record Examinations (GRE). Successful applicants 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. Successful applicants have presented scores on the IBT ranging from 88-100, and on the CBT ranging from 231-255.

For further information about computational linguistics at UNT, please contact the Department of Linguistics (https://linguistics.unt.edu), Alexis Palmer (alexis.palmer@unt.edu), UNT Discovery Park, Suite B201A, 3940 North Elm, Denton, Texas 76203; or by phone at (940) 565.4552.

Linguistics core, 18 hours

The linguistics core consists of 5 courses (15 credit hours) leading to a capstone experience (3 credit hours) taken in the student's last semester.

All students must have completed LING 5040 - Principles of Linguistics, or an equivalent, before enrolling in core linguistics courses. This course may be taken as a deficiency but cannot be applied to the computational linguistics degree plan.

- LING 5070 - Research Design in Linguistics
- LING 5305 - Morphology
- LING 5310 - Syntax I
- LING 5410 - Foundations of Computational Linguistics
- LING 5415 - Special Topics in Computational Linguistics
- LING 5990 - Graduate Research Seminar in Linguistics (capstone)

Computer science core, 6 hours

Students will select two of the following courses in consultation with faculty advisors:

- CSCE 5200 - Information Retrieval and Web Search
- CSCE 5210 - Fundamentals of Artificial Intelligence
- CSCE 5215 - Machine Learning
- CSCE 5216 - Pattern Recognition
- CSCE 5290 - Natural Language Processing
- CSCE 5300 - Introduction to Big Data and Data Science
- CSCE 5380 - Data Mining
- CSCE 6290 - Advanced Topics in Human/Machine Intelligence

Specialization electives, 6 hours

Students will select a two-course sequence to focus on an intended career path such as:

- INFO 5841 - Data Curation and Management
- INFO 5842 - Digital Curation Tools and Applications

or

- LTEC 5210 - Instructional Systems Design I
- LTEC 5310 - Human-Computer Interaction

or

- INFO 5731 - Computational Methods for Information Systems
- INFO 5737 - Information and Cyber-Security

Interdisciplinary Studies with a concentration in Digital Communication Analytics, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Digital communication analytics concentration

Analytics has become an indispensable decision-making tool in every industry. The digital communication analytics concentration provides students with opportunities to learn and practice basic analytic techniques in such areas as statistical analysis and predictive analytics, social media metrics, data visualization, and coding. No prior experience in or knowledge of analytics is needed for this concentration, which helps students build knowledge and skills in digital communication analytics step-by-step. This degree is appropriate for busy professionals and graduate students who work or desire to work in various workplace settings, such as public relations, advertising and marketing agencies, corporations, nonprofits, governments, print and broadcast media, and social media.

Requirements

The interdisciplinary studies master's with a concentration in digital communication analytics is a 30-graduate credit-hour program across digital communication analytics and two other fields of study. Students work with an advisor to identify appropriate and relevant supporting fields, as well as to identify and complete an appropriate capstone experience. Students who satisfactorily complete all the required DCAS courses
(minimum of a B grade) may receive the graduate academic certificate in digital communication analytics.

For further information about digital communication analytics at UNT, please contact the interdisciplinary studies program coordinator, Toulouse Graduate School, Eagle Student Services Center, Room 354; 1155 Union Circle #305459, Denton, TX 76203-5017; 940-565-2383; insd@unt.edu.

Required courses, 12 hours

The following four courses are required:

Elective courses, 3 hours

Select one course from the following list:

- DCAS 5361 - Data Visualization for the Digital Communication Analyst

Interdisciplinary Studies with a concentration in Digital Social Science, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Digital social science concentration

The MA with a major in interdisciplinary studies is a 30-hour program. The courses required for the digital social science concentration are listed below. Students work with an advisor to identify appropriate and relevant supporting fields such as anthropology, education, marketing, psychology, political science or sociology.

The use cases for the Digital Social Science INSD concentration are 1) students interested in a social science master's degree that teaches digital research skills for career advancement in the private sector, nonprofits, and government, and 2) students considering an advanced social science degree who have not narrowed their focus to a specific field or who wish to increase the competitiveness of their applications to advanced graduate programs.

Required courses, 15 hours

- INSD 5110 - Introduction to Interdisciplinary Research
- INSD 5200 - Digital Social Science
- INSD 5210 - Theories of the Information Society
- INSD 5220 - Digital Research Methods
- INSD 5940 - MA Interdisciplinary Capstone Experience

Interdisciplinary Studies with a concentration in Geographic Information Systems (GIS), 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Required courses

- INSD 5110 - Introduction to Interdisciplinary Research
- INSD 5940 - MA Interdisciplinary Capstone Experience

Concentration courses, 12 hours

Students take four courses from the list below:

- GEOG 5510 - GIS for Applied Research
- GEOG 5525 - LiDAR Data Analysis in GIS
- GEOG 5530 - Remote Sensing and Digital Image Analysis
- GEOG 5540 - Enabling Business Intelligence Using Enterprise GIS
- GEOG 5550 - Advanced Geographic Information Systems
- GEOG 5560 - Application Development with Python Programming
- GEOG 5590 - Advanced GIS Programming

Interdisciplinary Studies with a concentration in Geospatial Intelligence, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Geospatial intelligence concentration

The Geospatial Intelligence concentration is designed for those who want to receive data analytics knowledge, but also to gain a sound understanding of strategic decision making using spatial data. Students who complete the concentration have acquired and honed their skills in geospatial data visualization and location intelligence. The concentration is ideal for students who wish to add geographic analytical capabilities to their careers.

Both thesis and non-thesis options are available for completion of the degree. Students will develop a degree plan with the aid and approval of a three-member faculty advisory committee composed of representatives from their three academic areas of study. Unless a capstone course is selected to meet the graduation requirements, the committee will also serve to evaluate the thesis or final portfolio or project.

For further information about advanced data analytics at UNT, please contact the interdisciplinary studies program coordinator, Toulouse Graduate School, Chestnut Hall, Room 103; 1155 Union Circle #305459, Denton, TX 76203-5017; 940-565-4495; insd@unt.edu.

Concentration courses, 12 hours

- GEOG 5510 - GIS for Applied Research
- GEOG 5540 - Enabling Business Intelligence Using Enterprise GIS
- GEOG 5580 - Advanced GIS Methods in Health
- GEOG 5190 - Spatial Statistics and Geographic Data Analysis
- GEOG 5195 - Advanced Geospatial Data Analytics
- GEOG 5220 - Applied Retail Geography
- GEOG 5230 - Location Intelligence: Advanced Business GIS Concepts and Applications

Interdisciplinary Studies with a concentration in Health Data Analytics, MS

Driven by federal requirements and the demand to improve the quality of healthcare delivery in the United States, the healthcare industry generates and stores massive amounts of electronic data related to patient care, compliance, regulatory and billing requirements, and medical research. In addition, the data includes a wide range of data types and display formats that must be managed and analyzed quickly and effectively to facilitate critical decision making for both individuals and health care delivery organizations. The opportunity to improve health care quality, lower costs and accelerate research collaboration lies in the hands of those capable of synthesizing and analyzing massive data sets to extract the insights necessary for informed decision-making.

The health data analytics concentration (an intensive interdisciplinary program that blends course work in healthcare administration, data science and computational modeling) prepares graduates to assume leadership roles in this emerging discipline. In this 30-credit online program, which can be completed in less than two years, students will develop a broad understanding of the various methods, software tools and topical expertise needed to discover meaningful patterns in health-related data and effectively communicate the implications.

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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Health data analytics requirements, 12 hours

Students will take 12 credit hours from the following courses in health services administration, with INSD 5940 or HLSV 5940 taken during their final semester:

- HLSV 5300 - Information Systems for Healthcare Management
- HLSV 5400 - Health Delivery Systems
- HLSV 5450 - Health Services Administration
- HLSV 5940 - HLSV Capstone
- AGER 5840 - Internship in Administration of Programs in Aging

Applied data science core, 12 hours

Students will take the following courses as part of their applied data science core:

- ADTA 5120 - Introduction to Data Analytics
- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5250 - Large Data Visualization

Electives, 6 hours

Students will work with the program advisor to identify a specialization field. These courses must be approved by the program coordinator and the department in which the courses are located.

Interdisciplinary Studies with a concentration in Humanities, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Humanities concentration

The humanities concentration in the interdisciplinary studies master's program allows students to explore and integrate humanities disciplines through individually tailored degree plans. Students are not restricted to three academic disciplines or areas of the university. The component academic fields from which students draw could include: anthropology; communications; creative writing; English; dance; history; journalism; linguistics; music; philosophy and religion; radio/television/film; sociology; theatre; visual arts; and world languages, literatures and cultures. Students will formulate a degree plan that reflects their academic and career goals. Courses for humanities credit must be approved by the humanities concentration director and the faculty advisory committee.

Both thesis and non-thesis options are available for completion of the degree. Students will develop a degree plan with the aid and approval of the program coordinator, the concentration director and a three-member faculty advisory committee composed of representatives from at least two different disciplines in the humanities. This committee will also serve to evaluate the thesis, portfolio or project. Knowledge of at least one foreign language or a tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree.

Interdisciplinary Studies with a concentration in Instructional Systems Design, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.

3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Instructional systems design concentration

The instructional systems design (ISD) concentration is for professionals entering the area of instructional systems design. Instructional systems design is the practice of maximizing the effectiveness, efficiency, and appeal of instruction and other learning experiences. The process consists of determining the current state and needs of the learner, defining the end goal of instruction, and creating instruction to assist in the transition. The process is informed by pedagogically tested theories of learning. Graduates with this degree concentration are prepared to work as instructional systems designers in academic or corporate settings.

Required courses, 15 hours

- LTEC 5030 - Foundations of Learning Technologies
- LTEC 5210 - Instructional Systems Design I
- LTEC 5211 - Instructional Systems Design II
- LTEC 5510 - Technology-Based Learning Environments
- LTEC 5300 - Learning and Cognition

Optional, 3 hours

- LTEC 5040 - Online Design and Pedagogy
- LTEC 5420 - Web Authoring
- LTEC 5570 - Ethical, Legal and Professional Issues in Computing

Interdisciplinary Studies with a concentration in Interactive and Virtual Digital Communication, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Concentration in interactive and virtual digital communications

During this period of dynamic change in traditional print and broadcast media, it is absolutely essential that anyone interested in pursuing a career in media have a fundamental grasp of how the Internet, social media and technology are changing the way we gather, report, write and distribute news and information.

This 30-hour interdisciplinary studies master's concentration provides students with written, visual and technical competencies required to successfully communicate in modern online and information-oriented environments.

Program objectives

- Provide a solid foundation on the current trends in communicating news and information in today's world.

- Provide a theoretical and practical framework to assess how interactive and digital media, e.g. web sites, blogs, social media, mobile media, is impacting current business models for media and most companies today.
- Help students understand how to best use technology and digital media to better reach news and existing readers, viewers, consumers and customers.
- Update knowledge and skills related to digital media to take on a more active role in business and industry.

Courses

The following are the courses recommended for both the Master of Arts and Master of Science interdisciplinary degrees with a focus on interactive and virtual digital communications in the Frank W. Mayborn Graduate Institute of Journalism and the departments of learning technologies and library and information sciences in the College of Information.

Frank W. Mayborn Graduate Institute of Journalism requirements

- JOUR 5320 - New Technologies of Mass Communication
- JOUR 5330 - Strategic Social Media

Electives

- 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

Department of Learning Technologies requirements

Computer education and cognitive systems courses:

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

Electives

- LTEC 5220 - Multimedia in Technology Applications
- LTEC 5111 - Introduction to Video Technology
- LTEC 5310 - Human-Computer Interaction
- LTEC 5400 - Data Communications and Networking for Next Generation Learning
- LTEC 5900 - Special Problems
- LTEC 5910 - Special Problems

Department of Information Science requirements

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

Electives

- INFO 5020 - Economics of Information
- INFO 5460 - Publishing and Other Information Industries
- INFO 5712 - Horizon Technologies for Library and Information Centers
- INFO 5814 - Web Content Development and Maintenance
- INFO 5740 - Introduction to Digital Libraries
- INFO 5900 - Special Problems

Other course work

Students intending to graduate with a thesis must reserve 6 of the required 30 hours of credit for thesis studies. Both thesis and non-thesis options are available for completion of the degree.

For further information about interactive and virtual digital communications at UNT, please contact the Department of Learning Technologies at 940-565-2057 or LT-Office@unt.edu.

Interdisciplinary Studies with a concentration in Program Leadership, 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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Program leadership concentration

This concentration addresses the findings from research to provide offerings in the areas of Program / Project Management, Program Analysis and Program Leadership development. The skills developed in the classes of the Program Leadership concentration will allow the students to be more competitive in the marketplace. The classes also focus on data-driven decision-making processes to be reliant on data in performing analysis as well as in making decisions.

Required courses, 9 hours

- INSD 5300 - Creating Agile Mindset
- INSD 5310 - Leadership in Program Management
- INSD 5320 - Structured Problem Solving

Prescribed electives, 3 hours

Students choose one course from the following:

- INSD 5200 - Digital Social Science
- INSD 5330 - Structuring Enterprise Architecture

Interdisciplinary Studies with a concentration in Workforce Leadership and Development, MS

The Workforce Leadership and Development concentration provides students with opportunities to broaden their workplace related skills in the areas of leadership, project management, organization design, and entrepreneurship. These workplace skills augment mid-management positions in most disciplines and have been associated with improving organizational performance while enhancing growth. This track provides valuable skills for employees at all levels in an organization (manager, team leader, leader, executive) and provides effective techniques to manage change, launch new products, and lead through disrupted technologies.

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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Workforce leadership and development concentration, 12 hours

- LTEC 5640 - Organization Development, Technology and Change
- LTEC 5650 - Technology Entrepreneurship
- LTEC 5660 - Project Management for Performance Improvement
- LTEC 5670 - Distributed Leadership

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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

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 provides more structure in the courses taken and is 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.

General requirements

In the self-styled approach, either the Master of Science or the Master of Arts degree program must include two separate fields of study with at least 6 hours in each field for a maximum of 24 hours between the two fields. INSD 5110 and INSD 5940 (for the MA) or INSD 5941 (for the MS) are also required for the self-styled degree. A faculty advisory committee may be formed to help the student develop the degree plan and supervise progress.

For those pursuing the self-styled degree, only STEM-based fields of study will be possible for the MS degree; either STEM or non-STEM-based fields of study are permissible for the MA.

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 successfully complete a capstone seminar.

Admission requirements

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

1. A completed Graduate School application form.
2. Transcripts from all colleges attended.
3. A non-refundable application fee.
4. A current resume or curriculum vitae.
5. 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, the director of a concentration (if applicable) and the faculty advisory committee to develop a plan of study for the interdisciplinary program.

Applicants seeking admission to the recognized concentrations should consult with the concentration's director for concentration specific admission requirements.

University Courses (UCRS)

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

Concentrations

Students pursuing the master's in interdisciplinary studies additionally may request admission to one of the available concentration programs.

Graduate Academic Certificate

Digital Social Science certificate

Digital Social Science is currently a graduate concentration within the Master's in Interdisciplinary Studies. Offering a stand-alone graduate certificate in DSS allows for a system of stackable micro-credentials by which students can start with a certificate and then continue to the master's degree if they choose. It allows greater flexibility in graduate training. This certificate supports UNT's emphasis on alumni employability and flexible graduate education.

Required courses, 9 hours

- INSD 5110 - Introduction to Interdisciplinary Research
- INSD 5200 - Digital Social Science

- INSD 5220 - Digital Research Methods

Prescribed electives, 3 hours

Any 5000-level social science course (ANTH, ECON, PSCI, PSYC, SOCI).

Program Leadership certificate

This 12-hour certificate addresses the findings from research to provide offerings in the areas of Program/Project Management, Program Analysis and Program Leadership development. The skills developed in the classes of the Program Leadership Graduate Certificate will allow the students to be more competitive in the marketplace. The classes also focus on data-driven decision-making process to be reliant on data in performing what if analysis as well as in making decisions.

Required courses, 9 hours

- INSD 5300 - Creating Agile Mindset
- INSD 5310 - Leadership in Program Management
- INSD 5320 - Structured Problem Solving

Elective courses, 3 hours

Choose one of the following courses:

- INSD 5200 - Digital Social Science
- INSD 5330 - Structuring Enterprise Architecture

G. Brint Ryan College of Business

Graduate Programs Office
Business Leadership Building, Room 201

Mailing address:
1155 Union Circle #311160
Denton, TX 76203-5017
940-369-8977

Master's
E-mail: RCoBMasters@unt.edu
Web site: https://cob.unt.edu/masters

Doctoral
E-mail PhD: phdcoba@unt.edu
Web site PhD: cob.unt.edu/phd
E-mail DBA: dbacoba@unt.edu
Web site DBA: https://cob.unt.edu/dba

Marilyn Wiley, Dean
Terry Pohlen, Senior Associate Dean
Tracy Dietz, Associate Dean
John Puthenpurackal, Associate Dean

Faculty

Mission

To prepare global business leaders and scholars in an intellectually stimulating and engaging community through preeminent teaching, research, and service.

Vision

To be an agile institution and to transcend national and international standards of excellence in research and education.

The G. Brint Ryan 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 G. Brint Ryan College of Business offer graduate programs leading to the Master of Science with majors in accounting, finance, business analytics, information systems & technologies and taxation and Master of Business Administration with majors in business administration (with multiple concentrations), business analytics, management consulting (full-time cohort MBA) and sport entertainment management.

Concentrations at the master's level are available in business studies, strategic management, health services management, organizational behavior and human resource management, marketing, marketing analytics, finance, information technology, and music business.

Concentrations at the doctoral level are available in accounting, business computer information systems, business information assurance, finance, logistics systems, management, marketing and management science.

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.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.
- Some programs may require a personal interview

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. **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.

Student load

Graduate students in Masters Programs may enroll in more than 9 credit hours in Fall or Spring semesters, and more than 6 credit hours in Summer **only with department or Graduate Programs Office consent.**

Comprehensive examination

Candidates in all business MBA degree programs are required to complete MGMT 5190, 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 requirements of the G. Brint Ryan College of Business and the Toulouse Graduate School.

Minimum academic standards for master's students

Students may not graduate with any grades of "D" or "F" in their core and/or concentration courses if three (3) grades of "C" have been earned, at least one course must be duplicated with a grade of "B" or better. Duplication forms must be completed and turned into the Registrar's Office. If a student received two (2) course grades below "C" for the purposes of this rule the highest grade will be used. Per Toulouse Graduate School policy only two (2) duplications are permitted.

Changing major or concentration

G. Brint Ryan College of Business MBA/MS students are restricted to changing majors/concentrations no more than two times within the G. Brint Ryan College of Business. This excludes changing from graduate non-degree seeking status, or from a major outside the RCOB to an RCOB major/concentration.

Teaching fellowships

Departmental chairpersons assign teaching assistantships and fellowships based on departmental needs.

G. Brint Ryan College of Business Computing Center

G. Brint Ryan College of Business Information and Learning Technologies Center

Terry Pohlen, Senior Associate Dean

The Information and Learning Technologies Center of the G. Brint Ryan 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 G. Brint Ryan 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 for 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 G. Brint Ryan 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 G. Brint Ryan College of Business applications. There are also several "Virtual Classrooms" utilizing this same virtual desktop environment for hands-on instruction when needed.

The Center for Energy Accounting and Sustainability

Dr. Govind Iyer, Director

Under the leadership of Dr. Govind Iyer, the Institute of Petroleum Accounting underwent a transformative rebranding initiative in the summer of 2023. Now named the Center for Energy Accounting and Sustainability, our new identity reflects our steadfast commitment to advancing the future of energy accounting and sustainability, research, education, and industry practices for the benefit of our global community.

The Institute of Petroleum Accounting was created in 1980 to accomplish three principal objectives:

1. To research and encourage others to carry out research in accounting, finance, taxation, and economic problems of the extractive industries.
2. To disseminate information about the research activities of the Center and about current developments in the extractive industries through the Petroleum Accounting and Financial Management Journal
3. To encourage universities and colleges to become actively involved in educational programs related to the extractive industries.

Through its position within the university community, the Center has access to research that directly impinges upon the accounting, finance, tax, and economics issues facing the petroleum industry today. The Center's ties with professional accountants, financial managers, and executives within the extractive industries enable it to stay abreast of the concerns that industry professionals contend with on a day-to-day basis. From the beginning, the Center has enjoyed a strong relationship with the oil and gas industry for the mutual benefit of both. The Center is the conduit through which academic research in the oil and gas industry reaches the working professional.

Mission

The mission of The Center for Energy Accounting and Sustainability (CEAS) includes:

1. Research Excellence in Energy Accounting, Economics, and Finance: CEAS is dedicated to advancing research in energy accounting, economics, and finance, encompassing both traditional fossil fuels and emerging alternative energy sources. Our focus extends beyond the oil and gas industry, now including sustainability initiatives and compliance requirements to address the evolving energy landscape.
2. Knowledge Dissemination and Collaboration: CEAS commits to collecting, synthesizing, and disseminating cutting-edge information related to oil and gas accounting, finance, taxation, and economics. Additionally, we extend our scope to incorporate broader sustainability considerations, fostering collaboration with industry partners and encouraging interdisciplinary research both within and outside the Center.
3. Promotion of Sustainable Practices: Building upon our existing mission, CEAS recognizes the imperative for sustainable practices in the energy sector. We actively engage in research and initiatives that explore sustainable alternatives and practices, incorporating environmental considerations, social impact, and governance principles to guide the responsible evolution of the industry.
4. Educational Advocacy and Support: CEAS strives to foster interest in the energy industry within both academic and industry communities. In addition to traditional oil and gas, our expanded mission includes supporting colleges and universities in offering educational programs that encompass the broader spectrum of energy-related disciplines, aligning with sustainability goals and industry demands.

Through these mission objectives, CEAS aspires to be a driving force in shaping the future of energy accounting and sustainability, actively contributing to research, education, and industry practices for the benefit of our global community.

Student Organizations

Student organizations play an important role in campus life at The University of North Texas and in the G. Brint Ryan College of Business. Throughout the year, organizations sponsor a variety of extra and co-curricular activities for the campus community as well as participate in service projects on and off campus. In addition, student organizations provide a means for students to develop and refine leadership skills and to interact and network with their peers and with faculty and staff.

Joining a student organization gives you opportunities to expand and enhance your overall educational experience, improve your social life, gain self-confidence, acquire leadership skills and learn how to function as a member of a group or a team. Getting involved in student organizations can be one of the greatest, most rewarding experiences you will have while you are in college. Check out the various student organizations offered and get involved!

Honor Society
Beta Gamma Sigma
Faculty Advisors - William Ordeman

General
Alpha Kappa Psi
Email: AKPsi_UNT@yahoo.com
Faculty Advisors - April Kuykendall, Pamela Milner

Delta Sigma Pi
Email: SeniorVP.DSPDE@gmail.com
Faculty Advisor - William Ordeman

Phi Chi Theta
Email: PCTAlphaNu@gmail.com
Faculty Advisor - Dr. Robert Insley

SGA: ASCEND Pan-Asian Business Organization
Email: ascendunt@gmail.com
Faculty Advisors - Dr. Ian Liu and Dr. Lou Pelton

Women In Business
Faculty Advisors – Dr. Tracy Dietz
Email: unt.wib@gmail.com

G. Brint Ryan College of Business Ambassadors

University-Wide
Professional Leadership Program

Master's Degree

Business Administration with a concentration in Business Studies, MBA

The MBA degree with a concentration in Business Studies provides students with a breadth of knowledge in various business disciplines. students have the flexibility to custom-design their degree plan to meet their career paths and goals. This understanding will help students lead an organization that increases its value to employees and shareholders. Graduates from the program have a well-rounded business education, are equipped with the management tools needed to compete in a global market and have an increased understanding of the importance of time management and efficiency. The curriculum emphasizes skills and values essential to successful leadership: ethics, communication, teamwork, global perspectives, use of technology, problem recognition and problem solving.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required courses, 12 hours

12 hours selected from:
BCIS 5XXX
BLAW 5XXX
DSCI 5XXX
FINA 5XXX
FIPL 5XXX
LSCM 5XXX
MGMT 5XXX
MKTG 5XXX
OPSM 5XXX
REAL 5XXX
Any 5XXX RCOB Course

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Finance, MBA

The MBA degree with a concentration in Finance provides you with a breadth of knowledge in various business disciplines while developing a critical understanding of domestic and international financial management. This understanding will help you lead an organization that increases its value to employees and shareholders. Graduates from the program have a well-rounded business education, are equipped with the management tools needed to compete in a global market and have an increased understanding of the importance of time management and efficiency. The curriculum emphasizes skills and values essential to successful leadership: ethics, communication, teamwork, global perspectives, use of technology, problem recognition and problem-solving.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required courses, 6 hours

- FINA 5210 - Investment Analysis and Management
- FINA 5310 - Advanced Topics in Financial Management

Concentration supporting courses, 6 hours

6 hours selected from:

- FINA 5220 - Theory and Application of Financial Derivatives
- FINA 5240 - Fixed Income Securities
- FINA 5250 - Python and Data Analytics for Finance
- FINA 5330 - Sustainable Finance
- FINA 5340 - Mergers and Acquisitions
- FINA 5400 - Financial Markets and Institutions
- FINA 5500 - International Financial Management
- FINA 5510 - Theory of Finance
- FINA 5650 - Contemporary Issues in Finance

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Financial Planning, MBA

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

The MBA in Financial Planning is a CFP Board Registered Program that will allow students to earn an MBA and satisfy the education requirements needed to become a Certified Financial Planner™ (CFP®) professional. Core MBA courses are available In-person/online with CFP® courses taught in person (evenings and weekends). This program is ideal for working professionals who want to advance in their current firms, enhance their credentials in Financial Planning, or change careers.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required courses, 12 hours

- FIPL 5100 - Fundamentals of Personal Financial and Insurance Planning
- FIPL 5610 - Financial Behavior, Ethics, and Planning Capstone
- FIPL 5770 - Seminar in Retirement Planning and Employee Benefits
- FIPL 5780 - Seminar in Estate Planning

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Health Services Management, MBA

The MBA with a concentration in Health Services Management prepares students to facilitate the practice of health care and align the business of health care with its healing purpose. The program provides students with solid business management skills and industry-specific knowledge needed to effectively lead today's healthcare organizations. The broad spectrum of health care services in the Dallas-Fort Worth region affords students employment opportunities from a wide array of settings including hospitals, ambulatory care centers, managed care organizations, surgical care centers, medical group practices, pharmaceutical firms and consulting firms.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required courses, 12 hours

12 hours selected from:

- HLSV 5400 - Health Delivery Systems
- HLSV 5450 - Health Services Administration
- HLSV 5710 - Theories and Measures for Health and Wellness
- HLSV 5740 - Financial Issues in Health Services Administration
- HLSV 5820 - Marketing Health Services
- HLSV 5880 - Healthcare Law and Ethics
- MGMT 5530 - Operation and Management of Physician Practice Organizations
- MGMT 5550 - Emerging Issues in Health Services Management

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Information Technology, MBA

The MBA in Information Technology is designed to provide an extensive base of knowledge of managerial responsibilities. An MBA program is designed for students who desire a more general management background than an MS in Information Technology, which has more of a specialization and focus in the field. Career opportunities after you complete the MBA program through the Department of Information Technology and Decision Sciences are abundant. An MBA with a concentration in Information Technology supports growth and development from two perspectives. One, if you have an established career path, the Information Technology concentration provides you with the opportunity to gain the broader, more general perspective necessary for promotion to leading managerial positions. Two, if you are preparing for the business world, the combination of an undergraduate degree with an MBA concentration in Information Technology provides an excellent foundation for additional career opportunities.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required courses, 12 hours

12 hours selected from:

- BCIS 5120 - Information Systems Development
- BCIS 5140 - Artificial Intelligence in Business
- BCIS 5650 - Emerging Information Technologies
- BCIS 5660 - Organizing and Managing IT Projects
- BCIS 5670 - International Issues in Information Technology
- BCIS 5740 - Information Security Management
- DSCI 5360 - Data Visualization for Analytics

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Marketing Analytics, MBA

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

The MBA in Marketing Analytics is designed to provide an appropriate base of knowledge for entry into the business intelligence or business analytics fields. The program is intended for those students who desire a strong, specialist degree in business analytics that incorporates a solid understanding of both the application and use of business analytics and technology that underlies and facilitates those applications. An MBA with a focus in Marketing Analytics supports growth and development from two perspectives. If you have an established career path, the Marketing Analytics focus provides you with the opportunity to gain the broader, more general perspective necessary for promotion to leading managerial positions. If you are preparing for the business world, the combination of an undergraduate degree with an MBA focus in Marketing Analytics provides an excellent foundation for additional career opportunities.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.

- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required courses, 12 hours

- ADTA 5120 - Introduction to Data Analytics
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- MKTG 5200 - Consumer Behavior
- MKTG 5240 - Marketing Metrics for Managers
- MKTG 5250 - Advanced Marketing Research and Analytics

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Marketing, MBA

The Master of Business Administration program in Marketing provides students with the breadth of a traditional MBA coupled with the ability to specialize in Marketing. The curriculum is designed to provide students with an excellent conceptual foundation and managerial skills. Students can choose a full-time or part-time program leading to the MBA. An MBA in Marketing supports growth and development from two perspectives. One, if students have an established career path, the Marketing concentration provides students with the opportunity to gain the broader, more general perspective necessary for promotion to leading managerial positions. Two, if students are preparing for the business world, the combination of an undergraduate degree with an MBA in Marketing provides an excellent foundation for additional career opportunities.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.

    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required courses, 9 hours

- MKTG 5200 - Consumer Behavior
- MKTG 5240 - Marketing Metrics for Managers
- MKTG 5250 - Advanced Marketing Research and Analytics

Concentration supporting course, 3 hours

3 hours selected from:

- MKTG 5550 - Decision Making in Global Markets
- MKTG 5560 - Retail Strategy

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Music Business, MBA

The College of Music and the G. Brint Ryan College of Business at the University of North Texas have joined forces to create the MBA in Music Business program. This cutting-edge program combines top-quality business administration curriculum in music classes geared towards entrepreneurship and business tools for the 21st century musician. Built upon the foundation of the Music Business and Entrepreneurship program, ranked by Billboard as a Top Music Business School for the fourth year in a row, this MBA features curriculum on management, marketing, finance, media, and more for direct application to the music industry. The MBA in Music Business welcomes students from all musical backgrounds including classical, jazz, and commercial music.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.

- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required courses, 9 hours

- MUCE 5000 - Music Business and Entrepreneurship
- MUCE 5030 - Music Entrepreneurship Practicum/ Internship
- MUCE 5040 - Music Law and Finance

Concentration supporting course, 3 hours

3 hours selected from:

- MGMT 5300 - Entrepreneurship and Venture Management
- MUCE 5010 - Marketing for Musicians **
- MUCE 5020 - Music Leadership and Performing Arts Management
- MUCE 5050 - Artist Management and Touring
- MUCE 5060 - Beginning Digital Audio Production for Music Entrepreneurs
- MUCE 5070 - Business of Media in Music

** Can be used as a substitution for MKTG 5150

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Organizational Behavior and Human Resource Management, MBA

In the MBA with a concentration in Organizational Behavior and Human Resource Management, you will examine the business organization in terms of structure, process, and behavior. The concentration's primary focus is on human resources and their contribution to a firm's competitive advantage. This concentration includes seminars that cover the practices and skills necessary for the primary human resources management functions, such as compensation, selection and placement, and labor relations. Other seminars provide an in-depth study of leadership and the process of organizational change.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;

- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required course, 3 hours

- MGMT 5210 - Human Resource Management Seminar

Concentration supporting courses, 6 hours

6 hours selected from:

- MGMT 5120 - Managing Organizational Design and Change
- MGMT 5260 - Workforce Planning and Employment
- MGMT 5870 - Leadership Research and Development
- MGMT 5890 - Seminar in Compensation and Motivation Theory

Concentration elective course, 3 hours

3 hours selected from:

- MGMT 5300 - Entrepreneurship and Venture Management
- MGMT 5660 - International Management
- MGMT 5760 - Strategic Management

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Strategic Management, MBA

The MBA with a concentration in Strategic Management provides students with the broad exposure and skills necessary for managing an organization. Strategic Management involves establishing the major direction, strategies, and broad policies that an organization will follow to accomplish its objectives. This knowledge is important for sustainable growth of business and the U.S. economy. An MBA with a concentration in Strategic Management supports growth and development from two perspectives. One, if you have an established career path, strategic management concentration provides you with the opportunity to gain the broader, more general perspective necessary for promotion to leading managerial positions. Two, if you are preparing for the business world, the combination of an undergraduate degree with an MBA concentration in strategic management provides an excellent foundation for additional career opportunities.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.

    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required course, 3 hours

- MGMT 5760 - Strategic Management

Concentration supporting courses, 6 hours

6 hours selected from:

- MGMT 5120 - Managing Organizational Design and Change
- MGMT 5300 - Entrepreneurship and Venture Management
- MGMT 5660 - International Management

Concentration elective course, 3 hours

3 hours selected from:

- MGMT 5210 - Human Resource Management Seminar
- MGMT 5260 - Workforce Planning and Employment
- MGMT 5870 - Leadership Research and Development
- MGMT 5890 - Seminar in Compensation and Motivation Theory

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Supply Chain Analytics, MBA

The MBA in Supply Chain Management is designed to equip professionals with the strategic, analytical, and leadership skills necessary to excel in the global supply chain industry. The program combines core business management principles with specialized knowledge in supply chain processes, logistics, procurement, and operations management. Students benefit from a hands-on approach, leveraging real-world case studies, industry partnerships, and cutting-edge technologies. UNT's MBA in Supply Chain Management prepares graduates to lead and innovate in the dynamic field, with a focus on sustainability, efficiency, and global competitiveness. The program is available in both full-time and flexible formats to accommodate working professionals.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.

    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required courses, 12 hours

12 hours selected from:

- ADTA 5120 - Introduction to Data Analytics
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- LSCM 5830 - Industrial Distribution and Logistics Analysis
- OPSM 5840 - Strategic Supply Management
- OPSM 5850 - Supply Chain Operations Management

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration with a concentration in Supply Chain Management, MBA

This program is a fully online option for students pursuing a degree in Logistics and Supply Chain Management or Operations Management. Courses in this concentration will require students to develop skillsets requested by industry leaders and will prepare them to enter the rapidly expanding world of supply chain, operations and innovation.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;

- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

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.

Program requirements, 24 hours

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Concentration required courses, 12 hours

- LSCM 5830 - Industrial Distribution and Logistics Analysis
- LSCM 5860 - Advanced Supply Chain Management Problems
- OPSM 5840 - Strategic Supply Management
- OPSM 5850 - Supply Chain Operations Management

Additional Information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Administration, MBA

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.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here: cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

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. While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

Additional requirements

The nature of the MBA program requires that the student possesses 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.

Program requirements

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Track options

The remaining 12 hours of graduate course work may be used to pursue specialized interests in the following track options.

- Business Studies
- Finance
- Financial Planning
- Health Services Management
- Information Technology
- Marketing
- Marketing Analytics
- Music Business
- Organizational Behavior and Human Resource Management
- Strategic Management
- Supply Chain Analytics
- Supply Chain Management

Additional information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Doctorate

Business Administration, DBA

The Doctor of Business Administration (DBA) is offered by the G. Brint Ryan College of Business, University of North Texas. This degree is designed for executives and managers who wish to enhance their knowledge and expertise within a research-driven framework.

This hybrid program can be completed in three years while working full-time. Classes meet on weekends, four times each semester.

The DBA program opens diverse career options for executives and managers where graduates can:

- Become thought leaders in their fields.
- Advance in their current industry as consultants.
- Lead new entrepreneurial ventures.
- Join academia as business school faculty.
- Use advanced research skills to analyze business problems within their current positions.

About the program

- The DBA degree at UNT is a practitioner-oriented program, anchored in industry-focused research problems.
- Students leverage business experience to enhance understanding of theoretical concepts, while developing new knowledge through scholarly research on topics anchored in business practice.
- The program consists of 48 credit hours that can be completed in three years. Click here to see the current program schedule and courses/seminars.
- Small DBA classes led by expert instructors will meet in person on four weekends each semester, enhanced by online activities and enrichment.
- The program is designed to allow students the flexibility to work while earning a doctorate.
- The program is offered at Frisco Landing, a state-of-the-art facility at UNT's Frisco campus.
- Students start in the Fall term every year and progress through the program in a cohort format (i.e., all students starting in a particular Fall term will take all classes together as they move through the program).

Admissions Eligibility

- 7+ years of executive and/or managerial experience
- Master's degree

Admissions

How to Apply

Step 1: Apply Online by Completing the GradCAS Application ($75 application fee).

- This program only admits in the Fall semester.
- Request official academic credentials from all colleges and universities you have attended. Official transcripts are required from every college or university you have attended and they must arrive by the application deadline. The transcripts must show you have earned a bachelor's and master's degree from a regionally accredited institution (or equivalent).

Step 2: Submit Materials to the G. Brint Ryan College of Business

- **Essay**: The essay should address (1) the applicant's goals and motivations for pursuing the DBA degree, as well as detail areas of research interest, and (2) the applicant's plans to balance the time commitment required of the program with their work schedule and other demands.
- **Resume**: The DBA Program requires submission of a standard resume detailing work and academic experience.
- **Three (3) Letters of Recommendation**: GradCAS will prompt applicants to provide contact information for three recommenders. The system will reach out to the contacts provided for their recommendation. Recommendations must be professional or academic in nature (i.e., written by college professors and/or supervisors and managers). Recommendations are not acceptable from family, friends, clergy, high school teachers/administrators, subordinates, co-workers, etc.
- **Personal Interview:** After a candidate's application is complete the DBA Program Office will reach out to schedule an interview with the selection committee.

Because of the nature of the DBA and the level of experience (at least seven years) required of applicants, the GMAT or GRE is not required. However, applicants may submit standardized test scores if they choose.

Application Deadlines

The DBA program will admit students for fall semesters only. There are three application review phases. Please see the DBA program website for current deadlines. To meet one of the three deadlines below, the application process must be complete with the exception of the interview. An applicant must only meet one of the deadlines. Note: the DBA program will continue to admit students until the maximum number of students have been admitted. This number is based on available resources at the time of the admissions cycle. After the maximum number of students have been admitted, the DBA program will welcome any remaining applicants to apply for the next admissions cycle.

After meeting one of the deadlines, you will be contacted by the DBA Program Office to schedule an admissions interview with the DBA Program Committee. After the interview, the applicant will be provided with one of the following admissions decisions:

- Admitted
- Denied
- Deferred to the next phase

All admissions decisions are final for that admissions cycle, so if an applicant is denied, they are welcome to apply for a future admissions cycle.

As this is a small and competitive program, the DBA Program Committee may need additional time to make an admissions decision. In this case, the applicant will be deferred to the next phase and a decision will be made at a later date. For example, if an applicant completes their application by the Phase 1 deadline, attends their interview and is deferred to the next phase, the applicant will receive an admissions decision by the end of Phase 2.

Selection Process

Applications will be reviewed by a selection committee comprising of faculty and the director of the DBA program. The admission decision will be based on a holistic review of several aspects of the application. Some of these include:

- Managerial/executive experience
- Capacity for conducting applied scholarships
- Compatibility of professional goals with the objectives of the DBA program
- Motivation and commitment
- Master's degree and previous coursework
- Written and verbal communication skills
- Research area/interests

Mailing Address (P.O. Box)
University of North Texas
G. Brint Ryan College of Business
DBA Program
1155 Union Circle #311160
Denton, Texas 76203-5017 USA

Physical Address (Street)
G. Brint Ryan College of Business
Business Leadership Building, Room 201
1307 West Highland Street
Denton, Texas 76201 USA

Email Address: DBACOBA@unt.edu

Degree Requirements, 48 hours

The DBA program includes 39 credit hrs of coursework (13 courses/seminars) and a minimum of 9 credit hrs of dissertation (DBAS 6950).

Program Schedule

Y1 Fall Term

- DBAS 6001 - Research Philosophy and Thoughts
- DBAS 6002 - Qualitative Research Method I
- DBAS 6004 - Quantitative Research Method I

Y1 Spring Term

- DBAS 6003 - Qualitative Research Method II
- DBAS 6010 - Strategic Business Management
- DBAS 6012 - Value Creation- Theory and Practice

Y1 Summer Term

- DBAS 6013 - Integrative Research/Investigation

  (work on the project may start in the first term, but must end before dissertation hours are taken)

Y2 Fall Term

- DBAS 6005 - Quantitative Research Method II
- DBAS 6011 - Innovation and Entrepreneurship
- DBAS 6021 - Digital Transformation

Y2 Spring Term

- DBAS 6022 - Applied Data/Text Mining
- DBAS 6023 - Transformative Leadership
- DBAS 6024 - Managing Complexity-Theory and Practice

  or
- DBAS 6025 - Global Marketplace

Y2 Summer Term

Dissertation proposal defense (may register for DBAS 6950 if needed).

Y3 Fall Term

- DBAS 6950 - Dissertation

Y3 Spring Term

- DBAS 6950 - Dissertation

Y3 Summer Term

- DBAS 6950 - Dissertation

Business, PhD

Philosophy

Doctoral study in business is structured to challenge individuals who possess the ability to analyze complex problems and synthesize solutions.

Objectives

The doctoral program in business is designed to prepare individuals of outstanding ability for careers in teaching and research at the university level. The program has enough flexibility, however, to accommodate individuals whose career objectives lie outside academia. Individuals who undertake doctoral study are expected to achieve excellence in command of a business discipline's technical aspects and develop expertise in research.

PhD Admissions Process

Admission to the University through the Graduate Admission Office

Admission to the University through the Graduate Admission Office requires submitting an application, transcripts, official GMAT/GRE scores, an application fee, and additional application material (Upload to GradCAS).

Additional Application Material consists of (Upload to GradCAS):

1. Three letters of recommendation from college professors or professional colleagues who are familiar with your academic record – Provide recommender information in GradCAS.
2. A short "Statement of Purpose" setting forth your reasons for pursuing doctoral study, personal objectives, and career plans.
3. A current vita (resume).
4. Research topics:

- Provide one topic/idea that you would like to research (in less than 50 words).
- Why do you find this topic interesting (in less than 150 words)?
- Without getting into technical/statistical details, provide some general thoughts on how you would go about conducting research on this topic (in less than 200 words).

To be admitted to the Graduate Admission Office, a minimum GPA requirement is 3.0 for a bachelor's degree and 3.5 for a Master's degree.

Application

How to Apply

Please apply with the UNT GradCAS (Centralized Application System) online at UNT GradCAS. The application fee is $75 non-refundable.

Transcripts

Official transcripts are required from every college or university you have attended and they must arrive by the application deadline.

Questions? Contact the UNT Graduate Admission Office at Scrappy Says.

Official GMAT/GRE Scores

The G. Brint Ryan College of Business prefers the GMAT be taken but will accept the GRE if it has already been taken. There is no minimum score required, although successful applicants tend to have competitive scores. Test scores must be less than five (5) years old.

Official GMAT or GRE scores must be sent to the UNT Graduate Admission Office. The UNT code for the GRE is 6481. The UNT for the GMAT is 6DP-8M-55. Allow at least 4 weeks for scores to arrive at the Graduate Admission Office.

You can learn more about GMAT or GRE, view sample test questions, and register for the test at https://www.mba.com or https://www.ets.org/gre

Deadlines

The admission process begins December 1 and continues until the program is filled.

Admission to the Department

Admission to each major area is based on the student's academic record, work experience, and expressed "Statement of Purpose" or personal objectives. Only students who, in the judgment of the Graduate Faculty of each major area, show high promise of academic achievement will be admitted. Satisfying the quantitative criteria does not guarantee admission. The Graduate Faculty of each major area may establish additional and/or higher requirements specific to their department.

The appropriate departmental committee will evaluate the student's application for admission on the basis of the department standards, indicate on the CoB Admission Form whether the student is Approved for Admission, Denied Admission (with reason) or Recommended for Provisional Admission and return the completed form to the Ph.D. Program & Research Office, BLB 201.

The Associate Dean for Academic Programs will send an admission decision letter to those students selected by the appropriate departmental committee. A copy of the letter will also be sent to the respective departmental Ph.D. Coordinator. UNT Ryan College of Business, as a member of the Council of Graduate Schools (CGS) and in accordance with the CGS April 15 resolution, will honor offers until April 15. Although selected students are not obligated to accept their offer before April 15, we request them to kindly let us know as soon as they have decided in case we need to make offers to other students. If we do not receive an acceptance from selected students by April 15, the offer will automatically be rescinded after the April 15 deadline.

If an admission decision letter is issued after April 15, the student has 10 calendar days from the mailing date of the offer letter to accept the offer, after which the offer will automatically be rescinded.

International applicants should review information about submitting academic documents here.

English Language Proficiency Requirements

UNT degree program applicants must demonstrate English Language Proficiency. The minimum TOEFL score requirement is 79; the minimum IELTS score is 6.0. UNT-International provides a complete list of ways to demonstrate English language proficiency.

Retention policy for doctoral programs in business

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 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, business information assurance, finance, management, supply chain management, marketing, or management science. With the approval of the PhD coordinator, the student will select courses in a supporting area. These courses may come from more than one business program area.

The program requirements for the doctoral program in business consist of course work, satisfactory performance on the qualifying examinations, and dissertation research. The total program requires a minimum of 60 hours of graduate credit beyond the master's degree or 90 hours of graduate credit beyond the bachelor's degree.

The minimum course work consists of the following:

- Research track, 12–18 hours
- Concentration and supporting minor areas, 27–33 hours
- Dissertation, 12 hours

In addition, all students must demonstrate calculus proficiency.

The above may include no more than 9 semester hours of 5900, 5910 or 6900 credit prior to 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 I, 15 hours

- BUSI 6220 - Applied Regression Analysis
- BUSI 6240 - Applied Multivariate Statistics
- BUSI 6280 - Applications in Causal and Covariance Structure Modeling
- BUSI 6450 - Business Research Methods
- BUSI 6480 - Advanced Issues in Research Design

Research track II, 12 hours

- ECON 5600 - Mathematical Economics
- ECON 5650 - Advanced Econometrics
- MSCI 6000 - Theory and Application of Nonparametric Statistics
- Methodological Tool Elective

Concentrations

Students should contact the department for more information on other specific course work required for each of the concentrations offered.

- Business with a concentration in Accounting
- Business with a concentration in Business Computer Information Systems
- Business with a concentration in Business Computer Information Systems
- Business with a concentration in Finance
- Business with a concentration in Management
- Business with a concentration in Marketing, PhD
- Business with a concentration in Management Science
- Business with a concentration in Supply Chain Management, PhD

Additional requirements

The qualifying examination, given upon completion of all course work, is designed to measure the attainment of expected levels of knowledge in the major and supporting minor areas and to determine the student's ability to synthesize information acquired. The examination is both written and oral, varying by department. 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 RCOB 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 G. Brint Ryan 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 RCOB PhD Programs and Research Office and the Toulouse Graduate School.

Department of Accounting

Main Departmental Office
Business Leadership Building, Room 213

Mailing address:
1155 Union Circle #305219
Denton, TX 76203-5017
940-565-3080
Web site: www.cob.unt.edu/acct

Ananth Seetharaman, Chair

Faculty

Mission

The mission of the professional programs in accounting at the University of North Texas is to provide excellence in (accounting) education and research to prepare a diverse student body to succeed in an ever-changing global economy.

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 is also 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 has also 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 participate 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.

For additional program descriptions, see "Programs" below and in the G. Brint Ryan College of Business section.

Student load

Graduate students in Masters Programs may enroll in more than 9 credit hours in Fall or Spring semesters, and more than 6 credit hours in Summer **only with department or Graduate Programs Office consent.**

Master's Degree

Accounting with a concentration in Audit and Data Analytics, MS

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

The Master of Science with a major in accounting is designed to provide an appropriate knowledge base 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.

Prospective students may contact the RCOB Graduate Programs Office for an estimate of the program requirements and the length of time required to complete the program.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here: cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Applicants must have completed (or be in progress) business and accounting-specific coursework. Applicants who are deficient in the background coursework will need to complete these courses to be eligible to apply.

- Business Background: Micro and Macro Economics, Statistics, Calculus, Basic Computer Information Systems, Marketing, Business Law, Finance, Financial and Managerial Accounting.
- Students must have a 3.0 GPA and above in the following Accounting Background: Intermediate Accounting I and II, Cost Accounting, Accounting Systems, Advanced & Not-for-profit Accounting Principles, Federal Income Tax I and II, Auditing, and Accounting Research and Data Analysis. The applications and supporting documentation will be reviewed by the RCOB admission committee. The Graduate Programs Office will notify applicants of their status once the information has been reviewed. For more information about the Accounting Graduate Application process, please visit: cob.unt.edu/acct/graduate-accounting-programs.html

Degree requirements

Students earning the Master of Science with a major in Accounting with a concentration in Audit and Data Analytics must meet the following requirements:

- Completion of background courses in accounting and business as necessary;
- Completion of at least 33 semester hours of graduate work beyond background courses assigned by the department;
- A GPA of at least a 3.0 on all graduate work taken at UNT;

No more than 6 semester credit hours of graduate level accounting courses may be transferred from other AACSB accredited institutions – subject to UNT Department of Accounting approval; and minimum academic standards for master's students; graduate students in masters programs may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Accounting with a concentration in Audit and Data Analytics, MS

The 33-hour program for the Master of Science in Accounting with a concentration in Audit & Data Analytics varies with the concentration chosen. However, a minimum of 27 semester hours of 5000-level accounting must be taken at UNT. General requirements include the following.

Required courses, 30 hours

- ACCT 5110 - Fundamentals of Accounting Research
- ACCT 5120 - Data Analysis in Accounting
- ACCT 5200 - Professional Ethics and Corporate Governance
- ACCT 5410 - External Auditing
- ACCT 5440 - IT Auditing
- ACCT 5450 - Seminar in Internal Auditing
- ACCT 5760 - Accounting Based Valuation or ACCT 5170 - Accounting Communication
- ACCT 5780 - Professional Exam Competency
- BLAW 5400 - Law for Accountants and Managers
- DSCI 5360 - Data Visualization for Analytics

Accounting electives

3 hours selected from:

- ACCT 5480 - Fraud Examination
- ACCT 5710 - Oil and Gas Accounting
- ACCT 5800 - Internship
- ACCT 5890 - International Accounting

Accounting with a concentration in Corporate Accounting, MS

The Master of Science with a major in accounting is designed to provide an appropriate knowledge base 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 RCOB Graduate Programs Office for an overview of the program requirements and the length of time required to complete the program.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here: cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
  - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
  - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
  - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
  - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Applicants must have completed (or be in progress) business and accounting-specific coursework. Applicants deficient in the background coursework will need to complete these courses to be eligible to apply.
  - Business Background: Micro and Macro Economics, Statistics, Calculus, Basic Computer Information Systems, Marketing, Business Law, Finance, Financial and Managerial Accounting.
  - Students must have a 3.0 GPA and above in the following Accounting Background: Intermediate Accounting I and II, Cost Accounting, Accounting Systems, Advanced & Not-for-profit Accounting Principles, Federal Income Tax I and II, Auditing, and Accounting Research and Data Analysis. The applications and supporting documentation will be reviewed by the RCOB admission committee. The Graduate Programs Office will notify applicants of their status once the information

has been reviewed. For more information about the Accounting Graduate Application process, please visit: cob.unt.edu/acct/graduate-accounting-programs.html

Degree requirements

The student earning the Master of Science with a major in Accounting and a concentration in Corporate Accounting must meet the following requirements:

- Completion of background courses in accounting and business as necessary;
- Completion of at least 33 semester hours of graduate work beyond background courses assigned by the department;
- A GPA of at least a 3.0 on all graduate work taken at UNT;

No more than 6 semester credit hours of graduate level accounting courses may be transferred from AACSB accredited institutions – subject to UNT Department of Accounting approval; and minimum academic standards for master's students; graduate students in masters programs may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Accounting, MS

The 33-hour program for the MS with a major in accounting varies with the concentration chosen. However, a minimum of 27 semester hours of 5000-level accounting must be taken. General requirements include the following.

Concentration in corporate accounting

Substitutions to the following may be approved by the accounting department chair.

Required courses

- ACCT 5110 - Fundamentals of Accounting Research
- ACCT 5120 - Data Analysis in Accounting
- ACCT 5200 - Professional Ethics and Corporate Governance
- ACCT 5270 - Managerial Cost Accounting
- ACCT 5450 - Seminar in Internal Auditing
- ACCT 5780 - Professional Exam Competency
- BLAW 5400 - Law for Accountants and Managers
- DSCI 5360 - Data Visualization for Analytics
- FINA 5170 - Financial Management

Accounting electives

Two courses (6 semester hours) from the following accounting courses.

- ACCT 5480 - Fraud Examination
- ACCT 5710 - Oil and Gas Accounting
- ACCT 5800 - Internship
- ACCT 5890 - International Accounting

Taxation and Data Analytics, MS

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

The Master of Science with a major in Taxation and Data Analytics is designed to provide an appropriate knowledge base for entry into the tax field. Students earning this degree will have completed an educational program consistent with recommendations from tax professionals and accounting educators and will be prepared for entry into careers as tax accountants either in the public or private sector. The program is open to any qualified student who has an interest in taxation, regardless of the student's previous program of study.

Prospective students may contact the RCOB Graduate Programs Office for an overview of the program requirements and the length of time required to complete the program.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here: cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
  - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
  - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
  - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
  - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Applicants must have completed (or be in progress) business and accounting-specific coursework. Applicants deficient in the background coursework will need to complete these courses to be eligible to apply.
  - Business Background: Micro and Macro Economics, Statistics, Calculus, Basic Computer Information Systems, Marketing, Business Law, Finance, Financial and Managerial Accounting.
  - Students must have a 3.0 GPA and above in the following Accounting Background: Intermediate Accounting I and II, Cost Accounting, Accounting Systems, Advanced & Not-for-profit Accounting Principles, Federal Income Tax I and II, Auditing, and Accounting Research and Data Analysis.

The applications and supporting documentation will be reviewed by the RCOB admission committee. The Graduate Programs Office will notify applicants of their status once the information has been reviewed. For more information about the Accounting Graduate Application process, please visit: cob.unt.edu/acct/graduate-accounting-programs.html

Degree requirements

Students earning the Master of Science with a major in Taxation and Data Analytics must meet the following requirements:

- Completion of background courses in accounting and business as necessary;
- Completion of at least 33 semester hours of graduate work beyond background courses assigned by the department;
- A GPA of at least a 3.0 on all graduate work taken at UNT;

No more than 6 semester credit hours of graduate level accounting courses may be transferred from AACSB accredited institutions—subject to UNT Department of Accounting approval; and minimum academic standards for master's students; graduate students in masters programs may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Concentration in taxation and data analytics

The 33-hour program for the Master of Science in Taxation and Data Analytics requires the following courses.

Required courses

Substitutions to the following may be approved by the accounting department chair.

- ACCT 5120 - Data Analysis in Accounting
- ACCT 5200 - Professional Ethics and Corporate Governance
- ACCT 5310 - Tax Research and Administrative Procedure
- ACCT 5320 - Taxation of Flow-Through Entities
- ACCT 5330 - Taxation of C Corporations
- ACCT 5370 - Family Tax Planning
- ACCT 5390 - Taxes and Business Strategy
- ACCT 5780 - Professional Exam Competency
- BLAW 5400 - Law for Accountants and Managers
- DSCI 5360 - Data Visualization for Analytics

Accounting electives

Students should consult with a departmental advisor and select 3 hours of accounting electives from the following:

- ACCT 5170 - Accounting Communication
- ACCT 5340 - Oil and Gas Taxation
- ACCT 5800 - Internship

Graduate Academic Certificate

Energy Accounting certificate

The Certificate in Energy Accounting is offered by the Institute of Petroleum Accounting at G. Brint Ryan College of Business. The graduate academic certificate program requires 9 credit hours of course work.

Admission to the program requires

1. Currently enrolled students in a graduate program
2. Have completed the prerequisites for the courses required for the Certificate.
3. GPA of 2.8 or above.

How to apply

Please submit the formal application online to ipa.unt.edu/apply.

For additional information, please contact Dr. Akhil Kumar at 9176837909 or by email at Akhil.kumar@unt.edu.

Required courses, 9 hours

- ACCT 5340 - Oil and Gas Taxation
- ACCT 5700 - Energy Industry Fundamentals
- ACCT 5710 - Oil and Gas Accounting

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

Stephen Ferris, Chair

Faculty

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 Finance; 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; Quarterly Journal of Economics and Finance; Real Estate Economics; Real Estate Probate and Trust Law Reporter; Research in Finance; Review of Financial Studies; 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 G. Brint Ryan College of Business unless stated otherwise by the department.

Student load

Graduate students in Masters Programs may enroll in more than 9 credit hours in Fall or Spring semesters, and more than 6 credit hours in Summer **only with department or Graduate Programs Office consent.**

Scholarships

Scholarships are awarded each year in the FIREL department for students majoring in finance. A complete listing of scholarships with eligibility requirements and the application forms are available at http://www.cob.unt.edu/scholarships.

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. This is a STEM-designated program.

Admission standards

- Admission to UNT and to the Toulouse Graduate School. Instructions found here: cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.

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 2010 - Financial Accounting (or the equivalent)
- Two college-level statistics courses
    - DSCI 2710 - Data Analysis with Spreadsheets (or the equivalent)
    - DSCI 3710 - Business Statistics with Spreadsheets (or the equivalent)
- MATH 1190 - Business Calculus (or the equivalent)

Degree requirements

Required courses, 18 hours

- FINA 5170 - Financial Management
- FINA 5210 - Investment Analysis and Management
- FINA 5310 - Advanced Topics in Financial Management
- FINA 5400 - Financial Markets and Institutions
- FINA 5500 - International Financial Management
- FINA 5700 - Integrative Capstone Course in Finance

Elective courses, 12 hours

Students will select at least four elective courses to complete at least 27 hours of the minimum 30-hour requirement for the degree.

- BLAW 5410 - Business Law for Managers and Entrepreneurs
- FINA 5220 - Theory and Application of Financial Derivatives
- FINA 5240 - Fixed Income Securities
- FINA 5250 - Python and Data Analytics for Finance
- FINA 5330 - Sustainable Finance
- FINA 5340 - Mergers and Acquisitions
- FINA 5510 - Theory of Finance
- FINA 5650 - Contemporary Issues in Finance
- FINA 5800 - Internship
- Up to two courses from DSCI 5210, DSCI 5240 and other 5000-level courses from the G. Brint Ryan College of Business or Economics, with approval from the MSF advisor.

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
- or consent of department. One or two prerequisites may be taken concurrently.

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 208

Mailing address:
1155 Union Circle #305249
Denton, TX 76203-5017
940-565-3111
Web site: www.cob.unt.edu/itds

Anna Sidorova, Chair

Faculty

The Information Technology and Decision Sciences (ITDS) department prepares the next generation of business leaders to succeed in the fast-changing world of digital transformation, artificial intelligence and data-driven decision-making. The department is home to master's degrees in Information Systems and Technologies and Business Analytics, as well as doctoral degree concentrations in Information Systems, Management Science and Information Assurance. Our rigorous curriculum is designed to enable students to address critical business problems with the help of cutting-edge information technologies and data analytics methods, including machine learning, artificial intelligence, big data analytics and blockchain.

Research

Faculty research at the ITDS department spans two broad areas: Information Systems and Management Science.

Information Systems research focuses on the development and management of digital technologies and systems, and their impact on individuals, organizations and societies. Examples of research topics include digital transformation, the economics of IT, digital platforms, responsible use of information technologies, artificial intelligence ethics and governance, information security and privacy, IT leadership and management.

Management Science research focuses on advancing the practice of organizational decision-making and operations management practices through the use of advanced quantitative analysis methods. Research methods include optimization, empirical analysis using primary and secondary data, simulation and machine learning models. The faculty in the program work on areas that include healthcare, humanitarian, manufacturing, service, logistics and supply chain management.

Degree programs

The Department of Information Technology and Decision Sciences offers three STEM-designated graduate degree programs leading to a Master of Science in Business Analytics, an MBA in Business Analytics, and a Master of Science in Information Systems and Technologies.

The department also offers a Business Analytics, BBA with a grad track option leading to the Master of Science in Business Analytics.

The college offers a Master of Business Administration with a major in business administration and a concentration in information technology.

The college also offers a Doctor of Philosophy with a major in business and concentrations in business computer information systems, business information assurance, and management science. 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.

Admission to program

For admission into the Master of Science or MBA programs with a major in business analytics, a student must first meet the admission requirements of the G. Brint Ryan College of Business.

- A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
- A waiver of the GMAT/GRE will be considered for applicants who have an earned bachelor's or master's degree from a regionally accredited institution, or its equivalent, with a cumulative, or last 60 hour, GPA of 3.5 or higher.
- A waiver of the GMAT/GRE will be considered for UNT Honors College graduates with a cumulative GPA of 3.5 or higher.

Student load

Graduate students in Masters Programs may enroll in up to 9 credit hours in the fall or spring semesters and 6 credit hours in summer. Additional classes can be taken with departmental or Graduate Programs Office consent.

Master's Degree

Business Analytics, MBA

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

The Master of Business Administration with a major in Business Analytics is a 36-hour program and is STEM-designated. The MBA in business analytics is designed to provide an extensive base of knowledge of managerial responsibilities. An MBA program is designed for students who desire a more general management background than an MS in business analytics.

Admission standards

- Admission to UNT and to the Toulouse Graduate School. Instructions found here: cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - Testing is waived for applicants who have earned a doctoral or professional doctoral degree from an ABET or AACSB accredited institution.
    - Testing is waived for applicants with a Master's degree and a 3.0 GPA or higher from an ABET or AACSB accredited institution and 3.5 GPA or higher for other institutions
    - Testing is waived for applicants with a Bachelor's degree and a 3.0 GPA or higher (either cumulatively or last-60-hour) from an ABET or AACSB accredited institution and a 3.5 GPA or higher for other institutions
    - Testing is waived for applicants for UNT Honors College graduates with a cumulative GPA of 3.0 or higher
- 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. Upload to the application system.
- Submit Resume: Upload to the application system. The G. Brint Ryan College of Business requires submission of a standard resume detailing work and academic experience. While it is optional, please include 3 relevant references from your professional and academic background. This list of references could strengthen your application. The reference list should include their name, title, company/university and contact details (including email). References cannot be family, friends, clergy, high school teachers/administrators, subordinates or co-workers.

Degree requirements

Course requirements for the MBA with a major in business analytics include MBA core courses and 18 hours of courses in the major. G*raduate students in master's programs may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer* only with department or Graduate Programs Office consent.

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

Core courses, 18 hours

- ACCT 5130 - Accounting for Management
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MKTG 5150 - Marketing Management

Track courses, 18 hours

18 hours selected from:

- BCIS 5110 - Programming Languages for Business Analytics
- BCIS 5610 - Enterprise Data Warehousing
- DSCI 5210 - Model-Based Business Intelligence
- DSCI 5240 - Data Mining and Machine Learning for Business
- DSCI 5260 - Business Analytics Capstone
- DSCI 5330 - Business Intelligence Foundations
- DSCI 5340 - Predictive Analytics and Business Forecasting
- DSCI 5350 - Big Data Analytics
- DSCI 5360 - Data Visualization for Analytics

Additional information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Business Analytics, MS

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

The Master of Science with a major in Business Analytics is designed to provide an appropriate base of knowledge for entry into the business intelligence, business analytics or data science fields that are part of the information technology and decision sciences professions. The program is intended for those students who desire a strong, specialist degree in business analytics that incorporates a solid understanding of both the application and use of business analytics and the technology that underlies and facilitates those applications. This degree is STEM designated.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here: cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - Testing is waived for applicants who have earned a doctoral or professional doctoral degree from an ABET or AACSB accredited institution
    - Testing is waived for applicants with a Master's degree and a 3.0 GPA or higher from an ABET or AACSB accredited institution and a 3.5 GPA or higher for other institutions
    - Testing is waived for applicants with a Bachelor's degree and a 3.0 GPA or higher (either cumulatively or last-60-hour) from an ABET or AACSB accredited institution and a 3.5 GPA or higher for other institutions
    - Testing is waived for applicants for UNT Honors College graduates with a cumulative GPA of 3.0 or higher.
- Essay – Upload to the application system. 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.
- Resume. Upload to the application system. Submit resume highlighting professional and academic experience. While it is optional, please include 3 relevant references from your professional and academic background. This list of references could strengthen your application. The reference list should include their name, title, company/university and contact details (including email). References cannot be family, friends, clergy, high school teachers/administrators, subordinates or co-workers.

Degree requirements

Foundation requirements, 18 hours

Students who have already taken the equivalent of any foundations course will substitute an appropriate course, subject to approval by the Department of Information Technology and Decision Sciences.

- BCIS 5420 - Foundations of Database Management Systems
- DSCI 5180 - Analytics Foundations for Business
- DSCI 5240 - Data Mining and Machine Learning for Business
- DSCI 5260 - Business Analytics Capstone
- DSCI 5330 - Business Intelligence Foundations
- DSCI 5340 - Predictive Analytics and Business Forecasting

Electives, 15 hours

Students will choose 9-15 hours from the following list. Up to 6 hours may be taken outside the department with prior department consent.

- BCIS 5110 - Programming Languages for Business Analytics
- BCIS 5120 - Information Systems Development
- BCIS 5140 - Artificial Intelligence in Business
- BCIS 5610 - Enterprise Data Warehousing
- BCIS 5670 - International Issues in Information Technology
- BCIS 5740 - Information Security Management
- BCIS 5750 - Blockchain for Business
- DSCI 5210 - Model-Based Business Intelligence
- DSCI 5230 - Non-Parametric Statistics for Business Research
- DSCI 5250 - Statistical Techniques in Simulation
- DSCI 5350 - Big Data Analytics
- DSCI 5360 - Data Visualization for Analytics
- DSCI 5800 - Cooperative Education *

Note

*DSCI 5800 may be repeated for credit and may be used as a support course with prior ITDS departmental approval if three hours are taken.

Additional information

Each graduate student should receive academic counseling prior to registration each term/semester. MS Business Analytics students must enroll in courses in the sequence outlined by the Department of Information Technology and Decision Sciences to ensure orderly and timely degree progression.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master's students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Information Systems and Technologies, MS

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

The MS in Information Systems and Technologies prepares students to work in a multidisciplinary environment by combining elements of computer science, business, and management to prepare them for an exciting career designing, implementing and managing information systems in a technical setting. The program offers a comprehensive core curriculum that provides instruction via experiential and interactive learning.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here: cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - Testing is waived for applicants who have earned a doctoral or professional doctoral degree from a ABET or AASCB accredited institution.
    - Testing is waived for applicants with a Master's degree and a 3.0 GPA or higher from a ABET or AASCB accredited institution and a 3.5 GPA or higher for other institutions
    - Testing is waived for applicants with a Bachelor's degree and a 3.0 GPA or higher (either cumulatively or last-60-hour) from an ABET or AASCB accredited institution and 3.5 GPA or higher for other institutions
    - Testing is waived for applicants for UNT Honors College graduates with a cumulative GPA of 3.0 or higher.
- Essay – Upload to the application system. 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.
- Resume - Upload to the application system. Submit resume highlighting professional and academic experience. While it is optional, please include 3 relevant references from your professional and academic background. This list of references could strengthen your application. The reference list should include their name, title, company/university and contact details (including email). References cannot be family, friends, clergy, high school teachers/administrators, subordinates or co-workers.

Degree requirements

Foundation courses, 15 hours

- BCIS 5110 - Programming Languages for Business Analytics
- BCIS 5120 - Information Systems Development
- BCIS 5420 - Foundations of Database Management Systems
- BCIS 5700 - Information Systems and Technologies Capstone
- BCIS 5740 - Information Security Management

Supporting courses, 15 hours

15 hours selected from:

- BCIS 5540 - Enterprise Systems Programming
- BCIS 5550 - Advanced Enterprise Systems Programming
- BCIS 5560 - Cybersecurity Governance and Risk Management
- BCIS 5610 - Enterprise Data Warehousing
- BCIS 5620 - Networking and Telecommunications
- BCIS 5630 - Information Technology Security
- BCIS 5650 - Emerging Information Technologies
- BCIS 5660 - Organizing and Managing IT Projects
- BCIS 5670 - International Issues in Information Technology
- BCIS 5680 - Web-Based Systems Development
- BCIS 5750 - Blockchain for Business
- BCIS 5760 - Introduction to Business Aspects of Digital Forensics

- BCIS 5800 - Cooperative Education Internship
- DSCI 5240 - Data Mining and Machine Learning for Business
- DSCI 5330 - Business Intelligence Foundations
- DSCI 5350 - Big Data Analytics
- DSCI 5360 - Data Visualization for Analytics

Note

BCIS 5800 may be repeated for credit and may be used as a support course with prior ITDS departmental approval if three hours are taken.

Additional information

Each graduate student should receive academic counseling prior to registration each term/semester. MS Information Systems & Technology students must enroll in courses in the sequence outlined by the Department of Information Technology and Decision Sciences to ensure orderly and timely degree progression.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master's students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Doctorate

Business with a concentration in Business Information Assurance, PhD

Objectives

The doctoral program in business administration is designed to prepare individuals 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 a business discipline and develop expertise in research.

PhD Admissions Process

Admission to the University through the Graduate Admission Office

Admission to the University through the Graduate Admission Office requires submitting an application, transcripts, official GMAT/GRE scores, an application fee, and additional application material (Upload to GradCAS).

Additional Application Material consists of (Upload to GradCAS):

1. Three letters of recommendation from college professors or professional colleagues who are familiar with your academic record – Provide recommender information in GradCAS.
2. A short "Statement of Purpose" setting forth your reasons for pursuing doctoral study, personal objectives, and career plans.
3. A current vita (resume).
4. Research topics:

- Provide one topic/idea that you would like to research (in less than 50 words).
- Why do you find this topic interesting (in less than 150 words)?
- Without getting into technical/statistical details, provide some general thoughts on how you would go about conducting research on this topic (in less than 200 words).

To be admitted to the Graduate Admission Office, a minimum GPA requirement is 3.0 for a bachelor's degree and 3.5 for a Master's degree.

Application

How to Apply

Please apply with the UNT GradCAS (Centralized Application System) online at UNT GradCAS. The application fee is $75 non-refundable.

Transcripts

Official transcripts are required from every college or university you have attended and they must arrive by the application deadline.

Questions? Contact the UNT Graduate Admission Office at Scrappy Says.

Official GMAT/GRE Scores

The G. Brint Ryan College of Business prefers the GMAT be taken but will accept the GRE if it has already been taken. There is no minimum score required, although successful applicants tend to have competitive scores. Test scores must be less than five (5) years old.

Official GMAT or GRE scores must be sent to the UNT Graduate Admission Office. The UNT code for the GRE is 6481. The UNT for the GMAT is 6DP-8M-55. Allow at least 4 weeks for scores to arrive at the Graduate Admission Office.

You can learn more about GMAT or GRE, view sample test questions, and register for the test at https://www.mba.com or https://www.ets.org/gre

Deadlines

The admission process begins December 1 and continues until the program is filled.

Admission to the Department

Admission to each major area is based on the student's academic record, work experience, and expressed "Statement of Purpose" or personal objectives. Only students who, in the judgment of the Graduate Faculty of each major area, show high promise of academic achievement will be admitted. Satisfying the quantitative criteria does not guarantee admission. The Graduate Faculty of each major area may establish additional and/or higher requirements specific to their department.

The appropriate departmental committee will evaluate the student's application for admission on the basis of the department standards, indicate on the CoB Admission Form whether the student is Approved for Admission, Denied Admission (with reason) or Recommended for Provisional Admission and return the completed form to the Ph.D. Program & Research Office, BLB 201.

The Associate Dean for Academic Programs will send an admission decision letter to those students selected by the appropriate departmental committee. A copy of the letter will also be sent to the respective departmental Ph.D. Coordinator. UNT Ryan College of Business, as a member of the Council of Graduate Schools (CGS) and in accordance with the CGS April 15 resolution, will honor offers until April 15. Although selected students are not obligated to accept their offer before April 15, we request them to kindly let us know as soon as they have decided in case we need to make offers to other students. If we do not receive an acceptance from selected students by April 15, the offer will automatically be rescinded after the April 15 deadline.

If an admission decision letter is issued after April 15, the student has 10 calendar days from the mailing date of the offer letter to accept the offer, after which the offer will automatically be rescinded.

International applicants should review information about submitting academic documents here.

English Language Proficiency Requirements

UNT degree program applicants must demonstrate English Language Proficiency. The minimum TOEFL score requirement is 79; the minimum IELTS score is 6.0. UNT-International provides a complete list of ways to demonstrate English language proficiency.

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 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, business information assurance, finance, management, supply chain 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 60 hours of graduate credit beyond the master's degree or 90 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, and dissertation of 12 hours. The pre-dissertation requirement may be met by 12 hours of research seminars (6910) and independent study (6940). The minimum coursework consists of the following (60 hours minimum):

- Research track, 12–18 hours
- Concentration and minor areas, 27–33 hours
- Dissertation, 12 hours

The above may include no more than 12 semester hours of 5900, 5910, or 6900 credit prior to 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 I, 15 hours minimum

- BUSI 6220 - Applied Regression Analysis
- BUSI 6240 - Applied Multivariate Statistics
- BUSI 6280 - Applications in Causal and Covariance Structure Modeling
- BUSI 6450 - Business Research Methods
- BUSI 6480 - Advanced Issues in Research Design

Research track II, 12 hours minimum

- ECON 5600 - Mathematical Economics
- ECON 5650 - Advanced Econometrics
- MSCI 6000 - Theory and Application of Nonparametric Statistics
- methodological tool electives (3–9 hours)

Business information assurance concentration courses

Information assurance core, 12 hours

- BCIS 5630 - Information Technology Security
- BCIS 5640 - Object-Oriented Systems
- CSCE 5550 - Introduction to Computer Security
- CSCE 5640 - Operating System Design

Business computer information systems core, 12 hours

- BCIS 6010 - Seminar in Business Administration
- BCIS 6650 - Seminar in General Systems Theory
- BCIS 6660 - Comparative Information Systems Theory
- BCIS 6670 - Topics in Information Systems

Information assurance electives, minimum of 9 hours

The following is a partial list. Other relevant courses may be used upon departmental approval.

- BCIS 5620 - Networking and Telecommunications
- BCIS 5650 - Emerging Information Technologies
- BCIS 5670 - International Issues in Information Technology
- BCIS 5680 - Web-Based Systems Development
- BCIS 5690 - Topics in Information Technology
- BCIS 5700 - Information Systems and Technologies Capstone
- CSCE 5933 - Topics in Computer Science and Engineering
- CSCE 5050 - Applications of Cryptography
- CJUS 5100 - Cyber Crime and Victimization
- INFO 5960 - Library and Information Sciences Institute or Seminar (when subject is Information Security)

Doctoral dissertation, 12 hours

- BCIS 6950 - Doctoral Dissertation (12 hours)

Department of Management

Main Departmental Office
Business Leadership Building, Room 207

Mailing address:
1155 Union Circle #305429
Denton, TX 76203-5017
940-565-3140
Web site: www.cob.unt.edu/mgmt

Nolan Gaffney, Chair

Faculty

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. 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, or strategic management. The specialized degree programs are based on guidelines offered by the Human Resources Certification Institute, the Society of Human Resources Management and the Association of University Programs in Health Administration.

Individuals seeking a PhD will take course work that provides an extensive and rigorous program of study in the management discipline, research methods and college teaching. Major areas of study include strategic management, human resources management, entrepreneurship, organizational behavior and organizational theory.

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, entrepreneurship, innovation, competitive positioning, international management, cross-national research, 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 and organizational behavior and human resource management.

The college offers a Doctor of Philosophy with a major in business and concentrations in strategic management, human resources management, entrepreneurship, organizational behavior and organizational theory.

Student load

Graduate students in Masters Programs may enroll in more than 9 credit hours in Fall or Spring semesters, and more than 6 credit hours in Summer **only with department or Graduate Programs Office consent.**

Master's Degree

Management Consulting, MBA

The MBA in Management Consulting is a rigorous full-time program designed to prepare a selective cohort of students for leadership in their careers. The curriculum relies heavily on experiential learning, industry interaction, and team collaboration. The intensive cohort structure is built around industry interaction, and the larger goal of the program is to nurture future business leaders who become change agents. The program exposes students to explicit knowledge about various aspects of business (across all sectors) and helps students translate this knowledge into tacit capabilities.

Designed for students who hold degrees from any major, the ideal candidate will be academically curious and professionally motivated. While many students are recent graduates, any candidate seeking a full-time MBA is welcome and encouraged to apply.

Admission requirements

- Admission to UNT and to the Toulouse Graduate School. Instructions found here: cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - Work experience will not be considered in lieu of exam scores;
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.
- Interview

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

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. While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

Additional requirements

The nature of the MBA program requires that the student possesses 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.

Core courses, 24 hours

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5190 - Administrative Strategy
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MKTG 5150 - Marketing Management

Track Courses, 12 hours

- BUSI 5510 - Managing Innovation and Creativity
- BUSI 5520 - Industry Visits
- DSCI 5240 - Data Mining and Machine Learning for Business
- MGMT 5230 - Management Consulting

Additional information

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Sport Entertainment Management, MBA

Frisco Cohort: The MBA in Sport Entertainment Management is an intensive 18-month, full-time, cohort-style degree program. Classes are taught at the Frisco, TX UNT campus, and the MBA begins in the Fall semester of each academic year and ends the following Fall semester. Students accepted into the program can expect strong industry interaction designed to enable graduates to become industry-ready and marketable.

Taught by the world-class UNT Sport Entertainment faculty with the support of industry partners like the Dallas Cowboys, PGA America, and North Texas Speedway (just to name a few), students will engage in a relevant, dynamic educational experience. Upon program completion, graduates will note that their knowledge of the unique business practices related to Sport Entertainment is broadened and they are prepared for back-office positions and advancement in professional sports and related fields.

Online: UNT and the Dallas Cowboys have combined their expertise to create a professional online MBA program that will provide students with the opportunity to become thought leaders in the business world. Guided by best practices, industry insights and case studies, this program is delivered through the collective lens of UNT faculty and Cowboys executives with strong industry knowledge and experience. In addition to advanced curriculum with real world applications, students can partake in immersive on-site boot camps at multiple North Texas locations, including The Star in Frisco, Dallas Cowboys' World Corporate Headquarters and Training Facility, and AT&T Stadium in Arlington.

Admission

- Admission to UNT and to the Toulouse Graduate School. Instructions found here: cob.unt.edu/masters/prospective-students/index.html.
- Satisfactory GMAT or GRE scores that are no more than five (5) years old. Submit scores through the application system.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - A waiver of the GMAT/GRE will be considered for applicants who have an earned master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.0 or higher on the master's degree.
    - A waiver of the GMAT/GRE will be considered for applicants who have earned a bachelor's degree from a regionally accredited institution, with a cumulative, or last 60 hours, GPA of 3.0 or higher.
    - GMAT/GRE test is waived if applicant is applying to the online program and has appropriate work experience and academic record. Work experience is assessed through an interview with the program director.
- 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. Upload to the application system.
- Resume (work/academic experience). Upload to the application system.
- Recommendations: Three (3) Recommendations from Professional and/or Academic references. Provide contact information for references via the application system so they can submit recommendations directly.
- Interview

Background requirements

The G. Brint Ryan College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial Accounting. This deficiency can be completed via traditional academic course work or through a third-party such as LinkedIn Learning. LinkedIn Learning delivers self-paced online learning that provides background content without the need to formally enroll in courses at UNT. 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.

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. While not required, students without academic backgrounds in business computer information systems, statistics, finance, business law, and marketing are encouraged to complete modules delivered through LinkedIn Learning.

Core courses, 18 hours

- ACCT 5130 - Accounting for Management
- DSCI 5180 - Analytics Foundations for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- SENM 5150 - Marketing Practices in the SEI
- SENM 5495 - Business Planning

Track courses, 18 hours

Select 18 hours from:

- ADTA 5160 - Sport and Entertainment Analytics
- SENM 5200 - Sport Event and Venue Operations
- SENM 5261 - Corporate Partnerships in the Sport Entertainment Industry
- SENM 5262 - International Brand Strategies in the Sport Entertainment Industry
- SENM 5401 - Talent Management in the Sport Entertainment Industry
- SENM 5490 - Consulting in the Sport Entertainment Industry
- SENM 5650 - Contemporary Issues In Sport Entertainment

Additional information

SENM 5001Z - Career Preparation for the Sport Entertainment Industry may be assigned for students in the Frisco cohort.

Each graduate student should receive academic counseling prior to registration each term/semester.

After admission, the Graduate Programs Office will create each student's official degree plan, which will then be submitted to the Toulouse Graduate School for approval and processing. 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 RCoB departments. Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the G. Brint Ryan College of Business Graduate Programs Office.

Master students in the G. Brint Ryan College of Business may enroll in more than 9 credit hours in fall or spring semesters, and more than 6 credit hours in summer only with department or Graduate Programs Office consent.

Department of Marketing

Main Office
Business Leadership Building, Room 205

Mailing address:
1307 W. Highland
PO Box 311160
Denton, TX 76201
940-565-3120
Fax: 940-565-3803
Web site: www.cob.unt.edu/mktg

Charles Blankson, Chair

Faculty

The Department of Marketing offers professional education programs to prepare individuals for the pursuit of marketing careers with manufacturers, retail and wholesale profit and nonprofit service organizations, governmental agencies and academic institutions.

Degree programs

The college offers a Master of Business Administration with a major in business administration and concentrations in marketing and marketing analytics.

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 Ryan College of Business and the Department of Marketing. Satisfaction of the minimum standards does not guarantee admission to a degree program. The graduate faculty of the marketing department has established additional requirements specific to the academic programs within the department.

Student load

Graduate students in Masters Programs may enroll in more than 9 credit hours in Fall or Spring semesters and more than 6 credit hours in Summer **only with department or Graduate Programs Office consent.**

Department of Supply Chain Management

Main Departmental Office
Business Leadership Building, Room 206

Mailing address:
1155 Union Circle #311396
Denton, TX 76203-5017
940-565-3120
Web site: cob.unt.edu/scm

Brian Sauser, Chair

Faculty

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 Fortune 500 Companies, Texas Logistics Education Foundation, Texas Motor Transportation Association, NSF, NASA, and Texas Department of Transportation.

Degree programs

The college offers a Master of Business Administration with a major in business administration and concentrations in supply chain management and supply chain analytics.

The college offers a Doctor of Philosophy with a major in business and concentrations in supply chain management.

Minimum admission standards are established by the graduate faculty of the Ryan College of Business and the Department of Logistics and Operations Management. Satisfaction of the minimum standards does not guarantee admission to a degree program. The graduate faculty of the logistics and operations management department have established additional requirements specific to the academic programs within the department.

Student load

Graduate students in Masters Programs may enroll in more than 9 credit hours in Fall or Spring semesters, and more than 6 credit hours in Summer **only with department or Graduate Programs Office consent.**

College of Education

Main Office
Matthews Hall, Room 117
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

Ruthanne Thompson, Interim Dean (term end May 31, 2025)
Angie Cartwright, Interim Dean (term begins June 1, 2025)
Amanda Vickery, Associate Dean for Educator Preparation Programs
Brian McFarlin, Associate Dean for Research and Undergraduate Studies
Ruth Lowery, Associate Dean for Graduate Studies and Faculty Affairs

Faculty

Mission

Developing professionals who help others reach their full potential through powerful learning, social-emotional wellness, physical health and civic engagement.

Vision

The Metroplex, Texas, the United States, and the world will pursue increasing numbers of our graduates as informed and thoughtful practitioners.

The people our students serve will become personally committed to the processes in which our students engage them, and client/student outcomes will inspire those who know them.

The work of those practitioners, and the policies needed to support them, will be understood by the general public and by policy makers.

Our faculty research will be influential and useful to both practitioners and other researchers in their areas of inquiry; our researchers will be widely recognized for their expertise.

The College of Education will be recognized for its excellence – in rankings and in the quality of students and faculty who seek to join us.

The College of Education will be sought out for advice and partnership, across the university, and by international and community organizations.

We Value:

Whole people – Though our particular specializations may focus on the body, on learning, or on emotional well-being, our research and practitioners serve individuals as whole people.

Wellness – Our research and practice with communities and individuals focuses on physical, emotional, and intellectual wellness across the lifespan and across domains of experience.

Lifelong learning – Formal learning experiences, like school or therapy, should prepare individuals to remain inquirers and learners across their lives.

Social connectedness – Individuals live, learn, and recreate in communities; our research and teaching should strengthen interpersonal bonds and social improvement.

Equity – People from all social groups should experience fairness, access, similar opportunities, and satisfactory outcomes in their quests for learning and health.

Innovation – We create worlds of innovators. Our research and teaching break with past practices to expand possibilities, the practitioners and researchers we prepare learn to innovate in their own work, and the people they serve, in turn, invent and advance new practices in their spheres of influence.

The college offers 9 master's and 8 doctoral degree majors in three academic departments. These departments are Counseling and Higher Education; Educational Psychology; and Teacher Education and Administration. This arrangement provides graduate students with opportunities for collaborative research and interdisciplinary course work.

Prospective graduate students must 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.

The College of Education is accredited the Texas Education Agency State Board for Educator Certification (https://tea.texas.gov). 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; https://www.cacrep.org/).

Programs of study

Counseling and Higher Education

- Master of Education with a major in counseling
  - Elementary school counseling
  - Secondary school counseling
- Master of Education with a major in higher education
  - Community college leadership
  - General administration
  - Student affairs
- Master of Science with a major in counseling
  - Elementary school counseling
  - Secondary school counseling
  - Clinical mental health counseling
- Doctor of Philosophy with a major in counseling
- Doctor of Education with a major in higher education
- Doctor of Philosophy with a major in higher education

Educational Psychology

- Master of Education with a major in special education
  - Autism intervention
  - Educational diagnostician
  - High incidence disabilities
- Master of Science with a major in educational psychology
  - Family policy and program administration
  - Learning and development
  - Research and evaluation
  - Gifted and talented
- Doctor of Philosophy with a major in special education
  - Developmental Disabilities and Autism
  - Learning Disabilities and Behavior Disorders
- Doctor of Philosophy with a major in educational psychology
  - Human development and family science
  - Gifted and talented
  - Psychosocial aspects of sports and exercise
  - Sport pedagogy
  - Research, measurement and statistics
  - Learning Sciences

Teacher Education and Administration

- Master of Education with a major in curriculum and instruction

- Master of Education with a major in educational leadership
- Master of Science with a major in early childhood studies
- Master of Education with a major in teaching
    - EC-6 ESL generalist
    - EC-6 bilingual generalist
    - 4-8 mathematics
    - 4-8 science
    - Secondary education
- Doctor of Education with a major in educational leadership
- Doctor of Philosophy with a major in educational leadership
- Doctor of Philosophy with a major in curriculum and instruction
    - Curriculum studies
    - Early childhood studies
    - Language and literacy 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.

Expected years to completion:		
Hours on degree plan	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 towards 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

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

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 119. 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 30 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 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.
3. 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.
4. 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.
5. 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

Students are strongly encouraged to create a journal-formatted 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.

Post-baccalaureate 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 7–12, or EC-12 grade levels. Advanced and supplemental certificates are available in some teaching, administrative or support areas. To obtain initial, advanced or supplemental educator certification, a student must complete all requirements of the certification program to which they were admitted, pass the required state tests (if any), apply for teacher certification with SBEC, and obtain approval 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.

Certification areas available at the graduate level

- Art (EC-12)
- Bilingual Education Supplemental-Spanish (Grades NA)
- Business and Finance (Grades 6-12)
- Chemistry (Grades 7-12)
- Computer Science (Grades 8-12)
- Core Subjects (Grades EC-6)
- Dance (Grades 6-12)
- Educational Diagnostician (Grades EC-12)
- English Language Arts and Reading (Grades 4-8)
- English Language Arts and Reading (Grades 7-12)
- English as a Second Language Supplemental (Grades NA)
- Family and Consumer Sciences (Grades 6-12)
- Health Science (Grades 6-12)
- History (Grades 7-12)
- Hospitality, Nutrition and Food Sciences (Grades 8-12)
- Human Development and Family Studies (Grades 8-12)
- Journalism (Grades 7-12)
- Languages Other Than English - French (Grades EC-12)
- Languages Other Than English - German (Grades EC-12)
- Languages Other Than English - Spanish (Grades EC-12)
- Life Science (Grades 7-12)
- Marketing (Grades 6-12)
- Mathematics (Grades 4-8)
- Mathematics (Grades 7-12)
- Music (Grades EC-12)
- Physical Education (Grades EC-12)
- Physical Science (Grades 6-12)
- Physics/Mathematics (Grades 7-12)
- Principal (Grades EC-12)
- School Counselor (Grades EC-12)
- School Librarian (Grades EC-12)
- Science (Grades 4-8)
- Science (Grades 7-12)
- Social Studies (Grades 4-8)
- Social Studies (Grades 7-12)
- Special Education (Grades EC-12)
- Speech (Grades 7-12)
- Superintendent (Grades EC-12)
- Theatre (Grades EC-12)
- Trade and Industrial Education (Grades 6-12)

Students can obtain certain initial, advanced, and supplemental educator certificates while earning a graduate degree. The department, program and certifications 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

Graduate academic certificates

In cooperation with the Toulouse Graduate School, the College of Education offers 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.

Teacher Certification

Administration certification, Principal as Instructional Leader

Advanced or supplemental certification

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 and the Performance Assessment for School Leaders (PASL).
3. Making application, fulfilling all state requirements, and paying fees to TEA 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 as instructional leader

- A master's degree.
- Valid teacher certificate.
- Two or more years of experience as the Teacher of Record in accredited EC-12 schools.

Administration, principal as instructional leader, 21 hours

- EDLE 5330 - Instructional Leadership
- EDLE 5390 - Campus-Level School Law
- EDLE 5620 - Administration and Leadership for Student Educational Services
- EDLE 5630 - Organizational Change and School Improvement
- EDLE 5650 - Professional Development and Supervision
- EDLE 5720 - Practicum in Educational Leadership
- EDLE 5730 - Advanced Practicum in Educational Leadership

With approval from an advisor, other EDLE courses can be substituted for the courses listed above except for EDLE 5720 and EDLE 5730. Possible substitutions include EDLE 5400, EDLE 5600, EDLE 5610 and EDLE 5680.

Administration certification, Superintendent

Routes to certification for graduate students

Advanced or supplemental certification

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, 15 hours

- The principal or mid-management certificate.

Educational administration:

- EDLE 6033 - Superintendent Practicum
- EDLE 6110 - Advanced Inquiry in Educational Leadership
- EDLE 6510 - Educational Law and Policy
- EDLE 6570 - Seminar in Advanced Educational Finance
- EDLE 6590 - Systems Change and Leadership

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 score report for one of the following (scores listed are minimum scores): GRE (verbal-391/146; quantitative-436/141); ACT (English-23; math-19) (no more than 5 years old); SAT taken prior to March 2016 (total of 1070 with reading and math scores of at least 500) (no more than 5 years old); SAT taken March 2016 or later (minimum score of 480 on evidence based reading and writing, 500 on math) (no more than 5 years old); Praxis Core Skills for Education (reading-156, math-150, writing-162).
4. Successfully completing an admission interview.
5. Admission to teacher education is generally required within the first two weeks 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(s) of the TExES examinations.
3. Making application, fulfilling all state requirements, 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.

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 https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

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 3.0 overall.
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. Successfully completing an admission interview.
4. Admission to teacher education is generally required within the first two weeks 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(s) of the TExES examinations.
3. Making application, fulfilling all state requirements, 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.

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

- 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 - Bilingual Content Instruction
- EDBE 5590 - Pedagogy of English as a Second Language for EC–12 Classrooms
- EDCI 5010 - Applying Theory to Teaching Practice
- 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 3.0 overall.
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. Successfully completing an admission interview.
4. Admission to teacher education is generally required within the first two weeks 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(s) of the TExES examinations.
3. Making application, fulfilling all state requirements, 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.

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

- 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
- EDCI 5010 - Applying Theory to Teaching Practice
- EDRE 5070 - Literacy Development for English Learners
- EDCI 5860 - Instructional Methodologies in Mathematics and Science

  or
- EDBE 5582 - ESL Content Instruction

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

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), 18-27 hours

- 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.

Mathematics Education 4–8 (initial certification without an advanced degree)

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

Admission requirements

1. Bachelor's degree from an accredited institution of higher education, with an undergraduate GPA of 3.0 overall.
2. 24 semester hours of undergraduate course work with 12 hours in upper-level mathematics.

Program requirements, 24 hours

Teacher education courses, 18 hours

- EDBE 5582 - ESL Content Instruction
- EDCI 5010 - Applying Theory to Teaching Practice
- EDCI 5030 - Maintaining Classroom Discipline
- EDCI 5860 - Instructional Methodologies in Mathematics and Science
- EDSE 5004 - Literacy Curriculum for Secondary Teaching
- EDSP 5750 - Learning Strategies for Promoting Proficiency in Math and Content Area Subjects for Exceptional Learners

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, EDCI 5105 and EDCI 5115 (one in each of two consecutive long terms/semesters).

Probationary Principal certification

Routes to certification for graduate students

Advanced or supplemental certification

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, 12 hours

- Master's degree.
- Current Texas teacher certificate.
- Two years of creditable classroom teaching experience.

Administration

- EDLE 5330 - Instructional Leadership
- EDLE 5390 - Campus-Level School Law
- EDLE 5400 - Management of School Resources
- EDLE 5630 - Organizational Change and School Improvement

School Counseling (elementary or secondary) teacher certification

School counseling (elementary or secondary), 48 hours

- 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 Counseling

- COUN 5660 - Advanced Counseling Skills
- COUN 5670 - Developmental Processes and Strategies
- COUN 5680 - Essential Skills in Counseling
- 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 - Professional School Counseling
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology
- 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 Counseling
- COUN 5600 - Counseling in Secondary Schools
- COUN 5660 - Advanced Counseling Skills
- COUN 5670 - Developmental Processes and Strategies
- COUN 5680 - Essential Skills in Counseling
- 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
- 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 3.0 overall.
2. 24 semester hours of undergraduate course work with 12 upper-level hours in science.

Program requirements, 24 hours

Teacher education courses, 18 hours

- EDBE 5582 - ESL Content Instruction
- EDCI 5010 - Applying Theory to Teaching Practice
- EDCI 5030 - Maintaining Classroom Discipline
- EDCI 5860 - Instructional Methodologies in Mathematics and Science
- EDSE 5004 - Literacy Curriculum for Secondary Teaching
- EDSP 5750 - Learning Strategies for Promoting Proficiency in Math and Content Area Subjects for Exceptional Learners

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, EDCI 5105 and EDCI 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 3.0 overall.
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. Successfully completing an admission interview.
4. Admission to teacher education is generally required within the first two weeks 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(s) of the TExES examinations.
3. Making application, fulfilling all state requirements, 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.

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.

Requirements, 24 hours

Teacher education (online courses)

- EDBE 5582 - ESL Content Instruction
- EDCI 5010 - Applying Theory to Teaching Practice
- EDCI 5020 - Curriculum Development for the EC-12 Classroom
- EDCI 5030 - Maintaining Classroom Discipline
- EDSE 5004 - Literacy Curriculum for Secondary Teaching
- EDSP 5750 - Learning Strategies for Promoting Proficiency in Math and Content Area Subjects for Exceptional Learners

Student teaching or practicum, 6 hours

student teaching EDCI 5108 and EDCI 5118 (taken concurrently) or practicum for students hired as teachers of record on Probationary Teaching Certificates, EDCI 5105 and EDCI 5115 (one in each of two consecutive long terms/semesters).

Note

Individuals seeking science, mathematics, and/or engineering teacher certification will have a program of study that includes a course on teaching with an integrative STEM approach. The course is EDCI 5340 - Innovations in STEM Teaching and Learning, plus they will have one additional elective.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Department of Counseling and Higher Education

Main Office
Welch Complex 2

Mailing address:
1155 Union Circle #310829
Denton, TX 76203-5017
940-565-2910
Web site: coe.unt.edu/counseling-and-higher-education/

Advising:
Welch Complex 2
940-565-2910

Higher Education - Matthews Hall, Room 214
940-565-2045

Natalya Lindo, Chair

Faculty

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 for Higher Education Accreditation, has conferred accreditation on the following program areas in counseling at the University of North Texas at Denton: clinical mental health counseling, MS; school counseling, MS; and the counselor education and supervision PhD program in counseling.

Higher education offers graduate degree programs leading to 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, counseling outcomes, and professional issues in counselor education. Specific areas of research include play therapy, crisis intervention, veterans' issues, addictions counseling, multicultural issues, animal assisted therapy, and near-death experiences.

Current research interests of the higher education program faculty include studies of statewide coordination and control of higher education; data informed 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 and quantitative 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 Higher Education Development Initiative and the North Texas Community College Consortium. The Higher Education program has been represented on the editorial boards of major scholarly journals such as the *College Student Affairs Journal; Journal of College Student Retention: Research and Practice; Reading Psychology; Journal of Applied Research in the Community College; Journal of Staff, Program and Organization Development; African Higher Education Review; Journal of College Student Development;* and *Journal of College and Character.*

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 **Higher Education Development Initiative** 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 and comparative international studies.

The counseling program's **Consortium for Animal Assisted Therapy (CAAT)** trains professionals and volunteers to work with their pets to facilitate the development of students with pet-assisted educational programs and to enhance the emotional well-being of persons of all ages though positive human-animal interactions.

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 in counseling from a CACREP-accredited program may complete course work that constitutes the substantial equivalent of a school counseling program area to meet the educational requirements for public school counselor certification in Texas.

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.

All required admission materials must be submitted and processed through the UNT Graduate Admissions Office by the application deadlines. Please visit the Graduate Admissions Website for more information regarding the application process. Clinical Mental Health Counseling admits students twice a year (Spring and Fall) and School Counseling admits students once a year (Summer). The application deadlines for Clinical Mental Health Counseling are October 15 for the following Spring, and March 15 for the following Fall. The application deadline for School Counseling is March 15 for the following Summer. Applicants will be notified shortly after the application deadline if they're invited to participate in the interview portion of the application process.

Individuals selected to proceed beyond orientation and interviews will be offered provisional admission pending the Counseling Program's receipt of a satisfactory Criminal History Background Check (CHBC).

All students granted provisional admission to the master's program in Clinical Mental Health Counseling are required to enroll in COUN 5710 during the first 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 complete COUN 5680 and COUN 5710 with grades of B or higher and submit first semester orientation tasks to be considered for full admission to the program.

All students granted provisional admission to the master's program in School Counseling are required to enroll in COUN 5680 during the first semester of enrollment in graduate school and must receive a grade of B or higher. Student must enroll in COUN 5710 during their second semester. Students must complete COUN 5680 and COUN 5710 with grades of B or higher and submit first semester orientation tasks 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 and COUN 5710. The student's progress is evaluated on the basis of academic performance, professional development and personal development required for success as a professional counselor. After the initial 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 academic performance, professional development and personal development 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 60 semester hours, including successful completion of internship COUN 5720/COUN 5721, in lieu of a thesis, 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. Students must earn grades of A or B on all degree plan COUN course work. 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 K-12 school counseling concentration meets the educational requirements for certification as a public school counselor in Texas. In addition, for the School Counseling Certification, the State of Texas requires 1) two years of teaching experience in a public or an accredited private school and 2) passing grade on the TExES

Counselor Exam. Students enrolled in the K-12 school counseling track who wish to become licensed professional counselors in Texas must complete one additional 3-hour course beyond the 60-hour degree: COUN 5490. All students who wish to become licensed professional counselors in Texas are required to have specified supervised experiences. Counseling program area heads should be consulted for details.

K-12 school counseling track

Required courses

- COUN 5290 - Ethical, Legal and Professional Issues in Clinical Mental Health Counseling
- COUN 5460 - Program Development, Leadership and Ethics in School Counseling
- COUN 5470 - Career Counseling
- COUN 5480 - Diagnosis and Treatment Planning in Counseling
- COUN 5610 - Addiction Counseling
- COUN 5660 - Advanced Counseling Skills
- COUN 5670 - Developmental Processes and Strategies
- COUN 5680 - Essential Skills in Counseling
- 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 - Professional School Counseling
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology

Elective

Three courses (9 hours) 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.

All required admission materials must be submitted and processed through the UNT Graduate Admissions Office by the application deadlines. Please visit the Graduate Admissions Website for more information regarding the application process. Clinical Mental Health Counseling admits students twice a year (Spring and Fall) and School Counseling admits students once a year (Summer). The application deadlines for Clinical Mental Health Counseling are October 15 for the following Spring, and March 15 for the following Fall. The application deadline for School Counseling is March 15 for the following Summer. Applicants will be notified shortly after the application deadline if they're invited to participate in the interview portion of the application process.

Individuals selected to proceed beyond orientation and interviews will be offered provisional admission pending the Counseling Program's receipt of a satisfactory Criminal History Background Check (CHBC).

All students granted provisional admission to the master's program in Clinical Mental Health Counseling are required to enroll in COUN 5710 during the first 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 complete COUN 5680 and COUN 5710 with grades of B or higher and submit first semester orientation tasks to be considered for full admission to the program.

All students granted provisional admission to the master's program in School Counseling are required to enroll in COUN 5680 during the first semester of enrollment in graduate school and must receive a grade of B or higher. Student must enroll in COUN 5710 during their second semester. Students must complete COUN 5680 and COUN 5710 with grades of B or higher and submit first semester orientation tasks 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 and COUN 5710. The student's progress is evaluated on the basis of academic performance, professional development and personal development required for success as a professional counselor. After the initial 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 academic performance, professional development and personal development 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 MS requirements and a passing score on the written comprehensive examination administered during student enrollment in COUN 5720 or COUN 5721. All degree programs must be planned in consultation with the student's advisor, and students must earn grades of A or B on all degree plan course work. 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 Internship Coordinator and must be approved by the program.

The Clinical Mental Health Counseling Track listed below meets the educational requirements for licensure as a professional counselor in Texas. All students who wish to become licensed professional counselors in Texas are required to have specified supervised experiences. The K-12 School Counseling track meets the educational requirements for certification as a public school counselor in Texas. In addition, for the School Counseling Certification, the State of Texas requires a passing grade on the TExES Counselor Exam. Students enrolled in the K-12 School Counseling track who wish to become licensed professional counselors in Texas must complete one additional 3-hour course beyond the 60-hour degree: COUN 5490 - Abnormal Behavior: Effects of Trauma and Crisis Intervention. All students who wish to become licensed professional counselors in Texas are required to have specified supervised experiences. Counseling program area heads should be consulted for details.

K-12 school counseling track

Required courses

- COUN 5290 - Ethical, Legal and Professional Issues in Clinical Mental Health Counseling
- COUN 5460 - Program Development, Leadership and Ethics in School Counseling
- COUN 5470 - Career Counseling
- COUN 5480 - Diagnosis and Treatment Planning in Counseling
- COUN 5610 - Addiction Counseling
- COUN 5660 - Advanced Counseling Skills
- COUN 5670 - Developmental Processes and Strategies

- COUN 5680 - Essential Skills in Counseling
- 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 - Professional School Counseling
- COUN 5790 - Counseling Culturally Diverse Clients
- EPSY 5050 - Foundations of Educational Research Methodology

Electives, 9 hours

Three courses (9 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 Ethical Program Development in Clinical Mental Health Counseling
- COUN 5470 - Career Counseling
- COUN 5480 - Diagnosis and Treatment Planning in Counseling
- COUN 5490 - Abnormal Behavior: Effects of Trauma and Crisis Intervention
- COUN 5610 - Addiction Counseling
- COUN 5660 - Advanced Counseling Skills
- COUN 5670 - Developmental Processes and Strategies
- COUN 5680 - Essential Skills in Counseling
- 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

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

UNT's higher education program is one of the most established higher education programs in the Southwest. We have graduated more than 1,100 doctoral and master's alumni and many of them are currently holding leadership positions in universities and colleges around the country as well as overseas.

The master's degree in higher education prepares students for entry-level and mid-management positions in higher education administration in areas such as student life, student housing, career centers, new student programs, multicultural centers, student unions, advancement offices, alumni offices, academic advising centers, international student offices, financial aid offices, dean of student's offices, institutional research offices, and business affairs offices. The student affairs track meets the requirements of the Council for the Advancement of Standards (CAS) for graduate programs in student affairs.

Students may select from three program formats: standard program, online program, or cohort program. The standard program allows the student to specialize in one of three tracks: student affairs, community college leadership, or general administration. The online program specializes in general administration and allows students to complete their degree fully online. The cohort program specializes in student affairs and includes immediate consideration for a graduate assistant position in student affairs or a related area.

Admission Requirements

Students seeking admission to the master's program in higher education should submit the following items to UNT Graduate Admissions:

1. UNT Graduate Admissions application form;
2. official transcripts from all colleges and universities attended;
3. official GRE or GMAT scores no older than five years are optional.

The following materials must be submitted to the Higher Education Program Office:

1. program application
2. three recommendation forms, including at least one from a current or recent professor;
3. a curriculum vitae or resume; and
4. an admission essay (i.e., statement of purpose).

In addition to the minimum requirements of the College of Education listed under the "Admissions requirements" heading in the appropriate section of the UNT graduate catalog, admission to the master's program in higher education is contingent upon the following:*

1. an acceptable GPA (The successful candidate for admission will normally have a bachelor's degree overall GPA of 3.0 or higher or GPA of 3.0 in the last 60 credit hours taken for the bachelor's degree based on a 4.0 grading system.);
2. GRE or GMAT scores are optional;
3. the clarity and fit of the applicant's career objectives;
4. the strength of the professional/educational references; and
5. the quality of the admission essay.

Additionally, applicants to the Master's Cohort in Student Affairs track are required to participate in an interview with program faculty and student affairs professionals. Final admission to the master's cohort is dependent upon the student securing both admission to the program and a graduate assistantship position. Applicants not considered for the cohort will be considered automatically for the standard master's program.

Additional information

For additional information and specific course requirements for the master's degree in higher education, potential students should contact the master's degree program coordinator in the higher education program at 940-565-2045 or e-mail coe-che-info@unt.edu.

Master of Education - Standard program

The master of education degree requires a minimum of 36 semester hours in four areas: higher education core (15 hours), research (3 hours), internship/field problem (6 hours) and specialization (12 hours including 3 hours of elective).

Higher education core, 15 hours

- EDHE 5210 - Student Demographics
- EDHE 5220 - Cultural Pluralism in Higher Education
- EDHE 5610 - Finance and Budgeting in Higher Education

  or
- EDHE 6760 - Higher Education Finance
- EDHE 6510 - History and Philosophy of Higher Education
- EDHE 6710 - Organization and Administration of Higher Education

Research requirement, 3 hours

- EPSY 5210 - Educational Statistics

Internship/field problem, 6 hours

- EDHE 6030 - Practicum, Field Problem or Internship (3 hours per semester, 6 hours total)

Specialization track, 12 hours

Student Affairs track

Required courses in specialization, 9 hours

- EDHE 5110 - Foundations of Student Development Administration
- EDHE 5120 - Student Development Programming Administration
- EDHE 6660 - Seminar in College Student Personnel Work

Elective, 3 hours

Choose one course (3 hours) from the following list in consultation with the student's advisor or choose a course approved by the student's advisor:

- COUN 5710 - Counseling Theories
- COUN 5790 - Counseling Culturally Diverse Clients
- EDHE 5250 - Programming for Conferences, Seminars, Workshops
- EDHE 5620 - Student Risk Management in Higher Education
- EDHE 6060 - History and Philosophy of the Community College
- EDHE 6560 - Comparative International Higher Education Systems
- EDHE 6730 - Organization and Administration of Student Affairs
- EDHE 6780 - Educational Resource Development in Higher Education
- EDHE 6790 - Legal Aspects of Higher Education
- EDHE 6850 - Studies in Higher/Adult Education
- EPSY 5050 - Foundations of Educational Research Methodology

Community College Leadership track

Required courses in specialization, 9 hours

- EDHE 6060 - History and Philosophy of the Community College (student must take this course before other specialization and elective courses)
- EDHE 6080 - Community College Leadership
- EDHE 6085 - Contemporary Issues in the Community College

Elective, 3 hours

Choose one course (3 hours) from the following list in consultation with the student's advisor or choose a course approved by the student's advisor.

- EDHE 5710 - Trends and Issues in Adult/Continuing Education
- EDHE 6065 - Community College Administration
- EDHE 6070 - The Effective College Instructor
- EDHE 6075 - Economic Development and Higher Education
- EDHE 6850 - Studies in Higher/Adult Education
- EPSY 5050 - Foundations of Educational Research Methodology

General Administration track

Four courses (12 hours) chosen from the following list in consultation with the student's advisor or other courses approved by the student's advisor.

- EDHE 5110 - Foundations of Student Development Administration
- EDHE 5120 - Student Development Programming Administration
- EDHE 5620 - Student Risk Management in Higher Education
- EDHE 6060 - History and Philosophy of the Community College
- EDHE 6550 - Policy Studies in Higher Education
- EDHE 6560 - Comparative International Higher Education Systems
- 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
- EDHE 6850 - Studies in Higher/Adult Education
- EPSY 5050 - Foundations of Educational Research Methodology

Master of Education - Online program in general administration

The online Master of Education degree requires a minimum of 36 semester hours in four areas: higher education core (15 hours), research (3 hours), internship/field problem (6 hours) and specialization in general administration (12 hours). Students in the online master's program must complete their degree within 5 years.

Higher education core, 15 hours

- EDHE 5210 - Student Demographics
- EDHE 5220 - Cultural Pluralism in Higher Education

- EDHE 5610 - Finance and Budgeting in Higher Education

  or

- EDHE 6760 - Higher Education Finance

- EDHE 6510 - History and Philosophy of Higher Education
- EDHE 6710 - Organization and Administration of Higher Education

Research requirement, 3 hours

- EPSY 5210 - Educational Statistics

Internship/field problem, 6 hours

- EDHE 6030 - Practicum, Field Problem or Internship (3 hours per semester, 6 hours total)

Specialization track, 12 hours

General administration track

Four courses (12 hours) chosen from the following list in consultation with the student's advisor or other courses approved by the student's advisor.

- EDHE 5110 - Foundations of Student Development Administration
- EDHE 5120 - Student Development Programming Administration
- EDHE 5620 - Student Risk Management in Higher Education
- EDHE 6050 - Learning Theory in Higher Education
- EDHE 6060 - History and Philosophy of the Community College
- EDHE 6080 - Community College Leadership
- EDHE 6850 - Studies in Higher/Adult Education

Master of Education - Cohort Program in Student Affairs

Students who are interested in the Student Affairs track may apply to the Cohort Program. The Cohort Program admits 12-16 students per year and admission is selective. Cohort students are full-time students working 20 hours per week in graduate assistantships and enrolling in a pre-set block of courses in the student affairs track.

Year 1 Fall Semester

- EDHE 5110 - Foundations of Student Development Administration
- EDHE 6510 - History and Philosophy of Higher Education
- EPSY 5210 - Educational Statistics

Year 1 Spring Semester

- EDHE 5120 - Student Development Programming Administration
- EDHE 5220 - Cultural Pluralism in Higher Education
- EDHE 6710 - Organization and Administration of Higher Education

Year 2 Fall Semester

- EDHE 5210 - Student Demographics
- EDHE 5610 - Finance and Budgeting in Higher Education
- EDHE 6030 - Practicum, Field Problem or Internship

Year 2 Spring Semester

- EDHE 5620 - Student Risk Management in Higher Education
- EDHE 6030 - Practicum, Field Problem or Internship
- EDHE 6660 - Seminar in College Student Personnel Work

Doctorate

Counselor Education and Supervision, 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.

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 Counselor Education and Supervision doctoral program are administered once each year early in the spring term/semester for acceptance to the doctoral program cohort for the fall semester. All required admission materials must be filed in the program office by the deadline indicated on the department web site, usually November 15. 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, applicants will be offered provisional admission pending the Counseling Program's receipt of a satisfactory Criminal History Background Check (CHBC). Admission to the Counselor Education and Supervision doctoral program is provisional until the student's progress is evaluated by the counseling faculty upon completion of the first year of required core courses. The student's progress is evaluated on the basis of the demonstration of academic performance, professional development and personal development required for success as a professional counselor and counselor educator. After the initial progress review, the counseling faculty reserves the right to withdraw the student from the program or to recommend that the student continues in the program or that the student continues in the program with specific conditions attached.

Following this initial evaluation, the student will be routinely evaluated on the criteria of academic performance, professional development and personal development to determine if progress is adequate, if remedial work is needed or if the student should be withdrawn from the program.

Degree requirements

The Doctor of Philosophy degree in Counselor Education and Supervision is offered in the Department of Counseling and Higher Education. The degree requires a minimum of 72 semester hours beyond the master's degree. Students must earn grades of A or B in all degree plan courses. Courses listed below are 3 semester credit hours unless otherwise specified.

Counseling core, 45 hours

- COUN 6090 - Counselor Supervision
- COUN 6130 - Research in Counseling
- COUN 6140 - Advanced Multicultural Counseling
- COUN 6220 - Counseling Principles and Process I
- COUN 6230 - Counseling Principles and Process II
- COUN 6240 - Counseling Principles and Process III
- COUN 6250 - Counseling Principles and Process IV
- COUN 6260 - Counseling Principles and Process V
- 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 (9 hours minimum)

Research core, 6 hours

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education

Specialty courses, 9 hours

Students complete a 9-hour counseling specialty from a list of course work specified in the Counselor Education and Supervision Doctoral Program Handbook.

Minor/electives, 3–12 hours

Students must complete a minor of at least 12 semester hours outside the academic program or, with approval of the student's doctoral advisory committee, may choose the elective option in lieu of the minor. Students who have completed graduate counseling credits in excess of 48 hours may request exemption from up to 9 semester hours of minor/elective requirements; approval is at the discretion of the major professor and on a case-by-case basis.

Research tool, 9 hours

In addition to the degree requirements for a PhD in Counselor Education and Supervision, 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 Counselor Education and Supervision, the required tool subject is COUN 6120, COUN 6125 and one additional 3-hour course in research.

Additional requirements

Students may not be enrolled in any COUN core course until they have been fully admitted to the doctoral program in Counselor Education and Supervision. Students are required to meet the UNT doctoral residence requirement during fall and spring semester of their first year of doctoral study. The Counseling Education and Supervision 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

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, chief academic affairs officer, vice president of student services, dean of business services, and president.
- Higher education middle management administrative positions in student affairs, academic affairs, administrative affairs, business affairs and development in all types of institutions of higher education, including such positions as director of institutional research, director of development, and director of continuing education.
- Senior administrative and staff positions in higher education coordinating and/or policy agencies in state, regional and federal government.
- Administrative leadership positions with higher education accrediting agencies, professional associations, consortia and other professional organizations.

Admission requirements

Students seeking admission to the doctoral program in higher education should apply for either the EdD or PhD program depending on their academic preparation, prior experience and career goals. Both doctoral programs offered in higher education enable students to acquire knowledge about and evaluate major 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.

Admission to the program is selective. Students seeking admission to the doctoral program in higher education should submit the following items to the UNT Toulouse Graduate School:

- UNT Toulouse Graduate School application form;
- official transcripts from all colleges and universities attended; and
- official GRE or GMAT scores no older than five years are optional.

The following materials must be submitted to the Higher Education Program Office:

- three recommendation forms, including at least one from a faculty member with whom the student has studied or conducted research (please contact the Higher Education Program Office for recommendation form);
- a curriculum vitae or resume;
- an admission essay (i.e., statement of purpose); and
- a sample of the applicant's best recent written work in the form of a published article or book chapter, a research term paper, master's thesis or a professional report for which the applicant is the sole or primary author.

In addition to the minimum requirements of 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:

- an acceptable GPA (the successful candidate for admission will normally have an overall GPA of 3.6 or higher from a graduate degree program, based on a 4.0 grading system);

- GRE or GMAT scores are optional;
- the quality and relevance of the applicant's prior undergraduate and graduate work;
- the quality and relevance of the applicant's prior work experience in higher education administration, teaching and/or research;
- the clarity and fit of the applicant's career objectives;
- the strength of the professional/educational references;
- the quality of the admission essay and writing sample; and
- an interview with program faculty.

There is an application deadline for each semester. Contact the program office for deadline dates. After review of the complete application packet, eligible applicants will be invited to interview with the program faculty. For additional information, prospective students should contact the higher education program office at 940-565-2045 or e-mail coe-che-info@unt. edu.

Degree requirements

The minimum total number of hours required for the EdD is 63 hours (57 if the internship requirement is waived) beyond the master'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 6000 - Proseminar in Higher Education (must be completed in the first year of doctoral study)
- 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

Cognate area, 15 hours

The student completes a cognate of at least 15 semester credit hours from courses within the program of higher education in consultation with his or her major professor. Courses from outside the program of higher education may be taken as part of the cognate with the permission of the student's major professor. Students are encouraged to focus on, but are not limited to, the following cognate areas:

- Community college leadership
- Student affairs administration
- Organization and administration
- Teaching and learning in higher education

Internship, 6 hours

An administrative 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. Administrative internships consist of at least 120 clock hours of closely supervised administrative work per 3 semester hours of credit and culminate with a written report of the internship experience.

College of Education research core, 6 hours

The College of Education requires that each doctoral student complete

- EPSY 6010 - Statistics for Educational Research *
- EPSY 6020 - Research Methods in Education

*Students who have not taken a master's-level research course may need to take EPSY 5210 to meet the prerequisite for EPSY 6010. EPSY 5210 is not counted toward the degree.

Higher Education research requirement, 9 hours

Each EdD candidate must be competent in the modes of inquiry methods common to the major field of study. The higher education program requires EdD students to complete 6 hours of higher education field research courses and 3 hours in quantitative or qualitative research methodology beyond EPSY 6010 and EPSY 6020.

Higher education field research, 6 hours

Higher education field research 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 by creating research-based solutions for real-life issues in higher education administration. 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, 3 hours

EdD students are required to take at least 3 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, minimum of 9 hours

The principal goal of the EdD dissertation is the demonstration of the student's ability to solve practical issues in higher education by conducting independent research. The research design must be congruent with the modes of inquiry used in conducting research on higher education. EdD students are encouraged to conduct action research that applies theories in creating solutions for real-life issues in higher education. No dissertation enrollment is permitted until the student passes the doctoral qualifying exam. Only 9 semester hours of dissertation credit are applied to the degree program, even though more dissertation hours may be accumulated. Please check university policy on the requirement of continuous enrollment.

Doctoral dissertation committee

Each EdD student must select a dissertation committee prior to taking the doctoral qualifying exam. The dissertation committee consists of a minimum of four graduate faculty members including a major professor. At least two members of the committee must be full-time Higher Education Program faculty. The major professor must be full-time Higher Education Program faculty with full UNT Graduate Faculty status. The third member must be external to the Higher Education Program (can be external to the college or university). The fourth member can be either full-time Higher Education faculty, affiliate Higher Education faculty, or someone external to the program (can be external to the college or university). Students who have a minor are encouraged to select the external member from the minor field. Students should consult with their major professor to form the dissertation committee. Please check the university and college dissertation committee policies for other requirements.

Additional requirements

Minimum grade requirement

All courses required and used toward the doctoral degree in higher education must be passed with a grade of B or better.

Residency requirement

All doctoral students at UNT are required to complete the residency requirement prior to taking the Doctoral Qualifying Exam. The residency requirement consists of two consecutive semesters at UNT with a minimum of 9 graduate hours in each term or three consecutive semesters with a minimum of 6 graduate hours in each term. The summer semester may be excluded for the purpose of determining consecutive semesters.

Doctoral qualifying exam

Students who have met the residency requirement and completed all course work on the degree plan (exclusive of dissertation) with a grade of B or better will be allowed to take the doctoral qualifying exam.

Students who have:

- met the residency requirement
- are in the last 6 hours or less of course work (exclusive of dissertation)
- will complete these hours in the current semester
- have completed all doctoral core courses and higher education program research core

may take the doctoral qualifying exam with permission from the major professor.

The higher education program doctoral qualifying exam includes written and oral components. Students who fail any part of the exam twice will be automatically dismissed from the program. Students who pass the doctoral qualifying exam are admitted to candidacy.

Higher Education, PhD

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.

Admission requirements

Students seeking admission to the doctoral program in higher education should apply for either the EdD or PhD program depending on their academic preparation, prior experience and career goals. Both doctoral programs offered in higher education enable students to acquire knowledge about and evaluate major 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.

Admission to the program is selective. Students seeking admission to the doctoral program in higher education should submit the following items to the UNT Toulouse Graduate School:

- UNT Toulouse Graduate School application form;
- official transcripts from all college and universities attended; and
- official GRE or GMAT scores no older than five years are optional.

The following materials must be submitted to the Higher Education Program Office:

- three recommendation forms, including at least one from a faculty member with whom the student has studied or conducted research (please contact the Higher Education Program Office for recommendation form);
- a curriculum vitae or resume;
- an admission essay (i.e., statement of purpose); and
- a sample of the applicant's best recent written work in the form of a published article or book chapter, a research term paper, master's thesis or a professional report for which the applicant is the sole or primary author.

In addition to the minimum requirements of 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:

- an acceptable GPA (the successful candidate for admission will normally have an overall GPA of 3.6 or higher from a graduate degree program, based on a 4.0 grading system);
- GRE or GMAT scores are optional;
- the quality and relevance of the applicant's prior undergraduate and graduate work;
- the quality and relevance of the applicant's prior work experience in higher education administration, teaching and/or research;
- the clarity and fit of the applicant's career objectives;
- the strength of the professional/educational references;
- the quality of the admission essay and writing sample; and
- an interview with program faculty.

There is an application deadline for each semester. Contact the program office for deadline dates. After review of the complete application packet, eligible applicants will be invited to interview with the program faculty. For additional information, prospective students should contact the higher education program office at 940-565-2045 or e-mail coe-che-info@unt.edu.

Degree requirements

The PhD with a major in higher education requires a minimum of 72 hours (66 if the internship requirement is waived) beyond the master's degree or 102 hours (96 if the internship requirement is waived) 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 6000 - Proseminar in Higher 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 program of higher education, or a cognate field of 12 semester hours in an area of specialization in higher education. The student must work with his or her major professor to select the minor or cognate area.

Higher education elective course requirements, 6 hours

Courses are to be selected from the program's course inventory and should enable the student to gain either a broader exposure to the various specializations in higher education or an in-depth knowledge of one particular area of specialization.

Internship, 6 hours

An administrative, research and/or teaching 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. Internships consist of at least 120 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. Teaching internships consist of at least 40 hours of supervised teaching per 3 semester hours of credit and culminate with a portfolio documenting the experience.

College of Education research core, 6 hours

The College of Education requires that each doctoral student complete

- EPSY 6010 - Statistics for Educational Research *
- EPSY 6020 - Research Methods in Education

*Students who have not taken a master's-level research course may need to take EPSY 5210 to meet the prerequisite for EPSY 6010. EPSY 5210 is not counted toward the degree.

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 the 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, minimum of 9 hours

The principal goal of the PhD dissertation is the demonstration of the student's ability to conduct independent research. The research design must be congruent with the modes of inquiry used in conducting research on higher education and must be a report of independent research with a strong theoretical foundation. Moreover, the dissertation must be of publishable quality. No dissertation enrollment is permitted until the student passes the doctoral qualifying exam. Only 9 semester hours of dissertation credit are applied to the degree program, even though more dissertation hours may be accumulated. Please check university policy on the requirement of continuous enrollment.

Doctoral dissertation committee

Each PhD student must select a dissertation committee prior to taking the doctoral qualifying exam. The dissertation committee consists of a minimum of four graduate faculty members including a major professor. At least two members of the committee must be full-time Higher Education Program faculty. The major professor must be full-time higher education program faculty with full UNT Graduate Faculty status. The third member must be external to the higher education program. The fourth member can be either full-time higher education faculty, affiliate higher education faculty, or someone external to the program. Students who have a minor are encouraged to select the external member from the minor field. Students should consult with their major professor to form the dissertation committee. Please check the university and college dissertation committee policies for other requirements.

Additional information

Minimum grade requirement

All courses required and used toward the doctoral degree with a major in higher education must be passed with a grade of B or better.

Residency requirement

All doctoral students at UNT are required to complete the residency requirement prior to taking the doctoral qualifying exam. The residency requirement consists of two consecutive semesters at UNT with a minimum of 9 graduate hours in each term or three consecutive semesters with a minimum of 6 graduate hours in each term. The summer semester may be excluded for the purpose of determining consecutive semesters.

Doctoral qualifying exam

Students who have met the residency requirement and completed all course work on the degree plan (exclusive of dissertation) with a grade of B or better will be allowed to take the doctoral qualifying exam.

Students who have:

- met the residency requirement
- are in the last 6 hours or less of course work (exclusive of dissertation)
- will complete these hours in the current semester
- have completed all doctoral core courses and the higher education program research core

may take the doctoral qualifying exam in that semester with permission from the major professor.

The higher education program doctoral qualifying exam includes written and oral components. Students who fail any part of the exam twice will be automatically dismissed from the program. Students who pass the doctoral qualifying exam are admitted to candidacy.

Graduate Academic Certificate

Community College Leadership certificate

Admission requirements

1. Successful completion of a master's degree program from an accredited college or university.
2. A letter of interest addressing: your reasons for pursuing the community college leadership certificate; your immediate and long-range academic and career goals; your work experience and previous education as they relate to community colleges.
3. A resume/curriculum vitae.

Course requirements, 12 hours

Students must complete four of the following courses.

- EDHE 5610 - Finance and Budgeting in Higher Education
- EDHE 6060 - History and Philosophy of the Community College
- EDHE 6080 - Community College Leadership
- EDHE 6085 - Contemporary Issues in the Community College
- EDHE 6710 - Organization and Administration of Higher Education

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

Anne Rinn, Chair

Faculty

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 sciences; and learning sciences.

Certification and degree programs in the department focus on such areas as non-traditional education, research and evaluation design, special education, gifted education, learning sciences, human development, and family science.

Financial support may be available on a limited basis for teaching and research. 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; program evaluation; strategies for working with adult populations; the study of developmental norms and family relationships; applied research design; and statistics and measurement.

Grants and Assistantships

The department has a limited number of competitive assistantship positions for which doctoral students may apply. These are 20 hour/week salaried positions for the fall and spring semesters which include 6 hours of tuition support each long term, and include working as a Teaching Assistant, Teaching Fellow, or Research Assistant (assignments are made each semester based on department need with an emphasis to diversify experiences). While on an assistantship, students are required to be enrolled full-time (9 credit hours each fall and spring).

Faculty regularly have grant opportunities to fund students. Check with the program coordinator for updated information.

Academic Support and Outreach Services

Two EPSY offices provide a variety of academic, research and outreach services to students, faculty, and the community at large:

Office of Research Consulting

The EPSY **Office of Research Consulting (ORC)** supports the research needs of faculty and students across the UNT community by providing methodological and statistical advice on grants, research, dissertations and classwork. The ORC is dedicated to enhancing the research atmosphere at UNT by improving statistical understanding of students and faculty, providing seminars and support on latest developments in data analysis and research methods, archiving publicly available national and international research data, and providing consulting on grant proposals and funded projects.

Office of Giftedness, Talent Development, and Creativity

The **Office for Giftedness, Talent Development, and Creativity (OGTD)** is committed to transforming potential into excellence through innovative educational opportunities, research, and outreach. The OGTD aspires to serve the intellectual, academic, social, and emotional needs of gifted children and adolescents in the greater North Texas area and assist those who parent, teach, and otherwise work with them. The Office aspires to be a leading resource on giftedness, talent development, and creativity that is known regionally, nationally, and internationally.

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 psychology
- Doctor of Philosophy with a major in special education

Specializations in special education include autism spectrum disorders/autism intervention; educational diagnostician; and high incidence disabilities (emotional and behavioral disorders, and mild/moderate disabilities). Specializations in educational psychology include: family policy and program administration; human development and family science; gifted and talented education; learning and development; research and evaluation; research, measurement and statistics; and learning sciences.

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 and life span development.

Information on the application process can be found at https://coe.unt.edu/educational-psychology/graduate-admissions.html.

Academic Certificates/Certification

The Department of Educational Psychology offers several non-degree and certification programs to further your life and career goals. See department site for list of available programs.

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.

All master's programs, with the exception of the educational diagnostician concentration, are in an Accelerated Online Program (AOP) format. Courses offered in the Fall and Spring will be taught in eight-week sessions (8W1 or 8W2) each semester. Capstone, internship, and practicum courses, however, will still last the full term. All courses will be online-only.

Admitted students may begin course work in January, March, May, August, or October. Students who follow the approved course sequence for their start date are typically able to complete the degree in four consecutive semesters.

Admission processes/requirements

Apply to a graduate program in the Department of Educational Psychology with the UNT GradCAS (Centralized Application System) at https://unt2025.liaisoncas.com/applicant-ux/. Details of the departmental application requirements can be found in the application and are also provided below.

Departmental application requirements

1. Two or more written letters of recommendation. Academic references are strongly preferred and should be in an appropriate position to make recommendations (current or former advisor or professor; school administrator). Professionally applicable sources are accepted but are not preferred. These letters should address potential as a graduate student; include references to how applicant will benefit from the graduate program in future professional roles; provide evidence of the applicant's reading, critical thinking, writing and mathematical skills; and attest to applicant's professional and academic skills.
2. A professional resume that delineates previous work, educational experiences, membership, and involvement in professional organizations, and scholarly activities. Resume should support potential for strong performance as a graduate student.
3. A professional statement (1–3 pages) stating your goals and rationale for applying to the desired degree program and concentration area. In this statement, you may include a brief description of your career experiences (teaching, working with special populations, etc.), and explain how they are linked to your educational aspirations. Also, if you have any research and/or evaluation experiences, please summarize these and relate them to your degree and concentration. Your personal statement should be well articulated and demonstrate professional writing quality (formal; accurate grammar and spelling).
4. Submission of official GRE scores is strongly encouraged, but not required for applicants whose undergraduate cumulative or last 60 hours GPA is 3.25 or higher as calculated by UNT Admissions. The department views high GRE scores (Verbal, Quantitative, and Writing) as positive indicators of potential success in the programs. Applicants are encouraged to aim for at least the 50th percentile in all three sections. GRE scores must be sent electronically from ETS, institutional code 6481. Applicants must submit scores that are less than five years old, with exceptions for those who have a completed master's degree from UNT.
5. All departmental application materials, including official GRE scores, must be received within two months of the submitted online application.

All departmental admission decisions are based on a holistic review of the applicant's submitted materials, including GPA, GRE scores, etc. Applicants who are strong in all areas will have first priority of admission.

Degree requirements

The Master of Science with a major in educational psychology requires 33 hours of graduate course work.

Educational psychology core, 6 hours

- EPSY 5000 - Introduction to Educational Psychology
- EPSY 5050 - Foundations of Educational Research Methodology

Required concentration courses, 18 hours

Select one of the following concentrations.

Family policy and program administration

- EPSY 5033 - Practicum, Field Experience or Internship
- EPSY 5060 - Introduction to Program Evaluation
- EPSY 5210 - Educational Statistics
- EPSY 5250 - Grant Proposal Writing Techniques
- EPSY 5413 - Family Relationships
- EPSY 5453 - Family Law and Policy

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

Learning and development

- EPSY 5133 - Infant and Child Development
- EPSY 5143 - Advanced Adolescent Development
- EPSY 5153 - Developmental Change Across Adulthood
- EPSY 5550 - Learning Theories
- Plus two courses selected with advisor's approval from departmental concentrations

Research and evaluation

- EPSY 5060 - Introduction to Program Evaluation
- EPSY 5210 - Educational Statistics
- EPSY 5240 - Survey Research Methods in Education
- EPSY 5250 - Grant Proposal Writing Techniques
- EPSY 5350 - Foundations of Psychoeducational Measurement
- EPSY 6010 - Statistics for Educational Research

Electives, 6 hours

Selected in consultation with advisor

Capstone course, 3 hours

- EPSY 5990 - Supervised Research or Program Evaluation

Special Education, MEd

Admission processes/requirements

Apply to a graduate program in the Department of Educational Psychology with the UNT GradCAS (Centralized Application System) at https://unt2025.liaisoncas.com/applicant-ux/. Details of the departmental application requirements can be found in the application and are also provided below.

Departmental application requirements

1. Two or more written letters of recommendation. Academic references are strongly preferred and should be in an appropriate position to make recommendations (current or former advisor or professor; school administrator). Professionally applicable sources are accepted but are not preferred. These letters should address potential as a graduate student; include references to how applicant will benefit from the graduate program in future professional roles; provide evidence of the applicant's reading, critical thinking, writing and mathematical skills; and attest to applicant's professional and academic skills.
2. A professional resume that delineates previous work, educational experiences, membership and involvement in professional organizations, and scholarly activities. Resume should support potential for strong performance as a graduate student.
3. A professional statement (1–3 pages) stating your goals and rationale for applying to the desired degree program and concentration area. In this statement, you may include a brief description of your career experiences (teaching, working with special populations, etc.), and explain how they are linked to your educational aspirations. Also, if you have any research and/or evaluation experiences, please summarize these and relate them to your degree and concentration. Your personal statement should be well articulated and demonstrate professional writing quality (formal; accurate grammar and spelling).
4. The educational diagnostician concentration also requires a copy of your teaching certificate, three years of experience as a fully-licensed teacher, and the Policy Manual signature page found at coe.unt.edu/educational-psychology/graduate-admissions.
5. Submission of official GRE scores is strongly encouraged, but not required for applicants whose undergraduate cumulative or last 60 hours GPA is 3.25 or higher as calculated by UNT Admissions. [Note: IMPACT requires standardized test scores such as GRE, SAT, ACT, Praxis]. The department views high GRE scores (Verbal, Quantitative, and Writing) as positive indicators of potential success in the programs. Applicants are encouraged to aim for at least the 50th percentile in all three sections. GRE scores must be sent electronically from ETS, institutional code 6481. Applicants must submit scores that are less than five years old, with exceptions for those who have a completed master's degree from UNT.
6. All departmental application materials, including official GRE scores, must be received within two months of the submitted online application.

   All departmental admission decisions are based on a holistic review of the applicant's submitted materials, including GPA, GRE scores, etc. Applicants who are strong in all areas will have first priority of admission.

Degree requirements

All students completing the Master of Education with a major in special education degree are required to complete a minimum of 33 hours as follows.

Departmental core, 6 hours

- EPSY 5000 - Introduction to Educational Psychology
- EPSY 5050 - Foundations of Educational Research Methodology

Common courses in special education, 9 hours

- EDSP 5240 - Collaboration with Parents, Paraeducators and Professionals
- EDSP 5330 - Classroom and Behavior Management Strategies for Exceptional Learners

And one of the following with advisor's approval:

- EDSP 5520 - Special Education Law

or

- EDSP 5710 - Special Education Programs and Practices

Concentration area, minimum 18 hours

High incidence disabilities

- EDSP 5200 - Characteristics of Individuals with Learning Disabilities
- EDSP 5510 - Educational Appraisal of Exceptional Learners
- EDSP 5615 - Positive Behavioral Interventions in Educational and Related Settings
- EDSP 5660 - Transition Education and Services for Exceptional Learners
- EDSP 5730 - Educational Aspects of Students with Mild to Moderate Disabilities
- EDSP 5755 - Adapting Curriculum to Meet Special Learning Needs

Alternate courses for students in the IMPACT program (Instructional Model to Prepare Adept Certified Teachers in Special Education)

- EDSP 5510 - Educational Appraisal of Exceptional Learners
- EDSP 5660 - Transition Education and Services for Exceptional Learners
- 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
- EDSP 5755 - Adapting Curriculum to Meet Special Learning Needs

Autism intervention

- EDSP 5310 - Introduction to Autism Spectrum Disorder
- EDSP 5340 - Supporting High Functioning Students with Autism in General Education
- EDSP 5350 - Educational Programming for Students with Autism Spectrum Disorder
- EDSP 5360 - Assessment of Autism Spectrum Disorder
- EDSP 5615 - Positive Behavioral Interventions in Educational and Related Settings
- EDSP 5660 - Transition Education and Services for Exceptional Learners

Educational diagnostician

- EDSP 5360 - Assessment of Autism Spectrum Disorder
- EDSP 5510 - Educational Appraisal of Exceptional Learners
- EDSP 5530 - Individualized Diagnostic Assessment I: Practicum
- EDSP 5540 - Individualized Diagnostic Assessment II: Practicum
- EDSP 5560 - Assistive Technology
- EPSY 5210 - Educational Statistics

Bilingual Special Education

- 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 - Bilingual Content Instruction
- EDSP 5510 - Educational Appraisal of Exceptional Learners
- 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

Completion of master's comprehensive exam

Doctorate

Educational Psychology with a concentration in Learning Sciences, PhD

Admission is selective and restricted. Applicants are considered throughout the year.

Admission process/requirements for master's and doctoral applications

Apply to a graduate program in the Department of Educational Psychology with the UNT GradCAS (Centralized Application System) at https://unt2025.liaisoncas.com/applicant-ux/. Details of the departmental application requirements can be found in the application and are also provided below.

Departmental application requirements

1. For students without a previous master's degree, submission of official GRE scores is required; verbal, quantitative, and analytical writing sections. For students with a master's degree, submission of GRE scores is not required but encouraged. The department views high GRE scores as positive indicators of potential success in the programs, within a competitive holistic framework for evaluating the applicants. Applicants are encouraged to aim for at least the 50th percentile in all three sections. GRE scores must be sent electronically from ETS, institutional code 6481. Applicants must submit scores that are less than five years old, with exceptions for those who have a completed master's degree from UNT. Resources can be found at www.ets.org, as well as study materials in most bookstores. Current UNT students can also participate in exam preparation workshops through the Learning Center.

2. Three or more written letters of recommendation. Academic references are strongly preferred and should be in an appropriate position to make recommendations (current or former advisor or professor; school administrator). Professionally applicable sources are accepted but are not preferred. These letters should address potential as a graduate student; include references to how applicant will benefit from the graduate program in future professional roles; provide evidence of the applicant's reading, critical thinking, writing and mathematical skills; and attest to applicant's professional and academic skills.
3. A professional resume that delineates previous work, educational experiences, membership, and involvement in professional organizations, and scholarly activities. Resume should support potential for strong performance as a graduate student.
4. A professional statement (1–3 pages), stating your goals and rationale for applying to the desired degree program and concentration area. In this statement, you may include a brief description of your career experiences (teaching, working with special populations, etc.), and explain how they are linked to your educational aspirations. Also, if you have any research and/or evaluation experiences, please summarize these and relate them to your degree and concentration. Your personal statement should be well articulated and demonstrate professional writing quality (formal; accurate grammar and spelling).
5. All departmental application materials, including official GRE scores, must be received within two months of the submitted online application.

All departmental admission decisions are based on a holistic review of the applicant's submitted materials, including GPA, GRE scores, etc. Applicants that are strong in all areas will have first priority of admission.

Degree requirements

The doctoral program in educational psychology requires a minimum of 63 (78 hours if admitted without a Master's degree) hours of course work and research experience in one of the following concentrations:

- Research, measurement and statistics
- Human development and family science
- Gifted and talented
- Learning sciences
- Psychosocial aspects of sport and exercise
- Sport pedagogy and motor behavior

Those entering the program without a master's degree are expected to fulfill the following requirements, plus two core courses in the MS with a major in educational psychology, and a minimum of three additional graduate-level courses with the advisor's approval.

Note: The following requirements are for students entering the program having completed a related master's degree.

Educational psychology requirement, 9 hours

- EPSY 5123 - Human Development Across the Life Span
- EPSY 5550 - Learning Theories
- EPSY 6040 - Foundations of Educational Psychology

Major requirements, 21 hours

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6220 - Advanced Testing and Measurement
- EPSY 6280 - Qualitative Research in Education
- EPSY 6290 - Multivariate Statistics in Education
- EPSY 6230 - Theory and Application of Hierarchical Linear Modeling

  or
- EPSY 6250 - Item Response Theory

  or
- EPSY 6270 - Structural Equation Modeling

Concentration, 21 hours

Select one of the following:

Research, measurement and statistics

- EPSY 6005 - Statistical Theory and Simulations
- EPSY 6240 - Data Science using R
- EPSY 6250 - Item Response Theory
- EPSY 6270 - Structural Equation Modeling
- Plus 3 elective courses in research, measurement, and statistics from inside or outside of the department, with advisor's approval

Human development and family science

- EPSY 6103 - Cognitive and Language Development
- EPSY 6113 - Application of Developmental Theories in Research
- EPSY 6153 - Social-Emotional Development
- EPSY 6163 - Diversity in Individuals, Families and Schools
- EPSY 6313 - Application of Family Theory in Research
- EPSY 6413 - Current Issues in Family Science
- Plus 1 elective course in human development and/or family studies from inside or outside the department, with advisor's approval

Gifted and talented

- EPSY 6110 - Individual Difference, Creativity and Problem Solving
- EPSY 6610 - Theories and Paradigms of Giftedness
- EPSY 6620 - Special Populations in Gifted Education
- EPSY 6640 - Advanced Curriculum and Programming for Teaching the Gifted and Talented
- EPSY 6650 - Developing Psychosocial Skills in Gifted and Talented Individuals
- Plus 2 elective courses in related areas, with advisor's approval

Psychosocial aspects of sport and exercise

- KINE 5135 - Exercise and Health Psychology
- KINE 5185 - Applied Sport Psychology
- KINE 6125 - Sport and Exercise Psychology II
- KINE 6135 - Exercise and Health Psychology II
- KINE 6175 - Social Psychology of Sport II
- KINE 6185 - Applied Sport Psychology II
- KINE 6191 - Measurement in Sport and Exercise Psychology
- and two selected courses in related area, with advisor's approval

Sport pedagogy and motor behavior

- KINE 5090 - Motor Behavior
- KINE 6000 - Supervision in Sport Pedagogy
- KINE 6030 - Lifespan Motor Development Research and Theory
- KINE 6230 - Professional Preparation in Sport Pedagogy
- KINE 6700 - Curriculum and Methods in Sport Pedagogy
- KINE 6801 - Studies in Sport Pedagogy
- KINE 6941 - Current Topics in Sport Pedagogy

Learning sciences

- EPSY 6163 - Diversity in Individuals, Families and Schools
- EPSY 6500 - Learning Sciences Seminar 1
- EPSY 6510 - Learning Sciences Seminar 2
- EPSY 6520 - Design-Based and Participatory Research Methods
- EPSY 6530 - Research Methodologies as Contexts for Learning
- Plus 6 hours of electives with advisor approval: Disciplinary Focused Course (3 credit hours) graduate UNT course with justification provided by student. Elective choice (3 credit hours) of any graduate (masters or above) course at UNT with justification provided by student.

Supervised research practice, 3 hours

- EPSY 6030 - Practicum, Field Problem or Internship

Dissertation, 9 hours minimum

- EPSY 6950 - Doctoral Dissertation (3, 6, or 9 hours per semester)

Further information

Additional information is available on the program web site (www.coe.unt.edu/educational-psychology).

Educational Psychology, PhD

Admission is selective and restricted. Applicants are considered throughout the year.

Admission process/requirements for master's and doctoral applications

Apply to a graduate program in the Department of Educational Psychology with the UNT GradCAS (Centralized Application System) at https://unt2025.liaisoncas.com/applicant-ux/. Details of the departmental application requirements can be found in the application and are also provided below.

Step 2: Departmental application requirements

1. For students without a previous master's degree, submission of official GRE scores is required; verbal, quantitative, and analytical writing sections. For students with a master's degree, submission of GRE scores is not required but encouraged. The department views high GRE scores as positive indicators of potential success in the programs, within a competitive holistic framework for evaluating the applicants. Applicants are encouraged to aim for at least the 50th percentile in all three sections. GRE scores must be sent electronically from ETS, institutional code 6481. Applicants must submit scores that are less than five years old, with exceptions for those who have a completed master's degree from UNT. Resources can be found at www.ets.org, as well as study materials in most bookstores. Current UNT students can also participate in exam preparation workshops through the Learning Center.
2. Three or more written letters of recommendation. Academic references are strongly preferred and should be in an appropriate position to make recommendations (current or former advisor or professor; school administrator). Professionally applicable sources are accepted but are not preferred. These letters should address potential as a graduate student; include references to how applicant will benefit from the graduate program in future professional roles; provide evidence of the applicant's reading, critical thinking, writing and mathematical skills; and attest to applicant's professional and academic skills.
3. A professional resume that delineates previous work, educational experiences, membership, and involvement in professional organizations, and scholarly activities. Resume should support potential for strong performance as a graduate student.
4. A professional statement (1–3 pages), stating your goals and rationale for applying to the desired degree program and concentration area. In this statement, you may include a brief description of your career experiences (teaching, working with special populations, etc.), and explain how they are linked to your educational aspirations. Also, if you have any research and/or evaluation experiences, please summarize these and relate them to your degree and concentration. Your personal statement should be well articulated and demonstrate professional writing quality (formal; accurate grammar and spelling).
5. All departmental application materials, including official GRE scores, must be received within two months of the submitted online application.

All departmental admission decisions are based on a holistic review of the applicant's submitted materials, including GPA, GRE scores, etc. Applicants that are strong in all areas will have first priority of admission.

Degree requirements

The doctoral program in educational psychology requires a minimum of 63 (78 hours if admitted without a Master's degree) hours of course work and research experience in one of the following concentrations:

- Research, measurement and statistics
- Human development and family science
- Gifted and talented
- Learning sciences
- Psychosocial aspects of sport and exercise
- Sport pedagogy and motor behavior

Those entering the program without a master's degree are expected to fulfill the following requirements, plus two core courses in the MS with a major in educational psychology, and a minimum of three additional graduate-level courses with the advisor's approval.

Note: The following requirements are for students entering the program having completed a related master's degree.

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, 21 hours

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6220 - Advanced Testing and Measurement
- EPSY 6280 - Qualitative Research in Education
- EPSY 6290 - Multivariate Statistics in Education
- EPSY 6230 - Theory and Application of Hierarchical Linear Modeling

  or
- EPSY 6250 - Item Response Theory

  or
- EPSY 6270 - Structural Equation Modeling

Concentration, 21 hours

Select one of the following:

Research, measurement and statistics

- EPSY 6005 - Statistical Theory and Simulations
- EPSY 6240 - Data Science using R
- EPSY 6250 - Item Response Theory
- EPSY 6270 - Structural Equation Modeling
- plus 3 elective courses in research, measurement and statistics from inside or outside of the department, with advisor's approval

Human development and family science

- EPSY 6103 - Cognitive and Language Development
- EPSY 6113 - Application of Developmental Theories in Research
- EPSY 6153 - Social-Emotional Development
- EPSY 6163 - Diversity in Individuals, Families and Schools
- EPSY 6313 - Application of Family Theory in Research
- EPSY 6413 - Current Issues in Family Science
- Plus 1 elective course in human development and/or family studies from inside or outside the department, with advisor's approval

Gifted and talented

- EPSY 6110 - Individual Difference, Creativity and Problem Solving
- EPSY 6610 - Theories and Paradigms of Giftedness
- EPSY 6620 - Special Populations in Gifted Education
- EPSY 6640 - Advanced Curriculum and Programming for Teaching the Gifted and Talented
- EPSY 6650 - Developing Psychosocial Skills in Gifted and Talented Individuals
- Plus 2 elective courses in related areas, with advisor's approval

Psychosocial aspects of sport and exercise

- KINE 6125 - Sport and Exercise Psychology II
- KINE 6135 - Exercise and Health Psychology II
- KINE 6175 - Social Psychology of Sport II
- KINE 6185 - Applied Sport Psychology II
- KINE 6191 - Measurement in Sport and Exercise Psychology
- and two selected courses in related areas, with advisor's approval

Sport pedagogy and motor behavior

- KINE 5090 - Motor Behavior
- KINE 6000 - Supervision in Sport Pedagogy
- KINE 6030 - Lifespan Motor Development Research and Theory
- KINE 6230 - Professional Preparation in Sport Pedagogy
- KINE 6700 - Curriculum and Methods in Sport Pedagogy
- KINE 6801 - Studies in Sport Pedagogy
- KINE 6941 - Current Topics in Sport Pedagogy

Learning sciences

- EPSY 6500 - Learning Sciences Seminar 1
- EPSY 6510 - Learning Sciences Seminar 2
- EPSY 6520 - Design-Based and Participatory Research Methods
- EPSY 6530 - Research Methodologies as Contexts for Learning
- Plus 6 hours of electives with advisor approval:

  Disciplinary Focused Course (3 credit hours), graduate UNT course with justification provided by student.

  Elective choice (3 credit hours) of any graduate (masters or above) course at UNT with justification provided by student.
- EPSY 6163 - Diversity in Individuals, Families and Schools

Supervised research practice, 3 hours

- EPSY 6030 - Practicum, Field Problem or Internship

Dissertation, 9 hours minimum

- EPSY 6950 - Doctoral Dissertation (3, 6 or 9 hours per semester)

Further information

Additional information is available on the program web site (www.coe.unt.edu/educational-psychology).

Special Education, PhD

Admission process/requirements for master's and doctoral applications

Apply to a graduate program in the Department of Educational Psychology with the UNT GradCAS (Centralized Application System) at https://unt2025.liaisoncas.com/applicant-ux/. Details of the departmental application requirements can be found in the application and are also provided below.

Step 2: Departmental application requirements

1. For students without a previous master's degree, submission of official GRE scores is required; verbal, quantitative, and analytical writing sections. For students with a master's degree, submission of GRE scores is not required but encouraged. The department views high GRE scores as positive indicators of potential success in

the programs, within a competitive holistic framework for evaluating the applicants. Applicants are encouraged to aim for at least the 50th percentile in all three sections. GRE scores must be sent electronically from ETS, institutional code 6481. Applicants must submit scores that are less than five years old, with exceptions for those who have a completed master's degree from UNT. Resources can be found at www.ets.org, as well as study materials in most bookstores. Current UNT students can also participate in exam preparation workshops through the Learning Center.

2. Three or more written letters of recommendation. Academic references are strongly preferred and should be in an appropriate position to make recommendations (current or former advisor or professor; school administrator). Professionally applicable sources are accepted but are not preferred. These letters should address potential as a graduate student; include references to how applicant will benefit from the graduate program in future professional roles; provide evidence of the applicant's reading, critical thinking, writing and mathematical skills; and attest to applicant's professional and academic skills.
3. A professional resume that delineates previous work, educational experiences, membership, and involvement in professional organizations, and scholarly activities. Resume should support potential for strong performance as a graduate student.
4. A professional statement (1–3 pages), stating your goals and rationale for applying to the desired degree program and concentration area. In this statement, you may include a brief description of your career experiences (teaching, working with special populations, etc.), and explain how they are linked to your educational aspirations. Also, if you have any research and/or evaluation experiences, please summarize these and relate them to your degree and concentration. Your personal statement should be well articulated and demonstrate professional writing quality (formal; accurate grammar and spelling).
5. All departmental application materials, including official GRE scores, must be received within two months of the submitted online application.

All departmental admission decisions are based on a holistic review of the applicant's submitted materials, including GPA, GRE scores, etc. Applicants that are strong in all areas will have first priority of admission.

Degree requirements

The doctoral program in special education requires a minimum of 63 hours of course work and research experience. A master's degree with a major in special education or a closely related field is required for application to the PhD. Candidates with master's degrees in other fields will be required to take up to five additional courses in special education, with advisor's approval.

The following requirements are for students who enter the program with a related master's degree.

Educational psychology PhD core, 6 hours

- EPSY 6040 - Foundations of Educational Psychology

And one of the following

- EPSY 5123 - Human Development Across the Life Span
- EPSY 5550 - Learning Theories

Educational Research core, 15 hours

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6280 - Qualitative Research in Education
- and one elective course in research, measurement or statistics with advisor's approval (3 hours)

Special Education core, 15 hours

- EDSP 6270 - Analysis of Trends, Issues and Research in Special Education
- EDSP 6275 - Advanced Studies in Evidence Based Practices in High and Low Incidence Disabilities
- EDSP 6290 - Special Education and Public Policy
- EPSY 6122 - Single-Subject Research Methodology
- EDSP 6295 - Seminar in Professional Leadership in Special Education

Electives, 15 hours

A minimum of 15 hours may be chosen from Special Education or related fields with approval by the advisor and department.

Supervised research/practice, 3 hours

- EPSY 6030 - Practicum, Field Problem or Internship

Dissertation, 9 hours minimum

- EPSY 6950 - Doctoral Dissertation (3, 6 or 9 hours per semester)

Graduate Academic Certificate

Autism Intervention certificate

Admission requirements

Bachelor's degree in an area related to education, human behavior, child development, or psychology, or have equivalent professional or personal experience; admission to graduate school; and application with the Special Education Office for this certificate.

Required courses

- EDSP 5310 - Introduction to Autism Spectrum Disorder
- EDSP 5330 - Classroom and Behavior Management Strategies for Exceptional Learners
- EDSP 5340 - Supporting High Functioning Students with Autism in General Education
- EDSP 5350 - Educational Programming for Students with Autism Spectrum Disorder
- EDSP 5360 - Assessment of Autism Spectrum Disorder

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Learning Sciences certificate

The Learning Science certificate prepares College of Education doctoral students to draw upon theory to inform the design and study of learning environments; develop methodological competence in design-based, participatory, and video methods; and support students to examine learning settings with a socio-cultural and critical lens.

Required courses

- EPSY 6500 - Learning Sciences Seminar 1
- EPSY 6510 - Learning Sciences Seminar 2
- EPSY 6520 - Design-Based and Participatory Research Methods
- EPSY 6530 - Research Methodologies as Contexts for Learning

Elective courses

- EPSY 5123 - Human Development Across the Life Span
- EPSY 5550 - Learning Theories

Qualitative Research certificate

This Graduate Academic Certificate is primarily intended for two groups of students:

(1) Graduate students in Education, Psychology, Sociology, Anthropology, and other related social science fields who wish to develop a competency in human subjects qualitative inquiry.

(2) Graduate students in Philosophy and related humanities fields who wish to develop a competency in the scientific and technical dimensions of qualitative research.

Who Needs this Certificate?

Potential and practicing researcher scholars, both within and outside of the academy, who are or foresee being in a position to engage in qualitative research practices in education, policy, business, evaluation, intervention work, and more.

Prerequisites

There are no particular prerequisites for this GAC. However, courses listed under the GAC may have prerequisites that need to be satisfied. Students should consult the instructors prior to taking the individual courses.

Required courses

- EPSY 6020 - Research Methods in Education
- EPSY 6280 - Qualitative Research in Education
- EPSY 6285 - Qualitative Data Analysis in Education

Elective courses

- EPSY 6001 - Action Research and Evaluation
- EPSY 6520 - Design-Based and Participatory Research Methods
- EPSY 6530 - Research Methodologies as Contexts for Learning

Graduate Minor

Research, measurement and statistics minor

Data analysis capacity and quantitative skills are valuable assets to many doctoral students across a variety of fields. This minor is designed to provide advanced quantitative skills and experiences, particularly in applied social science research areas. Students take 12 hours of advanced course work in the research, measurement, and statistics concentration area in the Department of Educational Psychology. This minor allows doctoral students to document and market their capacity in quantitative methods along with their regular major area.

Prior to beginning the minor, it is assumed that doctoral students will have taken an intermediate statistics course and a research methods course in their own program or elsewhere that are equivalent to EPSY 6010 and EPSY 6020. Alternatively, they may take EPSY 6010 and EPSY 6020 directly prior to starting the minor.

Required courses, 6 hours

- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6290 - Multivariate Statistics in Education

Additional courses, 6 hours

Students choose two courses (6 hours) from the following list.

- EPSY 6005 - Statistical Theory and Simulations
- EPSY 6220 - Advanced Testing and Measurement
- EPSY 6230 - Theory and Application of Hierarchical Linear Modeling
- EPSY 6250 - Item Response Theory
- EPSY 6270 - Structural Equation Modeling

Department of Teacher Education and Administration

Main Office
Matthews Hall, Room 206

Mailing address:
1155 Union Circle #310740
Denton, TX 76203-5017
940-565-2920
Web site: www.coe.unt.edu/teacher-education-and-administration

Program Offices and Advising:

Curriculum and Instruction
Matthews Hall, Room 206
940-565-2920

Early Childhood Education
Matthews Hall, Room 206
940-565-2920

Educational Leadership
Matthews Hall, Room 206
940-565-2920

Office of Teacher Preparation
Elementary and Secondary Certification
Matthews Hall, Room 206
940-565-2920

Office of Post Baccalaureate Certification Programs and MEdT
Matthews Hall, Room 119
940-369-8411

Language and Literacy Studies
Matthews Hall, Room 206
940-565-2920

Bilingual/ESL Certification Programs
Matthews Hall, Room 206
940-565-2920

Field Experience (PDS, Student Teaching)
Matthews Hall, Room 119
940-369-8411

Angie Cartwright, Chair

Faculty

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. 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 education, secondary education, teaching and educational leadership.

Doctoral programs in curriculum and instruction and educational leadership. 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 teacher education programs in this department are accredited by 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).

The educational leadership programs in this department are accredited by 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 and partnering school districts are also sites for interdisciplinary efforts.

Center for Young Children

The Center for Young Children (CYC) is an accredited preschool program for young children ages 3 through 5. In addition, it serves as a model, an observation site for undergraduate and graduate students in fields related to young children. Research related to the care and education of young children 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.

Departmental scholarships are listed on the department's web page.

Degree programs

The Department of Teacher Education and Administration offers graduate programs in early childhood education, curriculum and instruction, and educational leadership.

Certification options

The department offers several options at the graduate level leading to educator certification, including:

- MEd in Teaching program in secondary education, which includes initial certification
- MEd in Teaching program in elementary education, which includes initial certification

- Post-baccalaureate, non-degree programs in
    - EC–6 Core Subjects with Science of Teaching Reading and ESL supplemental
    - EC–6 Core Subjects with Science of Teaching Reading and Bilingual Education supplemental-Spanish (Grades EC-12)
    - 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 leadership
- Superintendent Certification Program, which may be pursued along with a doctoral program in educational leadership or may be taken as certification-only

Master's Degree

Curriculum and Instruction, MEd

Admission requirements

Students must meet the requirements of the Toulouse Graduate School and a specific set of department requirements when applying to the master's program. For graduate school requirements, go to the Admission section of this catalog or visit the Toulouse Graduate School web site at graduateschool.unt.edu.

The department's requirements are:

- minimum GPA of 2.88, or 3.0 on the last 60 semester credit hours at the bachelor's level;
- valid Texas teaching certification or the equivalent;
- three- to four- page essay on your personal philosophy of teaching with concrete examples of that philosophy applied to your own teaching practices;
- letter of intent for pursuing a master's degree in curriculum and instruction; and
- current curriculum vitae or resume.

Degree requirements

The MED degree requires a minimum of 30 semester credit hours, including completion of all MED requirements and a passing score on the written comprehensive examination administered during student enrollment in EDCI 5750. Students must register for EDCI 5750 in the final semester that they intend to graduate. Students must select one concentration area in consultation with the student's advisor, and students must earn grades of A or B on all degree plan course work. Students are required to file a degree plan after their first semester in the program. Students will also need to select one elective course at the 5000-level from the Teacher Education and Administration Department.

Foundation Core courses, 12 hours

- EDCI 5130 - Schooling in Society
- EDCI 5320 - Curriculum Development
- EDCI 5360 - Advances in Teaching
- EDCI 5710 - Research in Classroom Settings

Concentrations Courses, 12 hours

In each concentration area, there are four mandatory courses (12 hours).

- **Social and Cultural Perspectives**
    - EDCI 5020 - Curriculum Development for the EC-12 Classroom
    - EDRE 5550 - Literacy Instruction in Society
    - EDBE 5600 - Sociocultural Foundations of Bilingual and ESL Education
    - EDLE 5600 - Critical Inquiry in Education
- **Bilingual/ESL**
    - EDBE 5570 - Assessing Language and Content Learning in EC–12 Bilingual and English as a Second Language Education
    - EDBE 5582 - ESL Content Instruction
    - EDBE 5600 - Sociocultural Foundations of Bilingual and ESL Education
    - EDBE 5620 - Leadership in Bilingual and ESL Education
- **Mathematics education**
    - EDCI 5310 - Pedagogical Content Knowledge for Teachers of Algebra
    - EDCI 5330 - Assessment of Learning in STEM Education
    - EDCI 5340 - Innovations in STEM Teaching and Learning
    - EDCI 5350 - Pedagogical Content Knowledge for Teachers of Geometry
- **Language and Literacy Studies**
    - EDRE 5190 - Reading Assessment and Instruction for Special Populations
    - EDRE 5200 - Development and Supervision of Reading Programs
    - EDRE 5370 - Advanced Reading Theory/ Practice
    - EDRE 5653 - Making the Literacy Connection: Language to Reading

Electives, 3 hours

Students in consultation with their advisor may select any 5000-level course in Teacher Education and Administration.

Capstone, 3 hours

The MED degree requires a minimum of 30 semester hours, including completion of all MED requirements and a passing score on the oral and written comprehensive examination administered during student enrollment in EDCI 5750.

EDCI 5750 required under Capstone. "As this is a new class you will have to use the notes feature"

Early Childhood Education, MS

Admission to the master's program in early childhood education 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 Education 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 education are required to complete the following.

Early childhood education master's core, 24 hours

- EDCI 5130 - Schooling in Society
- EDEC 5470 - Constructions of Guidance in Early Childhood Classrooms
- EDEC 5513 - Advanced Studies in Early Childhood Education
- EDEC 5613 - Curriculum Theory in Early Childhood Education
- EDEC 5633 - Assessment in Early Childhood Education
- EDEC 5643 - Leadership and Supervision of Programs
- EDEC 5653 - Making the Literacy Connection: Language to Reading
- EPSY 5133 - Infant and Child Development

Research requirement, 6 hours

- EDEC 5013 - Research Strategies in Early Childhood Education
- EPSY 5210 - Educational Statistics

Comprehensive examination

The MS with a major in early childhood education is a non-thesis accelerated master's program that culminates with the successful completion of a comprehensive examination taken during the student's final term of course work.

Educational Leadership, MEd

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 meet the following requirements.

- Bachelor's degree from an accredited college or university. If an applicant already holds a master's degree, the courses and the individual's performance in that degree program are reviewed.
- Bachelor's grade point average (GPA) of 3.0 or higher overall, or bachelor's GPA of 3.0 or higher for the last 60 hours, **or** completed master's degree GPA of 3.5 or higher.
- Submission of the following to the educational leadership program
    - A letter of recommendation from the applicant's supervisor identifying the applicant's leadership, critical thinking and writing skills.
    - An essay presenting reasons the applicant is seeking a master's degree in educational leadership, identifying relevant educational experiences and strengths.
    - Resume or curriculum vitae that includes the candidate's previous work and educational experiences, including any prior leadership or teaching experience in school settings.
    - A program application form. Applicants can find this application at coe.unt.edu/educational-leadership/online.

Degree requirements

Required courses

- EDLE 5330 - Instructional Leadership
- EDLE 5390 - Campus-Level School Law
- EDLE 5400 - Management of School Resources
- EDLE 5600 - Critical Inquiry in Education
- EDLE 5610 - School Communications and Public Relations
- EDLE 5620 - Administration and Leadership for Student Educational Services
- EDLE 5630 - Organizational Change and School Improvement
- EDLE 5650 - Professional Development and Supervision
- EDLE 5680 - Administration of the K–12 Curriculum
- EDLE 5720 - Practicum in Educational Leadership

Additional requirements for principal as instructional leader certification

- Valid teaching certificate
- Two years of experience as the Teacher of Record in an accredited EC-12 school.
- EDLE 5730 - Advanced Practicum in Educational Leadership (completed in an accredited Texas School)

Note

See Principal Administration certificate.

Teaching, MEd

Master of Education with a Major in Teaching

Initial Teacher Certification (EC–6, 4–8 or Secondary)

The Department of Teacher Education and Administration offers the Master of Education with a major in teaching with EC–6 (elementary), 4–8 or 7-12 (secondary) certification tracks. Specifically, the certification programs offered are as follows: EC–6 Core Subjects with Science of Teaching Reading and ESL supplemental; EC–6 Core Subjects with Science of Teaching Reading and EC-12 Bilingual-Education Supplemental-Spanish; 4–8 Mathematics; 4–8 Science; and 7-12 (Secondary).

The MEd with a major in Teaching requires 36 semester credit hours (elementary EC-6) or 30 hours (4-8, Secondary 7-12 certification), with

1. 12 hours of common core courses in education,
2. 12 hours in a specialization (i.e., ESL or Bilingual Education for those seeking EC–6 certification) or a teaching field (i.e., an approved academic subject area for those seeking 4–8 or Secondary 7-12 certification),
3. 6 hours of education foundations and/or pedagogy courses (EC-6 certification only), and
4. 6 hours of student teaching or internship/practicum.

Of the 36 hours required for the Elementary EC-6 degree, 24 hours overlap with requirements for the EC–6 post-baccalaureate certification-only program. Of the 30 hours required for the 4-8 and Secondary 7-12 degree, 18 hours overlap with requirements for the 4–8 and 7-12 post-baccalaureate certification-only programs.

Admission requirements

Admission requirements for the MEd with a Major in Teaching program with initial teacher certification include:

1. GPA of 3.0 overall in the undergraduate degree 3.4 on a completed master's degree; and
2. 12 semester hours of undergraduate course work across four academic content areas (i.e., 3 hours in English/ language arts, 3 hours in
3. Social Sciences, 3 hours in Mathematics and 3 hours in Science) for those seeking EC–6 certification **or** 24 semester hours of undergraduate course work with 12 upper-level (i.e., junior, senior, 3000–4000) in the content area one wants to teach for those seeking 4–8 or Secondary education.

Additional admission requirements for the master's degree:

- admission to the Teacher Education program (which includes meeting all admissions criteria for the relevant teacher certification program and passing an admissions interview)
- one-page resume
- two-page educational essay

Common core requirements, 12 hours

- EDCI 5010 - Applying Theory to Teaching Practice
- EDCI 5020 - Curriculum Development for the EC-12 Classroom
- EDCI 5030 - Maintaining Classroom Discipline
- EDRE 5070 - Literacy Development for English Learners (for EC–6)

  or
- EDSE 5004 - Literacy Curriculum for Secondary Teaching (for 4–8 or Secondary 7-12)

Additional required course work, 18-24 hours

4-8 and Secondary (7-12) certification requires 18 semester credit hours in addition to the core for a total of 30 hours; all other certifications (EC-6) require 24 semester credit hours in addition to the core for a total of 36 hours.

EC–6 ESL Generalist certification

- 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 5582 - ESL Content Instruction
- EDBE 5590 - Pedagogy of English as a Second Language for EC–12 Classrooms
- EDCI 5850 - Instructional Methodologies in Language Arts and Social Studies
- EDCI 5860 - Instructional Methodologies in Mathematics and Science
- EDEE 5101 - Student Teaching in EC through Grade 6 and
- EDEE 5102 - Student Teaching in EC through Grade 6

  or
- EDEE 5105 - Internship I and
- EDEE 5115 - Internship II

EC–6 Bilingual Generalist certification

- 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 - Bilingual Content Instruction
- EDBE 5590 - Pedagogy of English as a Second Language for EC–12 Classrooms
- EDCI 5850 - Instructional Methodologies in Language Arts and Social Studies
- EDCI 5860 - Instructional Methodologies in Mathematics and Science
- EDEE 5101 - Student Teaching in EC through Grade 6 and
- EDEE 5102 - Student Teaching in EC through Grade 6

  or
- EDEE 5105 - Internship I and
- EDEE 5115 - Internship II

4–8 Mathematics certification

- 12 hours of course work in teaching field (i.e., Mathematics)
- EDSE 5001 - Public Education and the Teaching Profession
- EDCI 5860 - Instructional Methodologies in Mathematics and Science
- EDEE 5103 - Student Teaching in Grade 4 through Grade 8 and
- EDEE 5104 - Student Teaching in Grade 4 through Grade 8

  or
- EDEE 5105 - Internship I and
- EDEE 5115 - Internship II

4–8 Science certification

- 12 hours of course work in teaching field (i.e., Science)
- EDSE 5001 - Public Education and the Teaching Profession
- EDCI 5860 - Instructional Methodologies in Mathematics and Science
- EDEE 5103 - Student Teaching in Grade 4 through Grade 8 and
- EDEE 5104 - Student Teaching in Grade 4 through Grade 8

  or
- EDEE 5105 - Internship I and
- EDEE 5115 - Internship II

Secondary certification

- 12 hours of course work in an approved teaching field (for students seeking certification in Secondary education with a teaching field in English/language arts, 6 of these 12 hours must be approved courses in reading).
- EDCI 5108 - Student Teaching in the Secondary Schools

- EDCI 5118 - Student Teaching in the Secondary Schools

  or
- EDCI 5105 - Internship I and
- EDCI 5115 - Internship II

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 develop research agendas to pursue in their own professional careers; and (4) 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. 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 6030 - Research and Practice in Teaching and Teacher Education
- EDUC 6040 - Traditions of Inquiry
- EDUC 6050 - Cultural Foundations of Educational Studies
- EDUC 6120 - Theoretical Foundations for Educational Studies

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 - Emerging Trends 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 - Literacy Policy
- 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 Leadership, EdD

The Doctor of Education degree is designed for students who plan careers as school or district-level leaders or leaders in an educational institution relevant to school or district leadership. This degree emphasizes the application of educational research related to problems of practice in the field of educational leadership. Courses for superintendent certification are embedded in the program. Five courses are required for this certification, four of which 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, a policy analyst, or a research director in a state or local education agency should apply for the PhD program in educational leadership. In contrast to the EdD which is designed for scholar-practitioners, the PhD program includes more preparation for conducting research and policy analysis.

Admission requirements

The EDLE program has a rolling application deadline for fall semester admission; however, to ensure your application can be reviewed by all faculty in a timely fashion, please get your complete application package to both the Graduate School and the EDLE program by no later than April 15. Any application materials received beyond that date may not be reviewed in time for you to be accepted for the Fall semester. Applicants must first submit an application to the Toulouse Graduate School. In addition, the applicant must submit an application portfolio to the educational leadership program that includes the items listed below. NOTE: The application will not be reviewed by the EDLE faculty until all documents listed below have been received.

1. Letters of recommendation from three persons who can provide evidence of the applicant's reading, writing and critical thinking skills. One of the letters should be from a college or university professor familiar with the individual's work, and one letter should be from a supervisor or mentor 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 for a minimum of two years.
4. A three-page personal statement addressing the applicant's two most important professional achievements; the applicant's career goals, and an explanation of how completing the degree in educational leadership will relate to those goals.
5. A sample of the applicant's best-written work in the form of (a) a practitioner oriented paper with references, (b) a practitioner oriented assignment with references, (c) an annotated bibliography, or (d) a published article or book chapter.

It is expected that applicants have had experience as public or private school teachers for a minimum of two years and will hold a teacher's certificate.

As many as 18 hours of advanced study beyond the master's degree or its equivalent at another institution may be accepted and credited toward the doctorate in educational leadership, provided the program coordinator recommends acceptance of the transfer credit to the graduate school.

1. The time limit for doctoral credit applies to the transfer credits.
2. The time limit for the degree plan begins with the date of the first course on the degree plan including transfer credit. The time limit for the doctoral courses is eight years.
3. Transfer credit must be a B or higher.
4. Courses completed at other institutions must be equivalent to the content and expectation of the doctoral courses for which the student wishes to receive transfer credit at UNT/within the Educational Leadership Program.
5. 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 at UNT.

Residency requirement

See residency requirements in the "Doctoral degree requirements" section of this catalog.

Doctor of Education degree requirements

The EdD in educational leadership requires 54 semester hours of course work. The following are minimum degree requirements for students in the EdD program.

Core courses, 12 hours

- EDLE 6100 - Change Leadership in Complex Systems and Organization
- EDLE 6130 - Social and Cultural Context in Educational Leadership
- EDLE 6160 - Leadership for Learning
- EDLE 6580 - Innovation in Learning System

Focus areas, 24 hours

Superintendent certification

- EDLE 6110 - Advanced Inquiry in Educational Leadership
- EDLE 6450 - School Finance and Business Forecasting
- EDLE 6510 - Educational Law and Policy
- EDLE 6590 - Systems Change and Leadership

Educational leadership

- EDLE 6150 - Ethics, and Policy in Change Leadership
- EDLE 6520 - Strategic Leadership of Human Capital
- EDLE 6530 - Funding and Design of Educational Facilities
- EDLE 6600 - Writing and Research Design for Educational Leadership

Research and statistics, 9 hours

Required courses, 6 hours

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education

Remaining 3 hours, selected from:

- EDCI 6280 - Qualitative Research in Education
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6285 - Qualitative Data Analysis in Education
- EPSY 6290 - Multivariate Statistics in Education

Dissertation, 9 hours minimum

- EDLE 6950 - Dissertation in Practice

Educational Leadership, 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.

Students who plan careers as school or district-level leaders or leaders in an educational institution relevant to school or district leadership should apply for the EdD program in educational leadership. In contrast to the PhD which is designed to prepare individuals to conduct research and to become policy analysts, the EdD program is designed to prepare scholarly practitioners.

Admission requirements

The EDLE program has a rolling application deadline for fall semester admission; however, to ensure your application can be reviewed by all faculty in a timely fashion, please get your complete application package to both the Graduate School and the EDLE program by no later than April 15. Any application materials received beyond that date may not be reviewed in time for you to be accepted for the Fall semester. Applicants must first submit an application to the Toulouse Graduate School. In addition, the applicant must submit an application portfolio to the educational leadership program that includes the items listed below. NOTE: The application will not be reviewed by the EDLE faculty until all documents listed below have been received.

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 addressing the applicant's two most important professional achievements; the applicant's career goals; and an explanation of how completing the degree in educational leadership will relate to those goals.
6. A sample of the applicant's best-written work in the form of (a) scholarly oriented paper (PhD) with references, (b) scholarly oriented assignment with references, (c) an annotated bibliography, or (d) a published article or book chapter.

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 or educational leadership 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.

As many as 18 hours of advanced study beyond the master's degree or its equivalent at another institution may be accepted and credited toward the doctorate in educational leadership, provided the candidate's advisor and program coordinator recommend acceptance of the transfer credit to the graduate school.

1. The time limit for doctoral credit applies to the transfer credits.
2. The time limit for the degree plan begins with the date of the first course on the degree plan including transfer credit. The time limit for the doctoral courses is eight years.
3. Transfer credit must be a B or higher.
4. Courses completed at other institutions must be equivalent to the content and expectation of the doctoral courses for which the student wishes to receive transfer credit at UNT/within the Educational Leadership Program.
5. 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 at UNT.

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, 15 hours

- EDLE 6100 - Change Leadership in Complex Systems and Organization
- EDLE 6160 - Leadership for Learning
- EDLE 6400 - Politics of Educational Administration
- EDLE 6570 - Seminar in Advanced Educational Finance
- EDLE 6580 - Innovation in Learning System

Research and statistics, 12 hours

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education

Plus two courses selected from

- EDCI 6280 - Qualitative Research in Education
- EDCI 6285 - Qualitative Data Analysis in Education
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6290 - Multivariate Statistics in Education

Specialization, 24 hours

From the following three groups, students should select two groups. Four courses (12 hours) should come from each of those two groups.

Superintendent certification courses

Applicants must have principal certification.

- EDLE 6110 - Advanced Inquiry in Educational Leadership
- EDLE 6450 - School Finance and Business Forecasting
- EDLE 6510 - Educational Law and Policy
- EDLE 6590 - Systems Change and Leadership

Educational leadership electives

- EDLE 6200 - Current Issues in Educational Administration
- EDLE 6310 - Research Practicum
- EDLE 6520 - Strategic Leadership of Human Capital
- EDLE 6530 - Funding and Design of Educational Facilities
- EDLE 6540 - Education and Public Relations
- EDLE 6550 - Business Administration of the Public Schools

- EDLE 6900 - Special Problems

Outside electives

Courses from curriculum and instruction, counseling, language and literacy studies, special education, technology, bilingual or ESL education, public administration, business, or another area approved by advisor.

Dissertation, 9 hours

- EDLE 6950 - Dissertation in Practice

Graduate Academic Certificate

Principal Leadership Preparation certificate

The graduate academic certificate for principal preparation consists of seven courses that address skills and knowledge needed for successful school leadership. The courses in this program are offered as part of the Accelerated Online Program with all classes in the 8 week format for two semester-long practicum classes offered along with the 8-week classes. Candidates learn about curriculum and instruction; education law; resource management; differentiation to promote the success of all students; approaches for working well with parents and the community; and methods for building human capacity and a positive school culture. The courses include many opportunities for practical application, and the practicum classes give the candidates hands-on experience in school leadership and management.

Requirements, 21 hours

To apply for this Graduate Academic Certificate Program, candidates must apply for Toulouse Graduate School Admission on www.goapplytexas.org and submit transcripts to the graduate school. In addition, candidates must submit the following to the Educational Leadership Program: a supervisor's letter of recommendation, a resume, an essay about leadership experience and goals, and a program application. A teaching certificate and experience as the teacher of record in EC-12 schools are required for this program. Contact the Educational Leadership Program office or advisor for forms describing these requirements.

- EDLE 5330 - Instructional Leadership
- EDLE 5390 - Campus-Level School Law
- EDLE 5620 - Administration and Leadership for Student Educational Services
- EDLE 5630 - Organizational Change and School Improvement
- EDLE 5650 - Professional Development and Supervision
- EDLE 5720 - Practicum in Educational Leadership
- EDLE 5730 - Advanced Practicum in Educational Leadership

  With approval from an advisor, students can substitute other EDLE courses for the courses listed above except for EDLE 5720 and EDLE 5730. Possible substitutions include EDLE 5400, School Resources, EDLE 5610, School Communications and Public Relations; EDLE 5680, Administration of the EC-12 Curriculum, and EDLE 5600, Race, Class, and Gender Issues in Education.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

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

Paul Krueger, Dean
Seifollah Nasrazadani, Associate Dean
Stephanie Ludi, Associate Dean
Andrey Voevodin, Associate Dean

Faculty

Programs of study

The college is composed of the following five academic departments.

- Department of Biomedical Engineering
- Department of Computer Science and Engineering
- Department of Electrical Engineering
- Department of Mechanical Engineering
- Department of Materials Science and Engineering

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.

Master's degrees can be completed with options for doing research or through courses only.

All programs in the College of Engineering which are Masters or Doctoral will have an enrollment maximum of 10 credit hours without department approval. Enrollment for greater than 10 hours enrollment will require permission from the program graduate advisor.

Research

Research interests pursued in the Department of Biomedical Engineering include the following areas: micro and nanotechnology innovations in medicine, drug delivery systems for cancer therapy, biomimetic microenvironments, tissue engineering and 3D printing; smart biomaterials for biomedical implants, bone fixation devices, resorbable stents, blood-barrier dysfunction, implants-tissue interface reactions; BioMEMS, BioNEMS, cell-on-chip, nano-electroporation and transfection; biomedical instrumentation, remote health monitoring, epilepsy seizure detection, exoskeleton for senior citizens.

Research interests in the Department of Computer Science and Engineering include artificial intelligence and machine learning, data analytics and databases, wired and wireless networks, computer security, cloud security, network security, game programming and 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, privacy and software vulnerability management, and bioinformatics.

The research areas in the Department of Electrical Engineering include signal processing, wireless communication, channel modeling and measurement, electrical power management and control systems, RF designs, signal processing and 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, multisensor fusion, and acoustic sensor systems.

Research programs in the Department of Materials Science and Engineering are focused in the various areas of advanced functional and structural materials, including high strength and high temperature metal alloys, solid and liquid crystal polymers, semiconductor, dielectric and opto-electronic materials and devices, high temperature and environmentally stable ceramics and glass, nanomaterials and nanotechnology processing, alloys and ceramic material processing and additive manufacturing, tribological materials and surface engineering, computational material designs and multi-scale 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 Engineering include novel sensor systems for extreme environments, energy conversion systems for renewable 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, small target visibility, noise cancellation, 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.

Advising

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

Master's Degree

Semiconductor Manufacturing Engineering, MS

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

The Master of Science with a major in semiconductor manufacturing engineering gives students skills and knowledge that help them qualify for jobs in the desirable and vital field of semiconductor manufacturing. This face-to-face program is interdisciplinary, which allows students with backgrounds in varying engineering, science, and computer science disciplines to become innovators in the semiconductor field.

Students will complete 34 hours of credit, including core courses, labs, seminars, problems in lieu of thesis, and elective courses to gain a solid understanding of semiconductor manufacturing, including circuit fabrication, packaging, and the properties of electrical and optical materials.

Admission Requirements

To qualify for the Master of Science with a major in semiconductor manufacturing engineering, applicants should:

- Have an educational background in science, engineering, computer science, or math
- Have a 3.0 or higher GPA in their bachelor's coursework
- Submit transcripts to Toulouse Graduate School
- Submit a resume

Core courses

Students are required to take 16 hours of core courses. The core consists of 12 hours of required courses, two hours of labs and two hours of graduate seminar.

Students will choose their graduate seminar and problems courses based on their interests and with advisor approval.

Graduate seminar courses are chosen from CSCE 5931 or MTSE 5700.

- MEEN 5020 - Design of Experiments
- MTSE 5500 - Electronic, Optical and Magnetic Materials
- MTSE 5520 - Physical and Chemical Basis of Integrated Circuit Fabrication
- MTSE 5530 - Integrated Circuit Packaging
- MTSE 5700 - Seminar in Materials Science and Engineering

  or
- CSCE 5931 - CSE Seminar

Required labs

Students take two, 1-hour labs to gain hands-on experience in the clean room and other relevant labs and facilities. These labs can be taken at any point during the program.

Required problems in lieu of thesis

Students take 6 hours of problems in lieu of thesis from the same department.

Students choose from the list below based on their interests and advisor approval.

- CSCE 5900 - Special Problems
- EENG 5900 - Special Problems
- MTSE 5900 - Special Problems in Materials Research

Electives

Students choose 12 hours of elective course work based on their interests. Courses are chosen from the list below.

- CHEM 5530 - Materials Chemistry
- CSCE 5210 - Fundamentals of Artificial Intelligence
- CSCE 5300 - Introduction to Big Data and Data Science
- EENG 5520 - Design and Testing of Digital Systems
- EENG 5530 - Analog Integrated Circuit Design
- EENG 5540 - Digital Integrated Circuit Design
- MEEN 5315 - Nanoscale Energy Transport
- MTSE 5560 - Compound Semiconductor Materials and Devices
- MTSE 5570 - Vacuum Technology and Thin Films
- PHYS 5750 - Selected Topics in Materials Physics (when topic is “Physics of Nanoscale Materials”)

Graduate Academic Certificate

Advanced Manufacturing certificate

The Graduate Academic Certificate in Advanced Manufacturing helps students to gain knowledge to architect and implement innovative uses of advanced manufacturing technologies and process, like automation, digital tools, design, control, and 3D printing, across the product life cycle. This interdisciplinary certificate includes courses in Materials Science and Engineering, Electrical Engineering, Mechanical Engineering, and Engineering Technology.

Admission to the Program

To be admitted to the certificate program, students will submit their application, application fee, and official transcripts to Toulouse Graduate School. Information is online at tsgs.unt.edu/apply.

Applicants should have a prior degree in engineering or a related field.

Requirements

Students interested in the graduate academic certificate in advanced manufacturing must take four designated courses (12 hours) to earn the academic certificate.

Students must maintain at least a B average for all courses.

- MEEN 5800 - Topics in Mechanical and Energy Engineering (when topic is “Polymer Additive Manufacturing and Performance”)
- MTSE 5640 - Additive Manufacturing: Processes and Materials Science Fundamentals

Robotics, Mechatronics and Automation certificate

The certificate in robotics enables a student to have an interdisciplinary skillset supporting automation.

Required courses, 6 hours

- BMEN 5332 - Soft Robotics in Biomedical Engineering
- BMEN 5800 - Topics in Biomedical Engineering
- EENG 5310 - Control Systems Design
- EENG 5320 - Systems Modeling and Simulation
- MEEN 5610 - Sensors and Actuators

Directed study, 3 hours

- BMEN 5890 - Directed Study in Biomedical Engineering
- EENG 5890 - Directed Study
- MEEN 5890 - Directed Study in Mechanical and Energy Engineering

Semiconductor Manufacturing Engineering certificate

The Graduate Academic Certificate with a major in semiconductor manufacturing engineering gives students skills and knowledge that help them qualify for jobs in the desirable and vital field of semiconductor manufacturing. This face-to-face program is interdisciplinary, which allows students with backgrounds in varying engineering, science, and computer science disciplines to become innovators in the semiconductor field.

Students will take 9 hours of courses to gain a foundational understanding of semiconductor manufacturing.

Admission Requirements

To qualify for the Graduate Academic Certificate in Semiconductor Manufacturing Engineering, applicants should:

- Have an educational background in science, engineering, technology, or math
- Submit transcripts to Toulouse Graduate School
- Submit a resume

Requirements

Students will choose 9 hours from the courses listed below:

- MEEN 5020 - Design of Experiments
- MTSE 5500 - Electronic, Optical and Magnetic Materials
- MTSE 5520 - Physical and Chemical Basis of Integrated Circuit Fabrication
- MTSE 5530 - Integrated Circuit Packaging

Disclosures

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

Department of Biomedical Engineering

Main Department Office
Discovery Park, Suite B131

Mailing address:
1155 Union Circle #310440
Denton, TX 76203-5017
940-565-3338
Fax: 940-369-8570
Web site: biomedical.engineering.unt.edu

Vijay Vaidyanathan, Chair

Faculty

Mission and vision

The mission of the Department of Biomedical Engineering is to provide a student-centered environment that facilitates a culture of interdisciplinary learning and innovation, while encouraging active participation in scholarly and professional activities to serve the biomedical engineering profession and society, while advancing regional economic development.

The vision of the Department of Biomedical Engineering is to create an innovative, interdisciplinary academic program that emphasizes the fundamentals of biomedical engineering; state-of-the-art applications pertaining to biomedical instrumentation, biomechanics, biomaterials, biotechnology and biocomputing; and other health care–related areas in an environment of life-long learning and research.

Programs

At this time, the department offers programs at the bachelor's, master's and doctoral level. Please refer to the *Undergraduate Catalog* and the *Graduate Catalog* for more information.

Master's Degree

Biomedical Engineering, MS

The MS with a major in biomedical engineering requires a minimum of 30 semester hours for the thesis option and 33 semester hours for the non-thesis option, beyond the bachelor's degree. All graduate students pursuing the MS with a major in biomedical engineering must create their degree plan in consultation with their major professor/graduate advisor.

Required core BMEN courses, 6 hours

- BMEN 5210 - Biomedical Engineering Laboratory
- BMEN 5315 - Computational Methods in Biomedical Engineering
- BMEN 5940 - Biomedical Engineering Seminar

Additional BMEN courses, 15–18 hours

Thesis-option students take 15 hours from the following courses, including 6 hours of thesis; non-thesis–option students take 18 hours from the following courses (not including BMEN 5950).

- BMEN 5005 - Neuroengineering
- BMEN 5007 - Research Methods in Biomedical Engineering
- BMEN 5100 - Standards and FDA Regulations
- BMEN 5280 - AI for Wearables and Healthcare
- BMEN 5310 - Clinical Instrumentation
- BMEN 5311 - Rehabilitation Engineering
- BMEN 5312 - Advanced Signal Processing in Biomedical Engineering
- BMEN 5313 - Bioengineering of Cellular Systems
- BMEN 5314 - Advanced Tissue Engineering and Regenerative Medicine
- BMEN 5315 - Computational Methods in Biomedical Engineering
- BMEN 5316 - Biopolymers and Flexible Bioelectronics
- BMEN 5317 - Advanced Biotechnology
- BMEN 5318 - Biomedical Implants
- BMEN 5319 - Cardiovascular Fluid Dynamics
- BMEN 5320 - Advanced Biomechanics
- BMEN 5321 - Biomaterials Compatibility
- BMEN 5322 - Medical Imaging
- BMEN 5323 - Advanced Biomedical Optics
- BMEN 5324 - Applications of Biomedical MEMS
- BMEN 5325 - Biomedical Nanotechnology Compatibility
- BMEN 5326 - Biomolecular Engineering
- BMEN 5330 - Three-Dimensional Bioprinting
- BMEN 5331 - Drug Delivery and Nanomedicine
- BMEN 5332 - Soft Robotics in Biomedical Engineering
- BMEN 5700 - Introduction to Statistical Genetics
- BMEN 5800 - Topics in Biomedical Engineering
- BMEN 5810 - Topics in Biomedical Engineering
- BMEN 5890 - Directed Study in Biomedical Engineering
- BMEN 5900 - Special Problems in Biomedical Engineering
- BMEN 5910 - Special Problems in Biomedical Engineering
- BMEN 5920 - Cooperative Education in Biomedical Engineering
- BMEN 5950 - Master's Thesis

Electives, 9 hours

Students can choose from the following elective options with the consent of the major professor or graduate advisor:

General electives option

5000- or 6000-level courses from any of BMEN, EENG, MEEN, CSCE, MTSE, BIOL or CHEM.

Business electives option

Students may take courses from the departments of Management or Marketing and Logistics. This option requires 9 hours of 5000 level or above MGMT/LSCM/MKTG courses from the College of Business (graduate courses that do not require prerequisites). The selected courses could be in the areas of entrepreneurship, innovation and technology leadership and need to be approved by the graduate advisor.

Health services administration minor

Students may earn a graduate minor in health services administration. The minor requires 9 hours of 5000 level or above HLSV courses from the College of Health and Public Service. The selected courses could be from the following list:

- HLSV 5300 - Information Systems for Healthcare Management

- HLSV 5400 - Health Delivery Systems
- HLSV 5450 - Health Services Administration
- HLSV 5710 - Theories and Measures for Health and Wellness
- HLSV 5740 - Financial Issues in Health Services Administration
- HLSV 5820 - Marketing Health Services
- HLSV 5880 - Healthcare Law and Ethics

Performing arts health minor

Students may earn a graduate minor in Performing Arts Health. The minor requires 9 hours of 5000 level or above MUPH courses from the College of Music. The selected courses could be from the following list:

- MUPH 5000 - Introduction to Performing Arts Health
- MUPH 5012 - Musculoskeletal Health in Performing Arts Health
- MUPH 5014 - Hearing Conservation in Performing Arts Health

Audiology minor

Students may earn a graduate minor in Audiology. The minor requires 9 hours of 5000 level or above ASLP courses from the College of Health and Public Services. The selected courses could be from the following list, prerequisite fulfillment is a must:

- ASLP 6650 - Audiologic Assessment
- ASLP 6660 - Hearing Science
- ASLP 6770 - Electrophysiologic Assessment
- ASLP 6690 - Hearing Aids I
- ASLP 6991 - Instrumentation in Speech and Hearing Sciences
- ASLP 6995 - Communication and Communication Disorders Across the Life-Span

Data Science minor

Students may obtain a minor in Data Science by choosing the following courses. Pre-requisite fulfillment is required.

- DTSC 5501 - Fundamentals of Data Analytics
- DTSC 5502 - Principles and Techniques for Data Science
- DTSC 5505 - Machine Learning for Data Scientists

Advanced data analytics minor

Students may obtain a minor in advanced data analytics by choosing the following ADTA courses. Prerequisite fulfillment is required.

- ADTA 5100 - Fundamentals of Data Analytics
- ADTA 5110 - Fundamentals of Data Collection and Management
- ADTA 5120 - Introduction to Data Analytics
- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5250 - Large Data Visualization
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5550 - Deep Learning with Big Data

Other requirements

- A grade point average of at least 3.0 is required to stay in the MS with a major in biomedical engineering.
- The thesis option requires independent research. Students in the thesis option are required to submit a Master's Thesis at least 14 days in advance of the oral thesis defense date. The thesis must be approved by the major professor and the student's advisory committee, and must conform to all requirements of the Toulouse Graduate School, as stated at graduateschool.unt.edu.

Doctorate

Biomedical Engineering, PhD

The University of North Texas (UNT) offers a unique PhD program in biomedical engineering (BMEN) to produce multi-faceted, new PhD graduates who will fulfill unmet healthcare-related, startup industry needs in the North Texas area specifically and the state of Texas in general.

The educational objectives of this PhD program are twofold:

1. to prepare PhD graduates to conduct and continue research into new, unexplored fields that can revolutionize the healthcare-technology sector; and
2. to educate PhD students on innovation, business knowledge, and technology transfer to enable them to create new and disruptive healthcare startups that can improve the quality of life for the people of Texas, the U.S., and the world.

Students will have the option of choosing one of two tracks:

- a traditional research track that enables them to get a graduate minor in another area, such as engineering or computer science or biology or performance arts health (music in medicine), with the added feature of organized training to teach after graduation; or
- a healthcare startup track that enables the students to take 4 courses in business, allied to startup management.

The BMEN department aims to educate our PhD students to become innovators of high-tech healthcare ventures of the future, which will increase the visibility of the DFW region, Texas, and the Nation, through technology translation, entrepreneurial endeavors and most importantly, job creation.

Admission

The PhD program will admit students with a bachelor's degree in biomedical engineering or related discipline. The admission criteria include:

1. Undergraduate GPA of 3.5 or higher
2. GRE of 305 (combined) or higher [GRE will be waived for UNT graduates and/or students graduating from an ABET accredited program]
3. TOEFL and IELTS requirement will be same as MS degree for international students

For students with an MS degree in biomedical engineering or related discipline, the admission criteria include:

1. MS GPA of 3.5 or higher
2. GRE of 305 (combined) or higher (GRE will be waived for UNT graduates and/or students graduating from an ABET accredited program)
3. TOEFL and IELTS requirement will be same as MS degree for international students

Research and academia track

Students embarking on this doctoral program will have a variety of sub-tracks or options to avail of. Students can choose any one of the following sub-tracks:

- Biomaterials
- Bioinstrumentation
- Biomechanics

- Biocomputing
- Biotechnology
- Music in Medicine

Accordingly, students may choose their electives (3) from one of the following: materials science and engineering (MTSE); electrical engineering (EE); mechanical engineering (MEEN); computer science (CS); biology (BIOL); performance arts health (MUPH) from the College of Music. Thus, students will get a graduate minor in any of these disciplines, in addition to their PhD degree. The graduate minor will enable students to gain a depth of knowledge in their area of research, thus making them valued subject matter experts. In addition, students will be required to take a course in instructional service or teaching practicum, that will prepare them for curriculum development and teaching courses in an effective manner. The degree plan is as follows:

Students entering with a bachelor's degree

Students entering the biomedical engineering PhD with a bachelor's degree in biomedical engineering or a related engineering field complete the following for a minimum of 51 hours of course work.

Seminar, 3 hours

- BMEN 5940 - Biomedical Engineering Seminar (1 hour)
- BMEN 6940 - Biomedical Engineering Doctoral Seminar (2 hours)

BMEN focus area, 3 hours

Students take one course from any of the following areas:

- Bioinstrumentation
- Biomaterials
- Biomechanics
- Biocomputing
- Biotechnology

BMEN electives, 15 hours

Five (5) BMEN graduate-level (5000-level) courses, to be determined by student and advisor.

Instructional service, 3 hours

Instructional service includes preparation for teaching an undergraduate BMEN course with instructional feedback and mentoring.

- BMEN 6920 - Instructional Service Component

Individual research, 6 hours minimum

Dissertation, 12 hours minimum

Electives in sub-track, 9 hours

Students take 9 graduate-level electives from a sub-track chosen from:

- Materials science and engineering (MTSE)
- Electrical engineering (EE)
- Mechanical engineering (MEEN)
- Computer science (CS)
- Biology (BIOL)
- Performing arts health (MUPH)
- Biomedical Engineering (BMEN)

Students entering with a master's degree

Students entering the biomedical engineering PhD with a master's degree in biomedical engineering or a related engineering field complete the following for a minimum of 41 hours of course work.

Seminar, 2 hours

- BMEN 6940 - Biomedical Engineering Doctoral Seminar (2 hours)

BMEN focus area, 3 hours

Students take one course from any of the following areas:

- Instrumentation
- Imaging
- Biomaterials
- Nanotechnology
- Biomechanics

BMEN electives, 9 hours

Three (3) BMEN graduate-level (5000-level) courses, to be determined by the student and advisor.

Instructional service, 3 hours

Instructional service includes preparation for teaching an undergraduate BMEN course with instructional feedback and mentoring.

- BMEN 6920 - Instructional Service Component

Individual research, 3 hours minimum

Dissertation, 12 hours minimum

Electives in sub-track, 9 hours

Students take 9 graduate-level electives from a sub-track chosen from:

- Materials science and engineering (MTSE)
- Electrical engineering (EE)
- Mechanical engineering (MEEN)
- Computer science (CS)
- Biology (BIOL)
- Performing arts health (MUPH)
- Biomedical Engineering (BMEN)

Start-up management track

Students embarking on this doctoral program will have the unique opportunity to take their innovative research and spin it off into a start-up company. Doctoral students will take relevant courses pertaining to creating and running a start-up company from the G. Brint Ryan College of Business. The courses will provide them with the knowledge and foundation necessary to embark on the path of entrepreneurship. In addition, students will be required to take a course in translational biomedical engineering that will prepare them on various aspects of translating their research into a start-up company. The degree plan is as follows:

Students entering with a bachelor's degree

Students entering the biomedical engineering PhD with a bachelor's degree in biomedical engineering or a related engineering field complete the following for a minimum of 54 hours of course work.

Seminar, 3 hours

- BMEN 5940 - Biomedical Engineering Seminar (1 hour)
- BMEN 6940 - Biomedical Engineering Doctoral Seminar (2 hours)

BMEN focus area, 3 hours

Students take one course from any of the following areas:

- Bioinstrumentation
- Biomaterials
- Biomechanics
- Biocomputing
- Biotechnology

BMEN electives, 15 hours

Five (5) BMEN graduate-level (5000-level) courses, to be determined by student and advisor.

Translational biomedical engineering, 3 hours

- BMEN 6930 - Translational Biomedical Engineering

Individual research, 6 hours minimum

Dissertation, 12 hours minimum

Ryan College of Business electives, 12 hours

Students take 12 hours of electives from the G. Brint Ryan College of Business.

Students entering with a master's degree

Students entering the biomedical engineering PhD with a bachelor's degree in biomedical engineering or a related engineering field complete the following for a minimum of 44 hours of course work.

Seminar, 2 hours

- BMEN 6940 - Biomedical Engineering Doctoral Seminar (2 hours)

BMEN focus area, 3 hours

Students take one course from any of the following areas:

- Bioinstrumentation
- Biomaterials
- Biomechanics
- Biocomputing
- Biotechnology

BMEN electives, 9 hours

Three (3) BMEN graduate-level (5000-level) courses, to be determined by the student and advisor.

Translational biomedical engineering, 3 hours

- BMEN 6930 - Translational Biomedical Engineering

Individual research, 3 hours minimum

Dissertation, 12 hours minimum

Ryan College of Business electives, 12 hours

Students take 12 hours of electives from the G. Brint Ryan College of Business.

Additional requirements

In addition to credit hours requirements, PhD students must complete the following.

Residence requirement

Students are required to enroll in at least 9 credit hours for two consecutive terms/semesters or in at least 6 credit hours for three consecutive terms/semesters.

Dissertation advisory committee formation

Students admitted to the PhD program will be required to form a committee comprising a BMEN faculty advisor and 3 other committee members (BMEN faculty). Students on the start-up track will need to include an additional advisor from industry. The BMEN department will suggest names for the industry advisor.

PhD qualifying requirements

Biomedical engineering core courses need to be completed with a grade of B or better. An oral PhD qualifying examination is conducted by the student's dissertation advisory committee to ensure the research readiness of the student. All students will be required to complete their qualifying exam within one year of joining the program. The qualifying exam will be determined by the BMEN advisor and the committee. Students will also be required to make an oral presentation on their research plans.

Students who fail the qualifying exam will get one more opportunity to pass their qualifying exam. Failure in both attempts will result in the student being discontinued from the PhD program.

Dissertation proposal defense

An oral dissertation proposal defense is conducted by the doctoral candidate's dissertation advisory committee. The dissertation proposal defense must be conducted at least six months before the dissertation defense.

Dissertation defense

An oral dissertation defense is conducted by the doctoral candidate's dissertation advisory committee. Students must apply for graduation prior to the defense of the dissertation. Graduation information and deadlines are available from the Toulouse Graduate School.

Department of Computer Science and Engineering

Main Departmental Office
Discovery Park, Room F201
3940 N. Elm

Mailing address:
1155 Union Circle #311366
Denton, TX 76203-5017
940-565-2767
Web site: cse.unt.edu

Faculty

The Department of Computer Science and Engineering offers Master of Science programs in computer science, computer engineering, artificial intelligence, data engineering and cybersecurity and the Doctor of Philosophy with a major in computer science and engineering.

The objective of the master's degrees is to produce professional computer scientists capable of contributing technically to the basic core areas of computer science, computer engineering, as well as the above applied degrees are offered in the department. The objective of the doctoral degree is to produce professionals capable of conducting and directing independent 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.

Research

The Department of Computer Science and Engineering has a comprehensive research program that focuses on algorithms and computational science, artificial intelligence and data science, computer systems and networks, cybersecurity, and software engineering. These activities take place in faculty directed research laboratories and centers. Please visit the research section of the departmental website for details and contacts for each research lab or center.

Admission to degree programs

Admission to graduate degree programs offered in the Department of Computer Science and Engineering is competitive. Applications, complete with transcripts, GRE scores (UNT computer science and engineering graduates are exempt) and TOEFL scores, must be submitted by the following dates for consideration for the term/semester indicated.

Admission Deadline	Fall	Spring
Priority	January 15	September 15
Final International Deadline	April 15	October 15
Final Domestic Deadline	June 15	November 15

The **priority** deadline is for consideration for assistantships or scholarships; thus, it is early to allow facilitation for processing and selection. If programs become full, applicants are encouraged to apply for admission in the next semester.

We do not accept applications from international students for Summer admission; international students have to apply for either Spring or Fall admission.

Enrollment Requirements

Full-time enrollment in graduate programs at UNT is 9 credit hours. Graduate Students in all programs within the Department of Computer Science and Engineering require departmental permission to enroll in more than 10 credit hours per semester, with a maximum of 13 credit hours per semester.

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 core or bridge courses on their respective degree program.

Assistantships

In addition to completing an application for admission, master's students who wish to be considered for an instructional or teaching assistantship must complete an assistantship application by January 15 for the fall semester and by September 15 for the spring semester. Assistantship application forms and instructions are available on the department's web site.

Additional information

Programs are listed below. Students are encouraged to read the catalog and visit the departmental web site for more information.

Master's Degree

Artificial Intelligence, MS

The Master of Science with a major in artificial intelligence gives students skills and knowledge that help them qualify for jobs in the desirable and up-and-coming field of artificial intelligence. This face-to-face program is interdisciplinary, which allows students from varying engineering and computer science programs to specialize in AI as it relates to their interests.

The Master of Science with a major in artificial intelligence requires courses that include bridge courses, core courses, and courses in a chosen concentration. Students can choose between two master's degree options:

Option A: Thesis option (30 hours that include 6 hours of thesis). Leveling courses cannot be counted.

Option B: Course option (33 hours). Leveling courses cannot be counted.

Students will choose from one of the concentration areas early in their program:

- Machine Learning
- Biomedical Engineering
- Autonomous Systems

Academic standards

After the first semester, students in this program are required to maintain a 3.0 cumulative GPA to remain in good standing. Students who fall below 3.0 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. Full details about the academic standards required at UNT can be found in the academic standard section of the catalog.

To qualify for the master's degree, the student must earn a grade of B or better in core, bridge, and validation methods courses and a grade of C or better in elective courses.

Required courses

Thesis option

Students take the following for a total of 30 hours:

- 6 hours of bridge courses
- 9 hours of core courses
- 12 hours of courses in their chosen concentration
- 3 hours of elective courses

Course-only option

Students take the following for a total of 33 hours:

- 6 hours of bridge courses
- 12 hours of core courses
- 12 hours of courses in their chosen concentration
- 3 hours of elective courses

Bridging courses

Students will take 6 hours of bridging coursework that introduces the concepts of artificial intelligence. These courses should be taken before completing the core courses.

- CSCE 5210 - Fundamentals of Artificial Intelligence
- CSCE 5214 - Software Development for Artificial Intelligence

Validations methods course

Students will select a course related to validation methods as determined by their concentration.

Biomedical engineering concentration:

- BMEN 5007 - Research Methods in Biomedical Engineering

Machine learning concentration:

- CSCE 5310 - Methods in Empirical Analysis

Autonomous systems concentration:

- EENG 5320 - Systems Modeling and Simulation

Core (non-thesis)

Non-thesis students will take 12 hours of core courses.

- CSCE 5215 - Machine Learning
- CSCE 5218 - Deep Learning
- CSCE 5222 - Feature Engineering
- CSCE 5300 - Introduction to Big Data and Data Science

Core (thesis)

Thesis students will take the following 9 hours of core courses.

- CSCE 5215 - Machine Learning
- CSCE 5218 - Deep Learning
- CSCE 5222 - Feature Engineering

Concentration areas

Students will complete 12 hours of concentration coursework. Students will select 4 courses from the list of available courses in their chosen concentration.

The "validations methods course" required for the degree is to be included in the 12 hours of course work required for the student's chosen concentration.

Students pursuing the thesis option will take 6 hours of thesis coursework within the department that their concentration resides.

Machine learning concentration

Students will complete 12 hours of elective courses to complete the machine learning concentration. Thesis students will take 6 semester hours of elective coursework and 6 semester hours of CSCE 5950-Master's Thesis.

To complete the 12 elective course requirement, students can choose courses from the list below or select one unrestricted three-credit hour CSCE graduate course, or alternately a course outside of CSCE, with prior advisor or program approval.

- CSCE 5200 - Information Retrieval and Web Search
- CSCE 5216 - Pattern Recognition
- CSCE 5280 - AI for Wearables and Healthcare
- CSCE 5290 - Natural Language Processing
- CSCE 5320 - Scientific Data Visualization
- CSCE 5380 - Data Mining
- CSCE 5810 - Bioinformatics Algorithms
- CSCE 5900 - Special Problems
- CSCE 5934 - Directed Study
- CSCE 5950 - Master's Thesis

Biomedical engineering concentration

Students will complete 12 hours of elective courses to complete the biomedical engineering concentration. Thesis students will take 6 semester hours of elective coursework and 6 semester hours of BMEN 5950-Master's Thesis.

Students can choose four courses from the list below or select three courses from the list below and one unrestricted three-credit hour BMEN graduate course.

- BMEN 5005 - Neuroengineering
- BMEN 5310 - Clinical Instrumentation
- BMEN 5322 - Medical Imaging
- BMEN 5324 - Applications of Biomedical MEMS
- BMEN 5900 - Special Problems in Biomedical Engineering
- CSCE 5216 - Pattern Recognition
- CSCE 5225 - Digital Image Processing
- EENG 5640 - Computer Vision and Image Analysis
- BMEN 5950 - Master's Thesis

Autonomous systems concentration

Students will complete 12 hours of elective courses to complete the autonomous systems concentration. Thesis students will take 6 semester hours of elective coursework and 6 semester hours of EENG 5950-Master's Thesis.

Students can choose four courses from the list below or select three courses from the list below and one unrestricted three-credit hour EENG graduate course.

- EENG 5310 - Control Systems Design
- EENG 5610 - Digital Signal Processing
- EENG 5640 - Computer Vision and Image Analysis
- EENG 5900 - Special Problems
- EENG 5950 - Master's Thesis

Elective courses

Elective credits can be from any concentration courses beyond the credit hour requirements, or any organized course within the Department of Computer Science and Engineering.

The elective course options will not include a course chosen from the degree's core courses, as all of the listed core courses are required for the degree.

All students in the department are permitted to take one course outside of the department with prior approval of an advisor. A list of approved courses can be found on the Department of Computer Science and Engineering website.

Students can complete any combination of three approved, one-hour CSCE courses that will substitute as one, three-hour elective course. These one-hour courses can be chosen from CSCE 5932 - Internship, CSCE 5931 - CSE Seminar, CSCE 5935 - CSE Research and Professionalism Overview or CSCE 5900 - Special Problems.

Computer Engineering, MS

The computer science and engineering department offers the Master of Science with a major in computer engineering.

Admission requirements

Students must satisfy all the general admission requirements of the Toulouse Graduate School. In addition, a successful applicant usually meets the following admission criteria of the computer science and engineering department:

- Have taken the Graduate Record Examination (GRE). See the department's web page for information concerning typical admission test scores.
- All applicants to the University of North Texas must show proof of English language proficiency (see admissions.unt.edu/international/English-language-requirements).
- A current GPA of at least 3.0 on course work.
- Completion of a sufficient amount of prior work in the field of computer engineering which may entail some undergraduate leveling courses.
- Transcripts showing at least 12 hours of mathematics, including differential and integral calculus, discrete mathematics and two other courses selected from statistics, linear algebra, abstract algebra, logic, numerical analysis and differential equations.

An overall evaluation of the student's credentials is used as a basis for admission. Students with an insufficient computer engineering 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.

Leveling courses

Students lacking an undergraduate degree in computer engineering may be conditionally admitted and required to complete leveling courses. The appropriate leveling course will be determined by the department based on the knowledge demonstrated by the candidate. A diagnostic exam may be required.

Degree requirements

The Master of Science with a major in computer science and engineering offers two master's degree options.

Option A: Thesis option (30 hours that include 6 hours of thesis).

Thesis students in the Computer Engineering MS program will take 9 hours of core courses, 12 hours in their chosen concentration, 6 hours of Master's Thesis, and 3 hours of elective coursework chosen from 5000 and 6000-level CSCE graduate courses.

Leveling courses cannot be counted.

Option B: Course-only option (33 hours).

Non-thesis students in the Computer Engineering MS program will take 9 hours of core courses, 12 hours in their chosen concentration, and 12 hours of elective coursework chosen from 5000 and 6000-level CSCE graduate courses.

Leveling courses cannot be counted.

Academic standards

After the first semester, students in this program are required to maintain a 3.0 cumulative GPA to remain in good standing. Students who fall below 3.0 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. Full details about the academic standards required at UNT can be found in the academic standard section of this catalog.

To qualify for the master's degree, the student must earn a grade of B or better in core courses and a grade of C or higher in elective courses.

Core courses

Select 3 courses from below (9 credits total).

- CSCE 5510 - Wireless Communications

  or
- CSCE 5520 - Wireless Networks and Protocols

- CSCE 5610 - Computer System Architecture
- CSCE 5612 - Embedded Hardware/Software Design
- CSCE 5730 - Digital CMOS VLSI Design

Computer Systems Concentration

Select 4 courses (12 credit hours).

- CSCE 5160 - Parallel Processing and Algorithms
- CSCE 5440 - Real-Time Software Development
- CSCE 5615 - Networks-on-Chip
- CSCE 5620 - Real-Time Operating Systems
- CSCE 5640 - Operating System Design
- CSCE 5650 - Compiler Design
- CSCE 5680 - Distributed Systems
- CSCE 5740 - Topics in Modern Electronic System Design
- CSCE 5760 - Design for Fault Tolerance
- EENG 5560 - Reconfigurable Computing
- EENG 5830 - Coding Theory
- EENG 5840 - Information Theory

Communication Systems Concentration

Select 4 courses (12 credit hours).

- CSCE 5050 - Applications of Cryptography
- CSCE 5520 - Wireless Networks and Protocols
- CSCE 5530 - Computer Network Design
- CSCE 5540 - Introduction to Sensor Networks
- CSCE 5585 - Network Security
- EENG 5560 - Reconfigurable Computing
- EENG 5610 - Digital Signal Processing
- EENG 5620 - Statistical Signal Processing
- EENG 5640 - Computer Vision and Image Analysis
- EENG 5810 - Digital Communications
- EENG 5830 - Coding Theory
- EENG 5840 - Information Theory
- EENG 5850 - Image and Video Communications

Electives

Elective credits can be from the core or any concentration courses beyond the credit hour requirements, or any organized course within the Department of Computer Science and Engineering. All students in the department are permitted to take one approved course outside of the department. A list of approved courses can be found on the Department of Computer Science and Engineering web site.

Students can complete any combination of three approved, one-hour CSCE courses that will substitute as one, three-hour elective course. These one-hour courses can be chosen from CSCE 5932 - Internship, CSCE 5931 - CSE Seminar, CSCE 5935 - CSE Research and Professionalism Overview or CSCE 5900 - Special Problems.

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. In addition, a successful applicant usually meets the following admission criteria of the computer science and engineering department:

- The Graduate Record Examination (GRE). See the department's web page for information concerning typical admission test scores.
- All international applicants to the University of North Texas must show proof of English language proficiency (see unt.edu/admissions/international/english-language-requirements).
- A current GPA of at least 3.0 on course work.
- Completion of a sufficient amount of prior work in the field of computer science which may entail some undergraduate leveling courses.
- At least 12 hours of mathematics, including differential and integral calculus, discrete mathematics and two other courses selected from statistics, linear algebra, abstract algebra, logic, numerical analysis and differential equations.

An overall evaluation of the student's credentials is used as a basis for admission. Students with an insufficient computer science background may be provisionally admitted to the program and may enroll in graduate-level courses once any required leveling courses are completed with a grade of B or better. Admission is competitive, and satisfaction of the minimum requirements does not guarantee admission.

If a student wishes to make a change in program to other MS programs in the Department of Computer Science and Engineering, it is permissible after you have completed one long semester in your initial program.

Leveling courses

Students lacking an undergraduate degree in computer science may be conditionally admitted and required to complete leveling courses. The appropriate leveling course will be determined by the department based on the knowledge demonstrated by the candidate. A diagnostic exam may be required.

Degree requirements

The computer science and engineering department offers two master's degree options:

Option A: Thesis option (30 hours that include 6 hours of thesis). Leveling courses cannot be counted.

Option B: Course option (33 hours). Leveling courses cannot be counted.

Academic standards

After the first semester, students in this program are required to maintain a 3.0 cumulative GPA to remain in good standing. Students who fall below 3.0 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. Full details about the academic standards required at UNT can be found in the academic standard section of this catalog.

To qualify for the master's degree, the student must earn a grade of B or better in core courses and a grade of C or better in elective courses.

Course selection

Computer science master's students are required to take one course from each of the four groups listed below.

- The remaining courses and areas of specialization are selected in consultation with the student's advisor.
- Electives will be selected from available CSCE 5000- and 6000-level courses. Students can complete any combination of three approved, one-hour CSCE courses that will substitute as one, three-hour elective course. These one-hour courses can be chosen from CSCE 5932 - Internship, CSCE 5931 - CSE Seminar, CSCE 5935 - CSE Research and Professionalism Overview or CSCE 5900 - Special Problems.
- All students in the department are permitted to take one approved course outside of the department. A list of approved courses can be found on the Department of Computer Science and Engineering website.
- No more than 3 hours of non-organized courses (such as directed study or special problems) will be permissible.

Group A

- CSCE 5430 - Software Engineering
- CSCE 5450 - Programming Languages
- CSCE 5650 - Compiler Design

Group B

- CSCE 5520 - Wireless Networks and Protocols
- CSCE 5610 - Computer System Architecture
- CSCE 5640 - Operating System Design

Group C

- CSCE 5150 - Analysis of Computer Algorithms
- CSCE 5170 - Graph Theory
- CSCE 5400 - Formal Languages, Automata and Computability

Group D

- CSCE 5210 - Fundamentals of Artificial Intelligence
- CSCE 5350 - Fundamentals of Database Systems
- CSCE 5550 - Introduction to Computer Security

Cybersecurity, MS

The Department of Computer Science and Engineering offers a Master of Science in Cybersecurity. The MS in Cybersecurity provides a high quality, academically challenging, and career-enriching educational program that is responsive to industry trends, changing standards, and employer needs. The degree develops students who are highly skilled in the field, technically savvy, and think critically about cybersecurity challenges.

After graduation, MS in Cybersecurity graduates will be prepared for jobs in secure software development, system test/evaluation, data security analysis, IT security project management, cyber defense analysis, vulnerability assessment, and system security engineering, security architecture, enterprise architecture, and scientific research positions.

Non-thesis students

Non-thesis students in the MS in Cybersecurity will complete 33 semester hours, which include 21 hours of core coursework and 12 hours of electives.

Thesis students

Thesis students will complete 30 semester hours, which includes 21 hours of core coursework and 9 hours of electives. Thesis students are required to consult their advisor before selecting courses.

Academic standards

After the first semester, students in this program are required to maintain a 3.0 cumulative GPA to remain in good standing. Students who fall below 3.0 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. Full details about the academic standards required at UNT can be found in the Academics section of the catalog.

To qualify for the master's degree, the student must earn a grade of B or better in core (required, applied and networking) courses and a grade of C or better in elective courses.

Core courses

The core courses provide students with a solid foundation in cybersecurity. All students will complete the 9 hours included in the required group. Courses from the applied group and networking group should be chosen in consultation with an advisor.

Non-thesis

Non-thesis students will complete 21 hours of core courses, which include the following:

- 9 hours from the required group,
- 6 hours from the applied group, and
- 6 hours from the networking group.

Thesis

Thesis students will complete 15 hours of core courses, which include the following:

- 9 hours from the required group,
- 3 hours from the applied group, and
- 3 hours from the networking group.

Required group

All students complete 9 hours from the following courses.

- CSCE 5550 - Introduction to Computer Security
- CSCE 5565 - Secure Software Development
- CSCE 5552 - Cybersecurity Essentials

Applied group

Non-thesis students will choose 6 hours from the following courses.

Thesis students will choose 3 hours from the following courses.

- CSCE 5050 - Applications of Cryptography
- CSCE 5555 - Computer Forensics
- CSCE 5560 - Secure Electronic Commerce

Networking group

Non-thesis students will choose 6 hours from the following courses.

Thesis students will choose 3 hours from the following courses.

- CSCE 5520 - Wireless Networks and Protocols
- CSCE 5575 - Blockchain and Applications
- CSCE 5585 - Network Security

Electives courses

Non-thesis

Non-thesis students will take 12 hours of electives. Students can choose four courses from the list below or three courses from the list below and one unrestricted three credit hour CSCE graduate course, or alternately an approved course outside of CSCE, with prior advisor or program approval. A list of approved courses can be found on the Department of Computer Science and Engineering web site.

Students can complete any combination of three approved, one-hour CSCE courses that will substitute as one, 3-hour elective course. These 1-hour courses can be chosen from CSCE 5900 - Special Problems, CSCE 5931 - CSE Seminar, CSCE 5932 - Internship, or CSCE 5935 - CSE Research and Professionalism Overview.

Thesis

Thesis students will take 9 hours of electives and 6 hours of CSCE 5950 - Master's Thesis. Students can choose their elective courses from the list below or choose one unrestricted, three credit hour CSCE graduate course, or alternately an approved course outside of CSCE. A list of approved courses can be found on the Department of Computer Science and Engineering web site.

Students can complete any combination of three approved, one-hour CSCE courses that will substitute as one, 3-hour elective course. These 1-hour courses can be chosen from CSCE 5900 - Special Problems, CSCE 5931 - CSE Seminar, CSCE 5932 - Internship, or CSCE 5935 - CSE Research and Professionalism Overview.

- CSCE 5170 - Graph Theory
- CSCE 5210 - Fundamentals of Artificial Intelligence
- CSCE 5214 - Software Development for Artificial Intelligence
- CSCE 5215 - Machine Learning
- CSCE 5216 - Pattern Recognition
- CSCE 5290 - Natural Language Processing
- CSCE 5300 - Introduction to Big Data and Data Science
- CSCE 5380 - Data Mining
- CSCE 5562 - Cloud Security

Data Engineering, MS

The Master of Science program in data engineering (30-hour thesis option or 33-hour non-thesis option) allows students with a background in STEM disciplines to focus their analytical, programming and engineering skills to integrate messy data into clean, usable datasets. Students will use programming languages, SQL, and other software to creatively solve data-related problems and optimize data pipelines.

Academic standards

After the first semester, students in this program are required to maintain a 3.0 cumulative GPA to remain in good standing. Students who fall below 3.0 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. Full details about the academic standards required at UNT can be found in the Academics section of the catalog.

To qualify for the master's degree, the student must earn a grade of B or better in core courses, including predictive analytics, and a grade of C or better in elective courses.

Core courses

All students will take 18 hours of core courses to give a firm foundation in data engineering. Of these courses, 15 semester hours are required core courses, and 3 semester hours will be chosen from a list of courses related to predictive analytics.

- CSCE 5300 - Introduction to Big Data and Data Science
- CSCE 5310 - Methods in Empirical Analysis
- CSCE 5320 - Scientific Data Visualization
- CSCE 5350 - Fundamentals of Database Systems
- CSCE 5370 - Distributed and Parallel Database Systems

Predictive analytics course

3 hours selected from:

- CSCE 5215 - Machine Learning
- CSCE 5216 - Pattern Recognition
- CSCE 5380 - Data Mining

General data engineering track

Students in the general data engineering track will complete elective courses that they choose in consultation with their advisor.

Non-thesis students will complete 15 hours of elective coursework, and thesis students will complete 12 hours of elective coursework.

Choose elective courses

Non-thesis students

Non-thesis students will choose five, 3-hour courses (15 semester hours) from the available courses below or select three courses from the list below and two unrestricted 3-credit hour BMEN graduate courses.

Thesis students

Thesis students will take 6 semester hours of elective course work and 6 semester hours of BMEN 5950 - Master's Thesis. For the 6 semester hours of elective course work, students may choose two courses from the list below or one course from the list below and one unrestricted 3-credit hour BMEN graduate course.

Option for flexible elective course

All students in the department are permitted to take one course outside of the department. A list of approved courses can be found on the Department of Computer Science and Engineering web site.

Students can complete any combination of three approved, one-hour CSCE courses that will substitute as one, 3-hour elective course. These 1-hour courses can be chosen from CSCE 5900 - Special Problems, CSCE 5931 - CSE Seminar, CSCE 5932 - Internship or CSCE 5935 - CSE Research and Professionalism Overview.

- CSCE 5170 - Graph Theory
- CSCE 5200 - Information Retrieval and Web Search
- CSCE 5215 - Machine Learning
- CSCE 5216 - Pattern Recognition
- CSCE 5230 - Methods of Numerical Computations
- CSCE 5290 - Natural Language Processing
- CSCE 5360 - Implementations and Practices of Database Systems
- CSCE 5380 - Data Mining
- CSCE 5390 - Multimedia Computing
- CSCE 5900 - Special Problems
- CSCE 5934 - Directed Study
- CSCE 5950 - Master's Thesis

Biomedical engineering concentration

Non-thesis students

Non-thesis students will choose five, 3-hour courses (15 semester hours) from the list of available courses below or select three courses from the list below and two unrestricted 3-credit hour BMEN graduate course.

Thesis students

Thesis students will take 6 semester hours of elective coursework and 6 semester hours of BMEN 5950 - Master's Thesis. For the 6 semester hours of elective course work, students may choose two courses from the list below or one course from the list below and one unrestricted 3-credit hour BMEN graduate course.

- BMEN 5007 - Research Methods in Biomedical Engineering
- BMEN 5315 - Computational Methods in Biomedical Engineering
- BMEN 5322 - Medical Imaging
- BMEN 5700 - Introduction to Statistical Genetics
- BMEN 5800 - Topics in Biomedical Engineering
- BMEN 5900 - Special Problems in Biomedical Engineering
- BMEN 5950 - Master's Thesis

Doctorate

Computer Science and Engineering, PhD

The program of study for the Doctor of Philosophy degree 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 independent 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 a master's degree in either computer science or computer engineering or other CSE department MS degrees. Additional requirements are listed below.

- Have taken the Graduate Record Examination (GRE). See the department's web page for information concerning typical admission test scores.
- A 3.5 GPA on the most recent 30 hours of course work.
- All applicants to the University of North Texas must show proof of English language proficiency (see admissions.unt.edu/international/english-language-requirements).
- Three letters of recommendation.
- Statement of purpose.

An overall and holistic 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 or 42 graduate semester hours beyond the master's degree. Students cannot apply more than 12 hours of dissertation work toward their degree.

In addition to satisfying the general requirements for all UNT doctoral degrees listed in this catalog (i.e., those of the Toulouse Graduate School), 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; or three consecutive terms/semesters of enrollment in at least 6 semester credit 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, completed and approved by the Graduate School, after being enrolled in 18 semester credit hours.
    c. Complete the 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.

d. PhD Proposal Qualifier: The student must convene their committee for the Dissertation Proposal Defense. The committee must admit them for PhD candidacy by approving their research plan to take dissertation credit; the student can be admitted for PhD candidacy without formally passing the proposal defense.

4. Pass the 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 present and defend their results during an oral examination.

Pass-through master's degree

Pass-through degree only. Students who have passed the PhD Qualifier may apply for this option after the completion of 50 hours in the doctoral program and advisor approval. 30 hours of organized graduate courses will be applied toward the pass-through master's degree.

Graduate Academic Certificate

Artificial Intelligence certificate

The graduate academic certificate in artificial intelligence prepares students for future careers where decisions are increasingly made or informed by data-driven methods. This 12-hour certificate was designed to help students from STEM-based backgrounds improve their AI knowledge through a focused curriculum. This program is highly recommended for people who want to pivot into the fast-growing field of artificial intelligence.

Admission Requirements

Our program is open to high-achieving students from engineering, computer science, mathematics and science-related backgrounds. Each applicant's transcripts will be reviewed to determine if their background is suitable for admission.

Applicants for this program should:

- Have a minimum 3.0 cumulative GPA in previous course work
- Have prior programming experience using languages like C++, Java,Python, R, or Matlab
- Have taken statistics, linear algebra, or can readily learn the relevant mathematical concepts
- International applicants should submit TOEFL or IELTS scores or otherwise meet English language proficiency requirements.
- Submit a resumé (optional)

Certificate requirements, 12 hours

Students must take CSCE 5215 - Machine Learning, CSCE 5218 - Deep Learning, and an additional 6 hours of courses chosen from the list of available courses.

The options include foundational courses to give students the necessary background in programming for artificial intelligence and advanced courses that allow students to focus on more specialized topics.

Required

- CSCE 5215 - Machine Learning
- CSCE 5218 - Deep Learning

Optional

- CSCE 5210 - Fundamentals of Artificial Intelligence
- CSCE 5214 - Software Development for Artificial Intelligence
- CSCE 5222 - Feature Engineering
- CSCE 5300 - Introduction to Big Data and Data Science

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Data Engineering certificate

The graduate academic certificate in data engineering prepares students for future careers where decisions are increasingly made or informed by data-driven methods. This 12-hour certificate was designed to help students from STEM-based backgrounds improve their knowledge of data engineering through a focused curriculum. This program is great for people who want to boost their data-related knowledge or pivot into the fast-growing field of data engineering.

Admission Requirements

Our program is open to high-achieving students from engineering, computer science, math, and science-related backgrounds. Each applicant's transcripts will be reviewed to determine if their background is suitable for admission and/or if leveling coursework is required. If leveling coursework is needed, students may be required to take undergraduate leveling courses to prepare for admission into the program.

Applicants for this program should:

- Have a minimum 3.0 cumulative GPA in previous coursework
- Have prior programming experience using languages like C++, Java,Python, R, or Matlab
- Have taken statistics, linear algebra, or can readily learn the relevant mathematical concepts
- International applicants should submit TOEFL or IELTS scores or otherwise meet English language proficiency requirements.
- Submit a resumé (optional)

Required courses, 9 hours

Students will take 9 hours of courses chosen from the list below. These courses help students establish a firm foundation in data engineering, and students will work with their advisor to select courses to help the student meet their professional goals.

- CSCE 5300 - Introduction to Big Data and Data Science
- CSCE 5310 - Methods in Empirical Analysis
- CSCE 5320 - Scientific Data Visualization
- CSCE 5350 - Fundamentals of Database Systems
- CSCE 5370 - Distributed and Parallel Database Systems

Predictive analytics course, 3 hours

Students will select a 3-hour predictive analytics course chosen from the list below.

- CSCE 5215 - Machine Learning
- CSCE 5216 - Pattern Recognition
- CSCE 5380 - Data Mining

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Graduate Minor

Computer Science minor

A graduate minor in computer science requires 9 semester credit hours of graduate credit to be completed in addition to the courses already required for the student's major program requirements.

Course work, 9 hours

Students must choose three courses from the following:

- CSCE 5150 - Analysis of Computer Algorithms
- CSCE 5170 - Graph Theory
- CSCE 5210 - Fundamentals of Artificial Intelligence
- CSCE 5350 - Fundamentals of Database Systems
- CSCE 5400 - Formal Languages, Automata and Computability
- CSCE 5430 - Software Engineering
- CSCE 5450 - Programming Languages
- CSCE 5550 - Introduction to Computer Security
- CSCE 5580 - Computer Networks
- CSCE 5610 - Computer System Architecture
- CSCE 5640 - Operating System Design
- CSCE 5650 - Compiler Design

Department of Electrical Engineering

Main Departmental Office
Discovery Park, Room B270

Mailing address:
1155 Union Circle #310470
Denton, TX 76203-5017
940-891-6872
Fax: 940-891-6881
Web site: electrical.engineering.unt.edu

Shengli Fu, Chair

Faculty

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/Mixed-Signal Design and Simulation Lab** focuses on design and simulation of analog/mixed-signal AMS) integrated circuits (ICs) for multimedia and IoT security applications. Research topics include:

- Surrogate modeling (metamodeling) of complex IC functional design units
- Hardware/software co-design of secure multimedia digital systems
- High-level behavioral simulation of AMS ICs
- Hardware design of Physically Unclonable Functions (PUFs)
- Embedded system design for the IoT

The **Applied Optics Lab** aims at (1) optical system (imaging and non-imaging) design and modeling, tolerance analysis, and system optimization to improve design for manufacturability. (2) design and fabrication of electro-optic polymer integrated circuits for chemical/biological sensors and optical current sensors (OCS) for smart grid electric distribution system.

The **Autonomous Systems Laboratory** focuses on information assurance, decision making and video communications aspects in autonomous systems, such as unmanned aerial vehicles (UAVs). This laboratory consists of infrastructure and simulation tools necessary to develop protocols for autonomous systems and to analyze their performance. The laboratory has several UAVs that are being used to develop and test decentralized decision-making and task-scheduling algorithms. The laboratory's infrastructure includes computing and networking equipment suitable for simulating civilian and military applications.

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 and information theory; aerial communication and networks; drone system design and applications, especially in emergency response; and wireless sensor networks.

The **Control Systems Laboratory** focuses on the advancement of control theory and technology with applications to intelligent and autonomous systems. Current research topics include control systems with time delay, unmanned aerial vehicles, deep reinforcement learning based control, and active magnetic bearings.

The **Embedded Sensing & Processing Systems (ESPS) Laboratory** focuses on research in the areas of statistical signal processing, machine learning, real-time embedded systems, and wireless sensor networks with applications in wireless localization and tracking, environmental monitoring, cyber-phased systems, Internet of Things, and artificial intelligence. The overarching goal of our research is to solve real-life system-level challenges through theoretical research in signal processing and machine learning, networking protocol design and analysis, and practical system developments with hardware and software implementations.

The **Environmental and Ecological Engineering Laboratory** integrates environmental modeling, real-time monitoring, and renewable power systems for applications to sustainability. Research topics include food-energy-water nexus, sustainable brackish water desalination systems, land-use change, landscape dynamics, and forest ecology, coupled human-natural systems, watershed and reservoir management, wireless sensor networks and environmental observatories, and global climate change.

The **Information Theory and Applications Laboratory** focuses on the application of information theory to communications, networking, privacy, security and storage. Current research interests include private information retrieval, index coding, optimality of treating interference as noise, topological interference management, and interference alignment.

The **Nano Micro Electronics Laboratory** is dedicated to advancing the state of the art of microfabrication and nanotechnology, with emphasis on new approaches to fabricate devices with characteristic lengths in the micro to nanoscale from both silicon and non-silicon materials; and demonstrating these devices in multiple application spaces ranging from nano/micro power-electronics to energy storage, conversion, harvesting, RF-microwave, and biomedical devices.

- Biomedical devices: microneedle sensor for cancer diagnosis and wound healing, smart stent for blood pressure monitoring
- RF/THz devices: micromachined 3D antennas and waveguides
- Micro nano fabrication process advancement: 3D multidirectional UV lithography, Timed-development-and-Thermal-reflow process

The **Power Electronics and Renewable Energy (PERE) Laboratory** focuses on developing effective power electronics technologies to improve the generation, conversion, and control of electrical energy in smart cities and sustainable energy applications. Research topics include wide-bandgap semiconductor applications, renewable energy conversion technologies, smart grids, distributed energy systems, and electric vehicle grid integration.

The **Reconfigurable Computing Laboratory** provides infrastructure for electronic design automation, including several workstations with the latest Electronic Design Automation (EDA) software, enabling design and simulation of a range of electronic chip designs. Students have access to EDA software including Cadence, Synopsys, and Xilinx design tool suites. The laboratory supports high quality research activities related to digital design, reconfigurable computing, FPGAs, ASICs, VLSI design, electronic design automation, SoC design, portable computing, and wearable computing.

Master's Degree

Electrical Engineering, MS

Program objectives

1. Graduates will achieve master's-level proficiency in electrical engineering subjects that include communication and signal processing, RF and circuit designs, and systems and control.
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 Bachelor of Science with a major in electrical engineering program or a related program at UNT with an overall GPA of 3.0 or better within three years at the time of application.
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.

An overall evaluation of credentials is used as a basis for admission to the program. Admission is competitive and satisfaction of the minimum requirements does not guarantee admission. Leveling courses will be required for applicants with undergraduate 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 in 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

- Mathematics through multivariable calculus
- Physics including mechanics, electricity and magnetism
- EENG 2610 - Circuit Analysis
- EENG 2611 - Circuit Analysis Lab
- EENG 2620 - Signals and Systems
- EENG 2621 - Signals and Systems Lab
- EENG 2710 - Digital Logic Design
- EENG 2711 - Digital Logic Design Lab
- EENG 3510 - Electronics I (Devices and Materials)
- EENG 3710 - Computer Organization

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

Core courses

Systems and control area

- EENG 5310 - Control Systems Design
- EENG 5320 - Systems Modeling and Simulation

Communication and signal processing area

- EENG 5610 - Digital Signal Processing
- EENG 5810 - Digital Communications

Digital systems

- EENG 5520 - Design and Testing of Digital Systems
- EENG 5540 - Digital Integrated Circuit Design

Microwave, analog and RF systems

- EENG 5410 - Microwave Engineering
- EENG 5530 - Analog Integrated Circuit Design

Option A, Thesis option

Students are required to complete at least 30 hours in electrical engineering as specified below.

Electrical engineering core courses, 6 hours

Students are required to complete 6 hours from the list of electrical engineering core courses with a grade of B or better.

Electrical engineering electives, 15-18 hours

In addition to 6 hours of electrical engineering core courses, students are required to complete at least 15 hours of organized graduate courses in electrical engineering, excluding EENG 5932, EENG 5890, EENG 5900, and EENG 5950.

Directed study and special problems courses, 0-3 hours

Students may apply no more than 3 hours of EENG 5890 or EENG 5900 to the degree.

Master's thesis, 6 hours

Students are required to complete 6 hours of EENG 5950.

Option B, Non-thesis option

Students are required to complete at least 30 hours in electrical engineering as specified below.

Electrical engineering core courses, 6 hours

Students are required to complete 6 hours from the list of electrical engineering core courses with a grade of B or better.

Electrical engineering electives, 21-24 hours

In addition to 6 hours of electrical engineering core courses, students are required to complete at least 21 hours of organized graduate courses in electrical engineering, excluding EENG 5932, EENG 5890, EENG 5900, and EENG 5950.

Directed study or special problems courses, 0-3 hours

Students may apply no more than 3 hours of EENG 5890 or EENG 5900 to the degree.

Additional requirements

A student whose undergraduate major is not electrical engineering must take additional leveling courses listed in the "leveling courses" section above before the student can enroll in regular graduate courses.

Doctorate

Electrical Engineering with a concentration in Biomedical Engineering, PhD

The Doctor of Philosophy degree represents attainment of a high level of scholarship as evidenced through publications in scholarly journals and prestigious conferences, and completion of a dissertation of original scientific and engineering merits. The educational objectives of our electrical engineering PhD program are twofold:

- To prepare PhD graduates to conduct research into new unexplored fields for the discovery of new knowledge principles that can revolutionize the technology sector; and
- To educate PhD students on innovation and technology transfer to help them become tomorrow's high-tech-job-creating entrepreneurs.

In addition to educating students who create an original knowledge base and conduct advanced research within the discipline of electrical engineering, the faculty of electrical engineering will purposefully train the PhD students to become founders and leaders of tomorrow's high-tech ventures, whose goal is not limited to finding a job after graduation, but to create more job opportunities in the DFW region, Texas and the nation, through technology innovation and entrepreneurial adventures. Specifically, all electrical engineering PhD students will be required to take 9 credit hours from the College of Business to obtain a minor in business management with an emphasis on entrepreneurship, innovation and technology leadership. To further instill the technology innovation and entrepreneurship spirit in the PhD program, at least one member of every dissertation advisory committee is required to be an industrial expert in the relevant fields.

Admission requirements

Students seeking admission to the doctoral program must meet all general requirements of the Toulouse Graduate School. Additional requirements are listed below:

- At least 3.0 GPA on a completed undergraduate degree and at least 3.4 GPA on a completed master's degree;
- Competitive score on the Graduate Record Examination (GRE);
- Acceptable scores on the TOEFL for applicants whose native language is not English;
- Statement of purpose, including professional goals and objectives, research interests, and faculty member(s) contacted as prospective major advisor;
- Three letters of recommendation.

An overall evaluation of credentials is used as a basis for admission to the program. Admission is competitive and satisfaction of the minimum requirements does not guarantee admission. Leveling courses will be required for applicants with degrees other than electrical engineering.

Degree requirements

Electrical engineering core courses

Systems and Control Area

- EENG 5310 - Control Systems Design
- EENG 5320 - Systems Modeling and Simulation

RF and Circuit Designs Area

- EENG 5520 - Design and Testing of Digital Systems
- EENG 5530 - Analog Integrated Circuit Design

Communication and Signal Processing Area

- EENG 5610 - Digital Signal Processing
- EENG 5810 - Digital Communications

Additional requirements

In addition to credit hours requirements, PhD students with a concentration in biomedical engineering must complete the following.

Residence requirement

Students are required to enroll in at least 9 credit hours for two consecutive terms/semesters or in at least 6 credit hours for three consecutive terms/semesters.

Dissertation advisory committee formation

The committee should have at least two members from within the Department of Electrical Engineering, at least 2 members from the Department of Biomedical Engineering and at least one member from industry. The student will have co-major advisors from the departments of Electrical Engineering and Biomedical Engineering respectively.

PhD qualifying requirements

Electrical engineering core courses need to be completed with a grade of B or better. An oral PhD qualifying examination is conducted by the student's dissertation advisory committee to ensure the research readiness of the student. If the student fails the qualifying examination twice, the student will be dismissed from the doctoral program. Upon passing the qualifying exam, the student is admitted to doctoral candidacy.

Dissertation proposal defense

An oral dissertation proposal defense is conducted by the doctoral candidate's dissertation advisory committee. The dissertation proposal defense must be conducted at least six months before the dissertation defense.

Dissertation defense

An oral dissertation defense is conducted by the doctoral candidate's dissertation advisory committee. Students must apply for graduation prior to the defense of the dissertation. Graduation information and deadlines are available from the Toulouse Graduate School.

Required credit hours for student entering with a master's degree, 42 hours

The PhD with a major in electrical engineering and concentration in biomedical engineering requires a minimum of 42 credit hours beyond the master's degree.

Electrical engineering core courses, 6 hours

Students entering with a master's degree are required to complete 6 hours from the list of electrical engineering core courses.

Electrical engineering electives, 6 hours

Students entering with a master's degree are required to complete 6 hours of electrical engineering electives. Electrical engineering electives are defined as 5000-level or above organized EENG courses, including EENG 5940 but excluding EENG 5890, EENG 5900, EENG 5932, EENG 5950, EENG 6940 and EENG 6950.

Entrepreneurship courses, 9 hours

Students are required to take 9 hours of 5000-level or above MGMT courses from the College of Business. The selected courses need to be in the areas of entrepreneurship, innovation and technology leadership.

Biomedical Engineering electives, 6 hours

Students entering with a master's degree are required to complete a minimum of 6 hours of Biomedical Engineering (BMEN) elective credit. Allowable electives to meet this requirement include BMEN courses, 5000 level and up.

Individual research, 3 hours

Students entering with a master's degree are required to complete a minimum of 3 hours of EENG 6940 individual research credit.

Dissertation, 12 hours

Students are required to complete a minimum of 12 hours of EENG 6950 doctoral dissertation credit. Subsequent to admission to doctoral candidacy, students are required to enroll in EENG 6950 continuously during each long term/semester through the semester of graduation.

Required credit hours for students entering with a bachelor's degree, 72 hours

The PhD with a major in electrical engineering and concentration in biomedical engineering requires a minimum of 72 credit hours beyond the bachelor's degree.

Electrical engineering core courses, 12 hours

Students entering with a bachelor's degree are required to complete 12 hours from the list of electrical engineering core courses.

Electrical engineering electives, 12 hours

Students entering with a bachelor's degree are required to complete 12 hours of electrical engineering electives. Electrical engineering electives are defined as 5000-level or above organized EENG courses, including EENG 5940 but excluding EENG 5890, EENG 5900, EENG 5932, EENG 5950, EENG 6940 and EENG 6950.

Entrepreneurship courses, 9 hours

Students are required to earn a minor in business management. The minor requires 9 hours of 5000-level or above MGMT courses from the College of Business. The selected courses need to be in the areas of entrepreneurship, innovation, and technology leadership and need to be approved by a graduate advisor.

Biomedical Engineering electives, 18 hours

Students entering with a bachelor's degree are required to complete a minimum of 18 hours of Biomedical Engineering (BMEN) elective credit. Allowable electives to meet this requirement include BMEN courses, 5000 level and up.

Individual research, 9 hours

Students entering with a bachelor's degree are required to complete a minimum of 9 hours of EENG 6940 individual research credit.

Dissertation, 12 hours

Students are required to complete a minimum of 12 hours of EENG 6950 doctoral dissertation credit. Subsequent to admission to doctoral candidacy, students are required to enroll in EENG 6950 continuously during each long term/semester through the semester of graduation.

Electrical Engineering, PhD

The Doctor of Philosophy degree represents attainment of a high level of scholarship as evidenced through publications in scholarly journals and prestigious conferences, and completion of a dissertation of original scientific and engineering merits. The educational objectives of our electrical engineering PhD program are twofold:

- To prepare PhD graduates to conduct research into new unexplored fields for the discovery of new knowledge principles that can revolutionize the technology sector; and
- To educate PhD students on innovation and technology transfer to help them become tomorrow's high-tech-job-creating entrepreneurs.

In addition to educating students who create an original knowledge base and conduct advanced research within the discipline of electrical engineering, the faculty of electrical engineering will purposefully train the PhD students to become founders and leaders of tomorrow's high-tech ventures, whose goal is not limited to finding a job after graduation, but to create more job opportunities in the DFW region, Texas and the nation, through technology innovation and entrepreneurial adventures. Specifically, all electrical engineering PhD students will be required to take 9 credit hours from the College of Business to obtain a minor in business management with an emphasis on entrepreneurship, innovation and technology leadership. To further instill the technology innovation and entrepreneurship spirit in the PhD program, at least one member of every dissertation advisory committee is required to be an industrial expert in the relevant fields.

Admission requirements

Students seeking admission to the doctoral program must meet all general requirements of the Toulouse Graduate School. Additional requirements are listed below:

- At least 3.0 GPA on a completed undergraduate degree and at least 3.4 GPA on a completed master's degree;
- Competitive score on the Graduate Record Examination (GRE);
- Acceptable scores on the TOEFL for applicants whose native language is not English;
- Statement of purpose, including professional goals and objectives, research interests, and faculty member(s) contacted as prospective major advisor;
- Three letters of recommendation.

An overall evaluation of credentials is used as a basis for admission to the program. Admission is competitive and satisfaction of the minimum requirements does not guarantee admission. Leveling courses will be required for applicants with degrees other than electrical engineering.

Degree requirements

Electrical engineering core courses

Systems and Control Area

- EENG 5310 - Control Systems Design
- EENG 5320 - Systems Modeling and Simulation

RF and Circuit Designs Area

- EENG 5520 - Design and Testing of Digital Systems
- EENG 5530 - Analog Integrated Circuit Design

Communication and Signal Processing Area

- EENG 5610 - Digital Signal Processing
- EENG 5810 - Digital Communications

Required credit hours for students entering with a master's degree, 42 hours

The PhD with a major in electrical engineering requires a minimum of 42 credit hours beyond the master's degree.

Electrical engineering core courses, 6 hours

Students entering with a master's degree are required to complete 6 hours from the list of electrical engineering core courses.

Electrical engineering electives, 6 hours

Students entering with a master's degree are required to complete 6 hours of electrical engineering electives. Electrical engineering electives are defined as 5000-level or above organized EENG courses, including EENG 5940 but excluding EENG 5890, EENG 5900, EENG 5932, EENG 5950, EENG 6940 and EENG 6950.

Entrepreneurship courses, 9 hours

Students are required to take requires 9 hours of 5000-level or above MGMT courses from the College of Business. The selected courses need to be in the areas of entrepreneurship, innovation and technology leadership.

Other electives, 6 hours

Students entering with a master's degree are required to complete a minimum of 6 hours of elective credit. Allowable electives to meet this requirement include EENG 5890, but do not include EENG 5950, EENG 6940 and EENG 6950. A maximum of 3 hours of EENG 5932 can be counted toward this requirement with prior approval of the student's major advisor.

Individual research, 3 hours

Students entering with a master's degree are required to complete a minimum of 3 hours of EENG 6940 individual research credit.

Dissertation, 12 hours

Students are required to complete a minimum of 12 hours of EENG 6950 doctoral dissertation credit. Subsequent to admission to doctoral candidacy, students are required to enroll in EENG 6950 continuously during each long term/semester through the semester of graduation.

Required credit hours for students entering with a bachelor's degree, 72 hours

The PhD with a major in electrical engineering requires a minimum of 72 credit hours beyond the bachelor's degree.

Electrical engineering core courses, 12 hours

Students entering with a bachelor's degree are required to complete 12 hours from the list of electrical engineering core courses.

Electrical engineering electives, 12 hours

Students entering with a bachelor's degree are required to complete 12 hours of electrical engineering electives. Electrical engineering electives are defined as 5000-level or above organized EENG courses, including EENG 5940 but excluding EENG 5890, EENG 5900, EENG 5932, EENG 5950, EENG 6940 and EENG 6950.

Entrepreneurship courses, 9 hours

Students are required to earn a minor in business management. The minor requires 9 hours of 5000-level or above MGMT courses from the College of Business. The selected courses need to be in the areas of entrepreneurship, innovation, and technology leadership and need to be approved by a graduate advisor.

Other electives, 18 hours

Students entering with a bachelor's degree are required to complete a minimum of 18 hours of elective credit. Allowable electives to meet this requirement include EENG 5890, but do not include EENG 5950, EENG 6940 and EENG 6950. A maximum of 3 hours of EENG 5932 can be counted toward this requirement with prior approval of the student's major advisor.

Individual research, 9 hours

Students entering with a bachelor's degree are required to complete a minimum of 9 hours of EENG 6940 individual research credit.

Dissertation, 12 hours

Students are required to complete a minimum of 12 hours of EENG 6950 doctoral dissertation credit. Subsequent to admission to doctoral candidacy, students are required to enroll in EENG 6950 continuously during each long term/semester through the semester of graduation.

Additional requirements

In addition to credit hours requirements, PhD students must complete the following.

Residence requirement

Students are required to enroll in at least 9 credit hours for two consecutive terms/semesters or in at least 6 credit hours for three consecutive terms/semesters.

Dissertation advisory committee formation

The committee should have at least three members from within the Department of Electrical Engineering and at least one member from the industry.

PhD qualifying requirements

Electrical engineering core courses need to be completed with a grade of B or better. An oral PhD qualifying examination is conducted by the student's dissertation advisory committee to ensure the research readiness of the student. If the student fails the qualifying examination twice, the student will be dismissed from the doctoral program. Upon passing the qualifying exam, the student is admitted to doctoral candidacy.

Dissertation proposal defense

An oral dissertation proposal defense is conducted by the doctoral candidate's dissertation advisory committee. The dissertation proposal defense must be conducted at least six months before the dissertation defense.

Dissertation defense

An oral dissertation defense is conducted by the doctoral candidate's dissertation advisory committee. Students must apply for graduation prior to the defense of the dissertation. Graduation information and deadlines are available from the Toulouse Graduate School.

Department of Materials Science and Engineering

Main Departmental Office
Discovery Park, Room E132

Mailing address:
1155 Union Circle #305310
Denton, TX 76203-5017
940-565-3260
Fax: 940-565-4824
Web site: engineering.unt.edu/materials

Vijay Vasudevan, Chair

Faculty

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 types of modern materials including metals, ceramics, polymers, composite, electronic, optical, and nanostructured materials, and materials processing, characterization and modeling. Students have opportunities for hands-on research with modern equipment and facilities. The department has strong collaborative programs with other universities, institutions, and corporations throughout the world. Students have many opportunities to develop highly marketable skills for high-technology companies in electronics, chemical, electrical 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. Outstanding doctoral applicants will be considered for Graduate Fellowships. Out-of-state and international students who are funded at least half-time are eligible for in-state tuition rates. There are also opportunities for departmental scholarships each year. Contact the chair and faculty members 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 viscoelastic 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 **Center for Friction Stir Processing (CFSP)** is a National Science Foundation Industry/University Cooperative Research Center from 2005. Its core mission to further the fundamental understanding of friction stir based technologies. CFSP at UNT has state-of-the-art friction stir processing machines including a 4-axis machine with thermal telemetry and 1.5 kW fiber laser for hybrid processing, a six-axis robotic friction stir welding machine and a friction stir spot welding machine. CFSP has unique mechanical testing machines, including three bench-top tensile testing machines and two bench-top mini-fatigue testing machines. The three mini-tensile machines are custom-built with LabView and National Instrument data cards to provide a range of capabilities. The capabilities include constant cross head speed tests and constant strain rate, stress relaxation tests, temperature dependent tests up to 750°C, potentiodynamic measurement under stress, and slow strain rate stress corrosion cracking tests. The mini-fatigue machines are designed for ambient testing as well as elevated temperature testing up to 250°C in silicon oil bath in fully reversible mode of R=-1. The creep machine is capable of constant (tension/compression) load tests up to 1100°C.

The **Functional Glasses and Materials Modeling Laboratory** (FGM^2) focuses on the synthesis, characterization, and computer simulations of inorganic glasses, glass-ceramics, and nanostructured materials for biomedical, energy, microelectronics, and environmental applications. FGM^2 has materials processing equipments such as high temperature glass melting furnace (up to 1700°C), tube furnace with controlled environment, and several box furnaces. It also has oven, water bath and other facilities for corrosion and bioactivity testing. On the modeling side, FGM^2 conducts atomistic, both first principles and classical, computer simulations of material structure and behaviors. It has access to UNT Talon high performance computing facility, a number of work station and desktop computers, and several national supercomputing facilities. Funded by National Science Foundation, Department of Energy, and industrial sources such as Semiconductor Research Cooperation, FGM^2 pursues cutting edge fundamental materials research and applied research for materials with critical technological applications.

The **Nanoscale Materials and Devices Lab (NMDL).** The overarching theme of NMDL is to characterize the intriguing electronic, optical, and mechanical properties of nanoscale materials and harness these properties for devices that exhibit enhanced functionality. The research encompasses materials synthesis using both top-down and bottom-up approaches, materials property characterization, nanofabrication for material integration, and device measurements. The current focus of interest for the group is looking at nanocarbons and two-dimensional layered materials for applications such as opto-electronic devices, flexible and printed electronics, and various physical sensors including biosensors.

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 Department of Energy, 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; Corning, Inc.; Asahi Glass Corp.; 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 gradschool.unt.edu. Students may also contact the program for current admission requirements.

Admission to the graduate degree programs in materials science is competitive, as available facilities do not permit admission of all qualified applicants. Departmental forms for applying for financial aid may be obtained from the chair of the Department of Materials Science and Engineering or from the web site (materials.engineering.unt.edu/graduate/financial-assistance). 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 engineering.unt.edu/materials/graduate/assistantships.

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, CV, and three 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 (MTSE) or related fields (BMEN, CSCE, EENG, MEEN) or others, 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 gradschool.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 (MTSE) or related fields (BMEN, CSCE, EENG, MEEN) or others, 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 students are expected to attend MTSE 5700 during each term/semester of full-time graduate study.

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 gradschool.unt.edu.

Doctorate

Materials Science and Engineering with a concentration in Biomedical 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 and 9 semester credit hours allocated for the dissertation, respectively. It is expected that the candidate will have published at least two original research articles in refereed journals 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 gradschool.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, biomedical 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 BMEN. Faculty with joint MTSE/BMEN appointments may serve as either the MTSE or BMEN advisor. A student's graduate program will be constructed with the advice and consent of the two co-advisors within the framework described below.

Dissertation committee

The dissertation committee will consist of five members: two must be from MTSE and two must be from BMEN, including one each from MTSE and BMEN as co-advisors. The committee should be made up with a majority of MTSE or MTSE majority joint appointment faculty.

Examinations

1. A written qualifying examination is taken after completion of the core curriculum courses and consists of two sections: section one is on the general knowledge of material science and engineering based on the book by Callister (Fundamentals of Materials Science and Engineering); section two is a specialty exam on one of the following areas: metals and intermetallics; ceramics/composites; electrical/optical materials; polymers; biomaterials; tissue engineering.
2. After passing the written exams, students will propose and defend a topic that is expected to lead to their PhD dissertation. The topic must therefore be approved by the PhD advisor.
3. Upon passing the written and oral examination by the examination committee, the applicant is admitted to candidacy.
4. A pre-dissertation presentation must be conducted between 6 and 12 months prior to final dissertation defense. This presentation is to the PhD committee members only. Committee members will identify weaknesses and shortcomings in the research and will make specific, actionable recommendations to strengthen the dissertation. It is expected that all recommendations would have been implemented by the student at the time of final dissertation defense.
5. Details of the examination schedule, expectations and criteria for successful completion are available in the Materials Science and Engineering 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, and for the student who has a MS 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
- BMEN 5321 - Biomaterials Compatibility
- BMEN 5315 - Computational Methods in Biomedical Engineering

Electives, 24 hours

For students with a BS degree, a minimum of 12 credit hours may be chosen from biomedical engineering, and further 12 credits hours from materials science or biomedical engineering fields, as approved by the major professor and the advisory committee. For students with an MS degree, a minimum of 9 credit hours may be chosen from biomedical engineering. Examples of biomedical engineering electives include:

- BMEN 5210 - Biomedical Engineering Laboratory
- BMEN 5310 - Clinical Instrumentation

Individual research, 10-22 hours

Students entering with a BS degree will take 22 credit hours of individual research; students entering with an MS degree will take 10 hours of individual research.

Additional course work may be taken in lieu of individual research hours.

- MTSE 6940 - Individual Research

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".

Dissertation, 9-12 hours minimum

Students entering with a BS will take a minimum of 12 hours of dissertation; students entering with an MS with take a minimum of 9 hours of dissertation.

- 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 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 refereed journals 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 gradschool.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 materials 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.
3. Upon passing the written and oral examination by the examination committee, the applicant is admitted to candidacy.
4. 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.
5. Details of the examination schedule, expectations and criteria for successful completion are available in the Materials Science and Engineering 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 6050. 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

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 9 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 two original research articles in refereed journals 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 gradschool.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

1. 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.
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.
3. Upon passing the written and oral examination by the examination committee, the applicant is admitted to candidacy.
4. 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.
5. Details of the examination schedule, expectations and criteria for successful completion are available in the Materials Science and Engineering 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

Graduate Minor

Materials Science and Engineering minor

Students pursuing degrees in other disciplines can apply for a minor in materials science and engineering through the department office. The minor in materials science and engineering requires 12 hours of materials science and engineering related course work approved by the department graduate advisor.

Department of Mechanical Engineering

Main Departmental Office
Discovery Park, Suite F115

Mailing address:
3940 N. Elm St. Suite F 115
Denton, TX 76207-7102

940-565-2022
Fax 940-565-2666
Web site: https://engineering.unt.edu/me/

Kuruvilla John, Chair
Hamid Sadat, Associate Chair for Academic and Faculty Affairs
Huseyin Bostanci, Associate Chair for Graduate Affairs
Hector Siller, Associate Chair for Undergraduate Affairs

Faculty

The Department of Mechanical Engineering at the University of North Texas was created in the fall of 2020 when the Department of Engineering Technology merged with the Department of Mechanical and Energy Engineering. The Department of Mechanical Engineering is committed to academic excellence in undergraduate and graduate education and research in all areas pertinent to the discipline of mechanical engineering and in particular construction engineering, energy and engineering management. The goals of the department and its faculty are: (1) to provide high-quality and innovative educational programs at the undergraduate and graduate levels; (2) to foster lifelong learning by promoting professionalism and ethical standards and helping students develop leadership qualities; (3) to pursue excellence in scholarly research in areas of mechanical engineering; and (4) to collaborate with engineers in industry, national laboratories, and government agencies in finding the solutions to national and global problems.

Research

Faculty members work actively with graduate and undergraduate students to develop both a broad and in-depth knowledge for solving contemporary needs in the field of mechanical engineering. You'll explore topics such as:

- Construction engineering
- Thermal energy and fluids
- Solid mechanics and controls
- Renewable and clean energy
- Energy and environmental engineering
- Corrosion engineering
- Bio-based green and sustainable products

Research is conducted with faculty members in laboratories containing the most modern equipment in the nation. Among our facilities is the Zero Energy Laboratory where various energy technologies aimed at achieving net-zero consumption of energy are tested. The facility is the first of its kind in Texas. Other facilities include:

- Structural Testing Laboratory
- Laboratory of Small-Scale Instrumentation
- Thermal Fluid Science Laboratory
- Computer Aided Design and Analysis Laboratory
- Manufacturing and Engineering Technology Laboratory
- Corrosion Engineering Laboratory
- Composite Mechanics and Manufacturing Laboratory

Degree programs

The department offers a PhD degree in mechanical and energy engineering along with two graduate programs with thesis and non-thesis options leading to the following degrees:

- Master of Science (MS) with a major in mechanical and energy engineering
- Master of Science (MS) with a major in engineering management

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.

All 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*, and a detailed resume. International students must also submit TOEFL or IELTS scores, or complete the UNT IELI program. For details visit https://tgs.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.*

Degree plan

For advice regarding the procedure for obtaining a degree plan, which is to be submitted before the end of the first attending semester, 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 Management, MS

The Master of Science program in Engineering Management equips students to be effective managers in their fields. Students learn to manage projects, manage people, and make strategic, well-informed decisions. The Master of Science with a major in engineering management requires a minimum of 30 semester credit hours, including 15 hours of core courses, 12 hours of concentration courses from the chosen concentration, and 3 hours of electives courses.

Students can choose from the following available concentrations.

- Energy Management
- Construction Management
- General Engineering Management

Core

Students will take 15 hours in engineering management courses to complete the core.

- EMGT 5020 - Design of Experiments
- EMGT 5040 - Product Reliability and Quality
- EMGT 5050 - Project Management for Engineers
- EMGT 5060 - Technology Innovation
- EMGT 5070 - Management in Human and Societal Development

Concentrations

Students choose a concentration and take 12 hours of courses from their chosen concentration. Course substitutions may only be available with the approval of an advisor.

Energy management concentration

- EMGT 5110 - Renewable Energy
- EMGT 5120 - Energy and Environmental Sustainability

- EMGT 5130 - Energy: The Fundamentals
- EMGT 5140 - Energy: A World Perspective

Construction management concentration

- EMGT 5200 - Advanced Construction Scheduling
- EMGT 5220 - Building Information Modeling
- EMGT 5230 - Risk Management in Construction
- EMGT 5240 - Heavy Civil Construction Management

General engineering management concentration

Students will take the following courses or their alternatives approved by the department.

- EMGT 5030 - Product Design and Development
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5300 - Entrepreneurship and Venture Management
- MGMT 5760 - Strategic Management

Recommended electives

Students will choose 3 hours of elective courses from the list below. Course substitutions may only be available with the approval of an advisor.

General engineering management concentration electives

- ACCT 5130 - Accounting for Management
- ADTA 5120 - Introduction to Data Analytics
- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- EMGT 5080 - Engineering Ethics
- EMGT 5890 - Directed Study in Engineering Management
- LSCM 5830 - Industrial Distribution and Logistics Analysis
- MEEN 5520 - Manufacturing Concepts for Mechanical Engineers
- MGMT 5870 - Leadership Research and Development
- MKTG 5150 - Marketing Management
- OPSM 5840 - Strategic Supply Management
- OPSM 5850 - Supply Chain Operations Management

Construction management or energy management electives

- ACCT 5130 - Accounting for Management
- ADTA 5120 - Introduction to Data Analytics
- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- EMGT 5080 - Engineering Ethics
- EMGT 5890 - Directed Study in Engineering Management
- LSCM 5830 - Industrial Distribution and Logistics Analysis
- MEEN 5520 - Manufacturing Concepts for Mechanical Engineers
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5300 - Entrepreneurship and Venture Management
- MGMT 5760 - Strategic Management
- MGMT 5870 - Leadership Research and Development
- MKTG 5150 - Marketing Management
- OPSM 5840 - Strategic Supply Management
- OPSM 5850 - Supply Chain Operations Management

Mechanical and Energy Engineering, MS

The MS with a major in mechanical and energy engineering requires a minimum of 30 semester credit hours for the thesis or non-thesis options. All students must plan their degree program with the assistance of the graduate advisor and/or major professor as applicable. Students need to maintain at least a B average in all graduate courses to be eligible for graduation.

Mechanical and energy engineering, Thesis option (30 credit hours)

Student in the MS in mechanical engineering thesis option are required to take 30 semester credit hours that are to be taken as follows:

1. Twelve hours of course work from the core courses, including MEEN 5140 and three other courses. Core courses are grouped under four areas of study; students can take courses from a specific area for depth of knowledge, or sample courses from multiple areas for breadth of knowledge.
2. Twelve hours of course work from the elective courses listed in the Department of Mechanical Engineering Graduate Handbook. Additional core courses (beyond the required minimum of 12 hours) could also be taken as electives. Up to two additional engineering (non-MEEN) courses could be used as elective courses with prior approval of the graduate advisor/major professor.
3. Six hours of thesis (MEEN 5950). Work for the master's thesis comprises an independent and original study. 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 requirements, which may be found at tgs.unt.edu. It is expected that this material will be of archival quality.
4. Students must also register and attend seminar (MEEN 5940) for one semester.

MS in mechanical engineering, Non-thesis option (30 credit hours)

Students are required to take 30 semester credit hours as follows:

1. Twelve hours of course work from the core courses, including MEEN 5140 and three other courses. Core courses are grouped under four areas of study; students can take courses from a specific area for depth of knowledge, or sample courses from multiple areas for breadth of knowledge.
2. Eighteen hours of course work from the elective courses listed in the Department of Mechanical Engineering Graduate Handbook. Additional core courses (beyond the required minimum of 12 hours) could also be taken as electives. Up to two additional engineering (non-MEEN) courses could be used as elective courses with prior approval of the graduate advisor/major professor.
3. Students must also register and attend seminar (MEEN 5940) for one semester.

Required core courses

Complete MEEN 5140 and three additional courses. Take courses from a specific area for depth of knowledge, or sample courses from multiple areas for breadth of knowledge.

- MEEN 5140 - Advanced Mathematical Methods for Engineers

Energy

- MEEN 5000 - Energy: The Fundamentals
- MEEN 5110 - Renewable Energy
- MEEN 5150 - Thermal Energy Storage Systems and Applications

Thermal-Fluid Systems

- MEEN 5300 - Advanced Thermodynamics
- MEEN 5311 - Convection Heat Transfer II
- MEEN 5340 - Advanced Fluid Mechanics

Automation and control

- MEEN 5600 - Feedback Control of Dynamical Systems
- MEEN 5610 - Sensors and Actuators
- MEEN 5740 - Robotics and Automation

Manufacturing and design

- MEEN 5410 - Advanced Solid Mechanics
- MEEN 5440 - Finite Element Analysis
- MEEN 5520 - Manufacturing Concepts for Mechanical Engineers

Doctorate

Mechanical and Energy Engineering with a concentration in Biomedical Engineering, PhD

All students pursuing the doctoral 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 72 semester credit hours beyond the bachelor's degree or 42 hours beyond the master's thesis. The student needs to maintain at least a B average in all graduate courses.

Students entering with a BS

Students entering the PhD with a major in mechanical and energy engineering with a bachelor of science must complete 72 semester hours at the graduate level as follows:

1. 36 semester credit hours of courses including a minimum of 12 semester credit hours of core courses chosen from the listing provided by the Department of Mechanical Engineering and a minimum of 24 semester credit hours of elective courses in mechanical and biomedical engineering. Core and electives courses are selected with the approval of the student's dissertation advisor and graduate advisor.
2. Up to 21 hours of research credits.
3. Up to 3 hours of seminar.
4. A minimum of 12 hours of dissertation (MEEN 6950) credit hours that can be registered for only upon the successful completion of the PhD qualifying examination.

Students entering with an MS

Students entering the PhD with a major in mechanical and energy engineering with a master of science must complete 42 semester credit hours of course work as follows:

1. 24 semester credit hours of courses including a minimum of 12 semester credit hours of core courses chosen from the listing provided by the Department of Mechanical Engineering and a minimum of 12 semester credit hours of elective courses in mechanical and biomedical engineering. Core and electives courses are selected with the approval of the student's dissertation advisor and graduate advisor.
2. Up to 6 hours of research credit hours.
3. Up to 3 hours of seminar.
4. A minimum of 9 hours of dissertation (MEEN 6950) credit hours that can be registered for only upon the successful completion of the PhD qualifying examination.

Requirements

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 a minimum of 9 (with master's degree) or 12 (with bachelor's degree) 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 mechanical and energy engineering (MEEN) 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, biomedical engineering (see "Examinations" section below for details). Enrollment in MEEN 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 MEEN and one from BMEN. Faculty with joint MEEN/BMEN appointments may serve as either the MEEN or BMEN advisor. A student's graduate program will be constructed with the advice and consent of the two co-advisors within the framework described below.

Dissertation committee

The dissertation committee will consist of a minimum of four members: two must be from MEEN and two must be from BMEN, including one each from MEEN and BMEN as co-advisors. An additional committee 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 BMEN concepts and a "specialty exam" in a mechanical and biomedical engineering area, such as thermal/heat transfer, fluid mechanics solid mechanics, biomechanics, bioMEMS. After passing the written exam, students are required to

complete and defend in an oral examination an original research proposal that, if executed, would lead to a PhD dissertation.

2. Upon passing the written and oral examination by the examination committee, the applicant is admitted to candidacy.
3. A comprehensive oral exam related to the area of specialization (biomedical 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/or written qualifying exam.
4. Details of the examination schedule, expectations and criteria for successful completion are available in the Mechanical and Energy Engineering Graduate Student Handbook available in the department office and posted to the department web site.

Required Courses

For the student who has a BS degree, and for the student who has a MS degree, the approximate requirements follow:

Core Courses, 12 hours

Must be selected from the following in consultation with the thesis/dissertation advisor.

- BMEN 5320 - Advanced Biomechanics
- BMEN 5324 - Applications of Biomedical MEMS
- MEEN 5000 - Energy: The Fundamentals
- MEEN 5300 - Advanced Thermodynamics
- MEEN 5311 - Convection Heat Transfer II
- MEEN 5340 - Advanced Fluid Mechanics
- MEEN 6050 - Continuum Mechanics
- MEEN 5440 - Finite Element Analysis

Electives, 24 hours

For students with a BS degree, 24 credit hours may be chosen from mechanical and energy engineering or biomedical fields, as approved by the major professor and the advisory committee. Examples of mechanical and energy engineering electives include MEEN 5110, MEEN 5410 and MEEN 5140. Of the 24 elective hours, no more than 12 can be BMEN courses.

For students with an MS degree, a minimum of 12 credit hours may be chosen from mechanical and energy engineering or biomedical engineering as approved by the major professor and the advisory committee. Examples of mechanical and energy engineering electives include MEEN 5110, MEEN 5410 and MEEN 5140. Examples of biomedical engineering electives include BMEN 5210 and BMEN 5310. Of the 12 elective hours, no more than 6 can be BMEN courses.

Individual Research, 21 hours

Dissertation, 9-12 hours

- MEEN 6950 - Doctoral Dissertation (minimum of 12 credit hours for students with BS degree and 9 credit hours for students with MS degree)

Seminar in Current Topics in Mechanical and Energy Engineering, 3 hours

All doctoral students are expected to attend MEEN 5940 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.

Mechanical and Energy Engineering, PhD

All students pursuing the doctoral 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 with a PhD degree is at least 72 semester credit hours beyond the bachelor's degree or 42 semester credit hours beyond the master's degree in mechanical engineering. The student needs to maintain at least a B average in all graduate courses.

Students entering with a BS

Students entering the PhD program with a bachelor of science must complete at least 72 semester hours at the graduate level as follows:

1. A minimum of 12 semester credit hours of core courses chosen from the courses listed in the Department of Mechanical Engineering (ME) Graduate Handbook.
2. A minimum of 9 semester credit hours of electives are selected from one of the three areas: general energy, thermal energy and fluids, or solid mechanics and controls. Courses are selected with approval of the student's dissertation advisor and graduate advisor.
3. A minimum of 15 semester credit hours of courses from mechanical and energy engineering and related fields approved by the dissertation advisor.
4. Up to 21 hours of research credits.
5. Up to 3 hours of seminar.
6. A minimum of 12 hours of dissertation (MEEN 6950) credit hours, which can be registered for only after successfully passing both the written and oral qualifying exams.

Students entering with an MS

Students entering the PhD program with a master of science degree in ME must complete at least 42 semester credit hours of course work as outlined below:

1. A minimum of 12 semester hours of core courses chosen from core courses.
2. A minimum of 9 semester credit hours of electives that are selected form one of three areas: general energy, thermal energy and fluids, or solid mechanics and controls. Courses are selected with the approval of the student's dissertation advisor and graduate advisor.
3. A minimum of 3 credit hours of courses at the 5000 level or higher offered by mechanical and energy engineering and related fields.
4. Up to 6 hours of research credit hours.
5. Up to 3 hours of seminar.
6. A minimum of 9 hours of dissertation (MEEN 6950) credit hours, which can be registered for only after successfully passing both the written and oral qualifying exams.

Examinations

1. Two written qualifying examinations in the following areas of specialization: general energy, thermal energy and fluids, or solid mechanics and controls.
2. After passing the written exam, students are required to complete and defend in an oral examination an original research proposal that, if executed, would lead to a PhD dissertation.
3. Upon passing the written and oral examination by the examination committee, the applicant is admitted to candidacy.
4. Details of the written examination schedule, expectations and criteria for successful completion are available in the Department of Mechanical Engineering.

5. A pre-dissertation presentation must be conducted between 6 and 12 months prior to final dissertation defense. This presentation is to the PhD committee members and open to the general public. Committee members will identify weaknesses and shortcomings in the research and will provide specific, actionable recommendations to strengthen the dissertation.
6. The student must give a final oral dissertation presentation to the dissertation committee and that is made open to the general public. The dissertation must be submitted to the committee at least seven days before the oral defense and the time and place of the presentation disseminated to the MEE faculty and students. The student will revise the dissertation following the suggestions of the dissertation committee and submit the final dissertation to the graduate school of UNT.

Graduate Academic Certificate

Energy certificate

The Department of Mechanical Engineering offers a graduate academic certificate in energy. The graduate academic certificate program requires 15 credit hours of course work and students must maintain at least a B average for all courses.

Admission to the program requires:

1. Bachelor's degree from a regionally accredited college or university.
2. GPA of 2.8 or above.

How to apply

Please submit the formal application online at https://tgs.unt.edu/.

For additional information, please contact Dr. Huseyin Bostanci at 940-369-5101 or by e-mail at MechanicalGraduate@unt.edu.

Certificate requirements, 15 hours

The student must complete course work as follows, and needs to maintain at least a B average for all graduate courses.

Core courses, 6 hours

- MEEN 5000 - Energy: The Fundamentals
- MEEN 5240 - Energy: A World Perspective

Elective courses, 9 hours

Three courses chosen from the following, or other courses chosen with the approval of the graduate advisor.

- EENG 5940 - Advanced Topics in Electrical Engineering (when topic is Renewable Electrical Power Systems)
- MEEN 5110 - Renewable Energy
- MEEN 5112 - Nuclear Energy
- MEEN 5200 - Principles of HVAC
- MEEN 5210 - Solar Energy
- MEEN 5300 - Advanced Thermodynamics
- MEEN 5315 - Nanoscale Energy Transport
- MEEN 5330 - Combustion Science and Engineering
- MEEN 5332 - Air Pollution Control Engineering
- MEEN 5800 - Topics in Mechanical and Energy Engineering (when topic is Energy Harvesting)

Graduate Minor

Mechanical and Energy Engineering minor for non-MEE major

A minor in mechanical and energy engineering is available for non-MEE majors. The minor consists of 12 credit hours of 5000 level or higher MEEN courses offered by the Department of Mechanical Engineering and approved by the graduate advisor.

College of Health and Public Service

Main Office
Chilton Hall, Room 289

Mailing address:
1155 Union Circle #311340
Denton, TX 76203-5017
940-565-2239
Web site: hps.unt.edu

Nicole Dash, Dean
Jody Sundt, Academic Associate Dean
Tristan Wu, Associate Dean for Research

Faculty

The College of Health and Public Service (HPS) at the University of North Texas, distinguished as one of the few Tier One research universities designated as a Hispanic-Serving Institution (HSI), prepares graduates to address diverse and complex social issues such as aging, disability, disaster management and recovery, criminal justice, health disparities, and public safety, and find solutions to challenges in public administration, public health, and urban design. We have seven academic departments with undergraduate and graduate programs, the Center for Public Management, the UNT Speech and Hearing Center, UNT WISE, UNT ELEVAR and several professional development and clinical training programs to facilitate careers to address a global society.

Programs of Study

HPS students are trained to lead nonprofits, become educators, researchers and professionals who strengthen the diverse communities we serve, with thoughtful, inclusive, and equitable practices as audiologists, behavior analysts, city managers, emergency managers, health care administrators, public safety administrators, public health specialists, rehabilitation counselors, speech language pathologists, social workers, urban planners, and more.

Master's level degrees offered by HPS include:

- MS in Behavior Analysis
- MA in Applied Behavior Analysis - offered 100% online.
- MS in Criminal Justice with both campus-based and 100% online program.
- MS in Emergency Management and Disaster Science.
- MS in Health Services Administration - offered 100% online.
- MS in Health Data Analytics
- MPA in Public Administration
- MS in Rehabilitation Counseling with both campus-based and 100% online programs. US News and World Report ranks this program as #1 in Texas and #12 in the nation (2019).
- MSW in Social Work
- MS in Speech Language Pathology

Doctoral degrees offered by HPS include:

- AuD in Audiology
- PhD in Health Sciences
- PhD in Public Administration and Management

Advising

For general information, contact the Toulouse Graduate School at GraduateSchool@unt.edu. For specific requirements for graduate programs, contact the college graduate advising office at HPSGradAdvising@unt.edu or the appropriate department chair or department graduate advisor.

Graduate Minor

Sociology of Aging minor

Students in other fields may choose sociology of aging for a minor.

Required courses

Required for minor in sociology of aging:

- AGER 5700 - Social Gerontology
- HLSV 5710 - Theories and Measures for Health and Wellness
- AGER 5780 - Federal, State and Local Programs in Aging
- AGER 5860 - Seminar on the Psychology of Aging

Department of Audiology and Speech-Language Pathology

Main Departmental Office
Speech and Hearing Center, Room 260
Mailing Address:
1155 Union Circle #305010
Denton, TX 76203-5017
940-565-2481
Website: https://hps.unt.edu/aslp/department-audiology-speech-language-pathology

Erin C. Schafer, Chair

Faculty

The primary goal of the Department of Audiology and Speech-Language Audiology is to prepare students to work professionally with individuals who have hearing and communication disorders, 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 or audiology. 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 Audiology and Speech-Language Pathology 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 and language disorders, motor speech disorders, vocal pathologies and swallowing disorders. Other ongoing research projects investigate communication assessment and rehabilitation techniques including hearing aids, cochlear implants, auditory processing in children and adults; discourse production in adults with acquired language disorders; and hearing loss in musicians.

Degree programs

The following graduate programs are available through the department:

- Master of Science (MS) with a major in speech-language pathology
- Doctor of Audiology (AuD)
- Health Sciences, PhD is offered in conjunction with the Department of Rehabilitation and Health Services

Accreditation

The Master of Science (MS) and Doctor of Audiology (AuD) education programs in Speech-Language Pathology and Audiology at the University of North Texas are accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language Hearing Association, 2200 Research Boulevard, #310, Rockville, MD 20850, 800-498-2071 or 301-296-5700.

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 audiology and speech-language pathology is competitive. Available facilities and clinical resources do not permit admission of all qualified applicants.

Steps to apply to our graduate programs may be found on our departmental website: https://hps.unt.edu/aslp/department-audiology-speech-language-pathology.

Currently, audiology and speech-language pathology graduate students are admitted only in the fall semester. Any future changes to these admissions cycles will be posted on the departmental web site, pending approval by the Toulouse Graduate School. For admission in the following fall semester, all required materials should be submitted by the application deadlines as stated on the departmental website for both graduate programs: https://hps.unt.edu/aslp/department-audiology-speech-language-pathology.

All required material must be on file with the Toulouse Graduate School 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. Information on application procedures is available through the Dean of the Toulouse Graduate School and on the departmental website: https://hps.unt.edu/aslp/department-audiology-speech-language-pathology.

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 the wholistic admission standards. In all cases the applicant is assured the right to due process.

Out-of-field individuals applying to the master's degree program in speech-language pathology must complete course work across 10 undergraduate content areas in communication sciences and disorders as specified by the department to be considered for admission into the master's program. Depending upon undergraduate preparation, additional undergraduate basic science course work in biological sciences, physical sciences, statistics and social/behavioral sciences may be necessary for those candidates who wish to pursue professional certification and licensure in speech-language pathology. However, this basic science distributional course work is not required for admission, as it may be completed following admission into the master's program and prior to earning the master's degree.

Students admitted to the Toulouse Graduate School as non-degree-seeking students are restricted from enrollment in any graduate-level courses in speech-language pathology and audiology. Non-degree-seeking students who register for any of these courses will be subject to administrative withdrawal. Non-degree-seeking students may enroll in undergraduate courses for undergraduate credit only.

Master's Degree

Speech-Language Pathology, MS

Two master's degree plan options are available: a non-thesis degree plan and a thesis degree plan. The master's degree plan options in speech-language pathology each consist of 39 graduate credit hours of course work.

- 39 semester hours of courses plus clinical practicum, or
- 33 semester hours of courses plus 6 semester hours of thesis credit plus clinical practicum.

A final comprehensive examination is required of all students who do not write a thesis. The comprehensive examination will focus upon the various content areas of speech-language pathology, including speech, language, swallowing and hearing, rather than upon specific courses that may constitute an individual degree plan. Those who write a thesis will defend their thesis to a thesis committee, on the basis of the thesis research topic area(s).

Program policies

1. Candidates must consistently maintain a 'B' grade point average (3.0 on a 4.0 scale) throughout their time in the program to remain eligible for the master's degree.
2. Candidates may earn a grade of 'C' or lower in no more than two academic courses within their degree plan to remain eligible for the master's degree, regardless of whether the course is repeated for a higher grade.

a. Candidates who earn a 'C' in a course may repeat the course to try to earn a higher grade in the course, but they may repeat said course only once. Candidates may repeat no more than two courses during the graduate program.

b. Candidates who are concurrently pursuing clinical certification and licensure and who earn a grade of 'C' or lower in any academic course within their degree plan are defined as not having demonstrated the knowledge and skills required for certification and licensure relative to that course content. To demonstrate the knowledge and skills associated with the course content, the candidate for certification and licensure will be required to complete additional learning activities after the end of the course, to document his or her mastery of all knowledge and skills associated with that course content, as defined in consultation with the course instructor and the Graduate Director. This may include re-taking the course to earn a grade of 'B' or higher. Once mastery of the knowledge and skills associated with the course is documented, the student remains eligible for clinical certification and licensure.

3. Candidates for clinical certification and licensure are expected to make satisfactory progress in clinical practicum/externship throughout their program. If a candidate for clinical certification and licensure does not earn a passing grade in clinical practicum/externship in any given term, the candidate will not receive credit for the clinical clock hours associated with said term. Clinical hours for a term in which the student does not pass clinical practicum/externship may not be applied toward the clinical clock hours required for clinical certification and licensure.
4. A student may be removed from the Master's Program in Speech-Language Pathology when failure to make satisfactory progress has been documented. Failure to make satisfactory progress toward earning the master's degree is documented by one or more of the following occurrences:
    a. a grade of 'C' or lower in more than two academic course enrollments as listed on the student's master's degree plan;
        i. repeated degree-plan courses in which the student earns a 'C' are included in the definition of failure to make satisfactory progress toward the master's degree
    b. failure to pass the comprehensive examination after three attempts in a 12-month period; or
    c. unsatisfactory defense of a master's thesis.
5. A student may no longer be eligible for clinical certification and licensure when failure to make satisfactory progress toward clinical certification and licensure has been documented. Failure to make satisfactory progress toward clinical certification and licensure is documented by one or more of the following occurrences:
    a. failure to make satisfactory progress toward earning the Master of Science in Speech-Language Pathology;
    b. a grade of 'NP' in two or more enrollments in clinical practicum/externship courses; or
    c. a grade of 'C' or lower in an academic course on the master's degree plan and a grade of 'NP' in a clinical practicum/externship course enrollment.
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 in adherence with appeal procedures set forth by the university.

Doctorate

Audiology, AuD

The department offers the Doctor of Audiology (AuD) degree. This is a 95-hour post-baccalaureate four-year degree and includes:

- 55 semester hours of academic courses and seminar credits, plus
- 40 semester hours of clinic courses and a clinic externship in the fourth year (ASLP 6010 through ASLP 6090).

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 externship. Prior to beginning the clinical externship, all students are required to complete a directed research project or its equivalent and pass formative and summative examinations.

In conjunction with the Department of Rehabilitation and Health Services, the department offers a concentration in audiology and speech-language pathology under the Health Sciences, PhD.

Program policies

1. Students must maintain a B average on courses taken for graduate credit.
2. Students may not earn more than two Cs in any academic courses during the duration of the program. If a third C is earned, the student must retake and earn a grade of A or B in one of the three courses in which a C was earned. No subsequent Cs may be earned in the academic program after the one course has been satisfactorily repeated.
3. Students are expected to make satisfactory progress in clinical practicum courses (ASLP 6010 through ASLP 6090) throughout their program. Students may not earn a grade of C in any clinic course. If a student earns a C in a clinic course, the student must retake and earn a grade of A or B in the clinic course. No more than one clinic course, in total, may be repeated.
    - If a student receives a grade of C in a clinic course, the student will not receive clinical clock hours for that course.
4. A student may be removed from the audiology program under the following circumstances:
    - Failure to make satisfactory progress in academic, clinic or both types of courses as described in policy point 1, 2 and 3 above.
    - Failure to pass the formative or summative examination after three attempts within a 12-month period.
5. Students may appeal decisions 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.

Required academic courses, 45 hours

There are 45 semester hours of required academic coursework for the AuD program.

- ASLP 5775 - Research Methods in Speech-Language Pathology/Audiology
- ASLP 6070 - Clinical Management of Audiological Services
- ASLP 6200 - Neuroanatomy and Neurophysiology of the Auditory and Vestibular System
- ASLP 6650 - Audiologic Assessment
- ASLP 6660 - Hearing Science
- ASLP 6670 - Medical Audiology

- ASLP 6680 - Pediatric Audiology
- ASLP 6690 - Hearing Aids I
- ASLP 6695 - Hearing Aids II: Strategies for Selecting and Fitting Hearing Aids
- ASLP 6700 - Vestibular Sciences and Disorders
- ASLP 6720 - Cochlear Implants
- ASLP 6750 - Advanced Audiologic Assessment
- ASLP 6770 - Electrophysiologic Assessment
- ASLP 6990 - Research Project

Seminar in Audiology, 10 hours

Students complete 10 credit hours of topical seminars. Seminar topics consider current research, clinical or professional trends, and issues in audiology. Topics may change to reflect professional advances in the discipline.

- ASLP 6730 - Seminar in Audiology

Clinical courses, 40 hours

There are 40 semester hours of required clinical coursework for the AuD program

- ASLP 6010 - Clinical Audiology Observation
- ASLP 6020 - Clinical Audiology Practicum

  Students are required to complete a total of 4 credit hours of ASLP 6020.
- Practicum I - 2 hours
- Practicum II - 2 hours
- ASLP 6060 - Clinical Audiology Advanced Practicum

  Students are required to complete a total of 10 credit hours of ASLP 6060.
- Practicum I - 2 hours
- Practicum II - 2 hours
- Practicum III - 2 hours
- Practicum IV - 2 hours
- Practicum V - 2 hours
- ASLP 6090 - Clinical Residence in Audiology

  Students are required to complete a total of 24 credit hours of ASLP 6090.
- Fall - 9 hours
- Spring - 9 hours
- Summer - 6 hours

Department of Behavior Analysis

Main Office
Chilton Hall, Room 360

Mailing address:
1155 Union Circle #310919
Denton, TX 76203-5017
940-565-2274
Web site: hps.unt.edu/behv/welcome-behavior-analysis

Karen Rader Toussaint, Chair

Faculty

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 may be 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

The Department of Behavior Analysis offers a broad array of opportunities for graduate and undergraduate students to get involved with research. Laboratories are supervised by faculty members and provide experiences in applied behavior analysis, behavioral neuroscience, cultural and systems analysis, and the experimental analysis of behavior. The department provides an opportunity to work with a variety of human populations in a variety of contexts, from laboratories, clinics, schools, and businesses. The department also offers opportunities to work with nonhuman populations in the laboratory setting.

Current research is in the areas of animal training, behavioral neuroscience, behavioral interventions for individuals with autism across the lifespan, comparative psychology, computational models of behavior, functional analysis and treatment of severe behavior disorders, memory, organizational behavior management, organization of behavior in cultures and systems, and response variability.

Admission requirements

Admission to the master's program in behavior analysis is based on combined information from several sources: 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. Students without the prerequisites may still apply

for admission into the graduate program and complete a "leveling" course (offered online in the summer semester) that fulfills the prerequisite requirement. 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

Applied Behavior Analysis, MA

This professional practice degree program provides the knowledge base for effective and compassionate practice in behavior analysis and meets the course work specifications of the Behavior Analysis Certification Board (BACB). The degree allows for flexibility by offering a full sequence of asynchronous online courses each semester. Students may attend full-time or part-time.

Admissions

This program accepts applications year-round; students can apply for Spring, Summer, or Fall semesters. For more information, please see the application page on our website.

Transfer Courses

Applicants to the MA program may substitute BEHV 5613 (Ethics) and/or BEHV 5634 (Staff Performance) with coursework taken in another Verified Course Sequence as long as:

- The coursework was completed in a Behavior Analysis Certification Board (BACB) or Association for Behavior Analysis International (ABAI) Verified Course Sequence and covered the same number of content hours as the course(s) they wish to replace (i.e., BEHV 5613 and/or BEHV 5634);
- The coursework was completed with the grade of B or higher; and
- All coursework taken to satisfy the MA degree requirements, including transferred coursework, must be completed within five years.

A coursework evaluation form is completed to ensure equivalency for applicants wishing to transfer in coursework.

Degree requirements

For the Masters of Arts, students complete 30 semester credit hours, including the completion of a capstone seminar.

Students must maintain a minimum GPA of 3.0. A grade of B or higher is required to pass a class and proceed to the sequence's next course(s). Earning a grade lower than a B is considered failing and requires that the student retake the class. When retaking a class, students may not take it with any other class for which the class they are retaking is a prerequisite.

Required courses, 27 hours

The MA Behavior Analysis is a cumulative, hierarchal curriculum. Courses must be completed in numerical sequence.

- BEHV 5600 - ABA Foundations, Concepts and Principles
- BEHV 5612 - Meaningful Assessment in Behavioral Practice
- BEHV 5613 - Culturally Responsive Ethics in Behavioral Practice
- BEHV 5616 - ABA Issues: Effective Communication and Collaboration in Behavioral Practice
- BEHV 5617 - Behaviorism and the Philosophy of Science
- BEHV 5619 - Fundamentals and Techniques of Compassionate and Effective Behavior Change
- BEHV 5622 - Evidence-Based Practice: Understanding and Using Applied Behavior Analytic Research
- BEHV 5627 - ABA Issues: Behavioral Practice in Autism
- BEHV 5634 - Improving Staff Performance in Behavioral Practice

Capstone, 3 hours

The capstone aims to enhance readiness for careers in applied behavior analysis, including preparing for professional credentialing as a Board Certified Behavior Analyst. Students review key concepts and principles, deepen their understanding of philosophical foundations, assess and improve their competencies in ABA, and develop personalized plans for professional development. They demonstrate their knowledge through a comprehensive capstone project describing appropriate assessment, measurement, intervention, and analysis of a hypothetical case in their area of practice.

- BEHV 5636 - ABA Capstone: Compassion and Science in Behavioral Practice

Behavior Analysis, MS

This program establishes knowledge and skills that allow graduates to:

- Compete successfully in the job market and make significant contributions to society;
- Contribute to the discipline of behavior analysis and to the community by conducting applied and basic research that furthers understanding of human and nonhuman behavior and results in demonstrable positive behavior change;
- Develop behavioral solutions for social problems; and,
- Form lasting partnerships in DFW and at regional, national, and international levels.

Admissions

This program accepts one cohort per year and classes begin in the Fall semester. For information on application requirements, please see the application page on our website. The deadline for Fall applications is January 15th.

Program Requirements

The Masters of Science is a 48 credit-hour program. Students must complete 33 required credit hours of course work, 5 credit hours of electives, 4 credit hours of practicum, and 6 hours of thesis credits.

Required courses, 33 hours

- BEHV 5000 - Observation and Measurement of Behavior and Environment
- BEHV 5010 - Experimental Analysis of Behavior
- BEHV 5020 - Theory and Philosophy in Behavior Analysis
- BEHV 5100 - Introduction to Behavior Analysis
- BEHV 5140 - Research Methods in Behavior Analysis
- BEHV 5150 - Techniques in Applied Behavior Analysis
- BEHV 5500 - Functional Analysis and Behavior Disorders
- BEHV 5540 - Legal, Ethical and Professional Issues in Behavior Analysis
- BEHV 5560 - Development of Behavior Intervention Programs
- BEHV 5570 - Training and Supervision of Staff in Human Service Settings
- BEHV 5770 - Stimulus Control

Elective courses, 5 hours

Students may choose any graduate-level electives offered by the Behavior Analysis Department and may take electives outside of the department with the approval of their Graduate Student Advisor or Thesis Chair.

Practicum, 4 hours

- BEHV 5810 - Practicum
- BEHV 5815 - Practicum

Thesis Research, 6 hours

- BEHV 5950 - Master's Thesis

Graduate Academic Certificate

Applied Behavior Analysis certificate

The purpose of this certificate is to:

- provide the knowledge base for effective and compassionate practice in behavior analysis
- meet the course work specifications of the Behavior Analysis Certification Board (BACB). Please note that to fulfill the course work requirements set by the Behavior Analyst Certification Board (BACB), students must complete the six designated courses listed below, in addition to BEHV 5627 and BEHV 5634. These two additional courses are required to meet the BACB's current course work requirements.

Required courses, 18 hours

The graduate academic certificate in behavior analysis requires completion of the following:

- BEHV 5610 - ABA Foundations, Concepts and Principles 1
- BEHV 5612 - Meaningful Assessment in Behavioral Practice
- BEHV 5613 - Culturally Responsive Ethics in Behavioral Practice
- BEHV 5618 - ABA Foundations, Concepts and Principles 2
- BEHV 5619 - Fundamentals and Techniques of Compassionate and Effective Behavior Change
- BEHV 5622 - Evidence-Based Practice: Understanding and Using Applied Behavior Analytic Research

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

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: cjus.hps.unt.edu

Adam Trahan, Chair
Jessica Craig, Director of Graduate Programs

Faculty

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. Both campus-based and online criminal justice courses are offered.

Research

Applied research projects and community-engaged scholarship are conducted by the Department of Criminal Justice. Some of the current research focuses on capital punishment, cyber crime, theories of crime, 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.

MSCJ with a concentration in Justice Policy and Administration-Online Program

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. two letters of recommendation (academic or professional), and
4. personal statement.

The personal statement is sent directly to the department program 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:

Jessica Craig, PhD
Director of Graduate Programs
University of North Texas
Department of Criminal Justice
1155 Union Circle #305130
Denton, TX 76203-5017
or via e-mail to MSCJ-Advising@unt.edu

MSCJ with a concentration in Theory and Research – Face-to-Face Program

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. two letters of recommendation (academic or professional), 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:

Jessica Craig, PhD
Director of Graduate Programs
University of North Texas
Department of Criminal Justice
1155 Union Circle #305130
Denton, TX 76203-5017
or via e-mail to MSCJ-Advising@unt.edu

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 with a concentration in Justice Policy and Administration, MS

The program requires satisfactory completion of a minimum of 36 hours beyond the bachelor's degree. The degree includes the core curriculum of 12 hours, which must be completed by all students.

Admission requirements

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. two letters of recommendation (academic or professional), and
4. personal statement.

The personal statement is sent directly to the department program 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:

Jessica Craig, PhD
Director of Graduate Programs
University of North Texas
Department of Criminal Justice
1155 Union Circle #305130
Denton, TX 76203-5017
or via e-mail to MSCJ-Advising@unt.edu

Required courses, 12 hours

- CJUS 5000 - Criminal Justice Policy
- CJUS 5500 - Seminar in Criminal Justice Administration
- CJUS 5600 - Advanced Criminological Theory
- CJUS 5700 - Evaluation and Research Methodologies

Comprehensive examination

The degree requires each student pass a written comprehensive examination covering the core curriculum of criminal justice policy, criminological theory, research methods, and criminal justice administration.

All course work applied toward the Master of Science with a major in criminal justice must be at the 5000 level.

Additional information

The Department of Criminal Justice does not participate in the MA or MS interdisciplinary studies degrees. Therefore, criminal justice cannot be an academic area within the MA or MS in interdisciplinary studies degrees.

For department approved enrollment, students must not be an MSCJ on-campus student and not be pursuing an academic certificate. In addition, students who are non-degree or in the GDES category are not allowed to take certain courses without department approval.

Criminal Justice with a concentration in Theory and Research, MS

The program requires satisfactory completion of a minimum of 36 hours beyond the bachelor's degree. The degree includes the core curriculum of 12 hours, which must be completed by all students.

Admission requirements

To receive admission to the master's degree program with a major in criminal justice and concentration in theory and research, applicants must have a grade point average of 3.0. Any changes to the above standards must be approved by the department graduate committee.

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. two letters of recommendation (academic or professional), 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:

Jessica Craig, PhD
Director of Graduate Programs
University of North Texas
Department of Criminal Justice
1155 Union Circle #305130
Denton, TX 76203-5017
or via e-mail to MSCJ-Advising@unt.edu

Required courses, 12 hours

- CJUS 5000 - Criminal Justice Policy
- CJUS 5600 - Advanced Criminological Theory
- CJUS 5700 - Evaluation and Research Methodologies
- CJUS 5750 - Criminal Justice Statistics

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. 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.

Additional information

The Department of Criminal Justice does not participate in the MA or MS in interdisciplinary studies degrees. Therefore, criminal justice cannot be an academic area within the MA or MS in interdisciplinary studies degrees.

For department approved enrollment, students must not be an MSCJ online student and not be pursuing an academic certificate. In addition, students who are non-degree or in the GDES category are not allowed to take certain courses without department approval.

Graduate Minor

Criminal Justice minor

Students in other fields may choose criminal justice for a minor. Students selecting criminal justice as a minor are required to complete 9 hours of graduate work in criminal justice.

Department of Emergency Management and Disaster Science

Main Office
Chilton Hall, Room 302

Mailing Address
1155 Union Circle #310637
Denton, TX 76203-5017
940-369-7445
Web site: emds.hps.unt.edu

Laura Siebeneck, Chair

Faculty

The Department of Emergency Management and Disaster Science educates students in the theoretical and empirical underpinnings of emergency management. Primary emphasis is placed upon the human dimensions of hazards, and enhancing community and societal resilience to a wide range of threats.

The department is home to the emergency administration and planning (EADP) program, which was established in 1983 as the nation's first bachelor's degree program in emergency management. At the graduate level, the Master of Science with a major in emergency management and disaster science provides students an in-depth knowledge of the diverse theoretical perspectives and empirical research traditions that underlie and inform the practice of emergency management. It provides a solid academic and practical foundation for those seeking to begin or advance their careers in emergency management or pursue doctoral studies in a hazard- or disaster-related discipline.

In addition to taking required courses in emergency management theory, methods and statistics, students may select from a range of electives covering such topics as challenges of disaster response, disaster preparedness and management, community recovery and resilience, international disasters, and others.

Research

The department's faculty come from diverse educational and professional backgrounds and bring a breadth of knowledge and experience to the classroom. They have written books on emergency management topics and have been published in many of the top scholarly journals on hazards and emergency management. Importantly, faculty have received significant external funding for their research from numerous sources, including the National Science Foundation, the Texas Department of Public Safety and others. Current research topics include community disaster preparedness, evacuation and return entry decision making, donations management, post-disaster home buyout programs, long-term community recovery, and others.

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 emergency management and disaster science program. Applications are reviewed for admission in the fall or spring semesters. Applications are not reviewed for summer admission.

The Master of Science with a major in Emergency Management and Disaster Science program conducts a holistic review of the application packet, including each applicant's undergraduate GPA in the major, a personal statement not exceeding 500 words, two letters of recommendation, a writing sample of 1,000 words or less, and, as an option, GRE scores, including verbal, quantitative, and analytical writing.

Master's Degree

Emergency Management and Disaster Science, MS

The Master of Science with a major in emergency management and disaster science requires 30 hours of course work, including 24 hours in EMDS and 6 hours of electives from any field. Students may choose either a thesis or a non-thesis option.

Required courses, 9 hours

- EMDS 5010 - Emergency Management Theory and Practice
- EMDS 5110 - Disaster Research Methods
- EMDS 5120 - Applied Statistics in Disaster Science

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 9 hours, 9 hours of electives in emergency management and disaster science, 6 hours of electives from any field, and 6 hours of thesis. Students selecting the thesis option must have departmental consent to enroll in thesis and must successfully complete a thesis defense. Students selecting the non-thesis option will be required to complete the core curriculum of 9 hours, 12 hours of electives in emergency management and disaster science, 6 hours of electives from any field, and 3 hours of directed readings. 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 emergency management and disaster science must be at the 5000 level.

Department of Kinesiology, Health Promotion and Recreation

Main Office location:
Physical Education Building, Room 209

Mailing address:
1155 Union Circle #310769
Denton, TX 76203-5017
Department phone number: 940-565-2651
Department web site: coe.unt.edu/kinesiology-health-promotion-and-recreation

Jakob Vingren, Chair

Faculty

Graduate Programs

The Department of Kinesiology, Health Promotion and Recreation offers graduate programs leading to 1) Master of Science in kinesiology with concentrations in exercise physiology, sport and exercise psychology and sport pedagogy and 2) PhD in Human Performance and Movement Science with tracks in 1) applied physiology and 2) human performance psychology.

The degrees offered and the career opportunities afforded by the degree programs are outlined in the program descriptions below.

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).

Kinesiology, MS

Admission to the master's program in Kinesiology, Health Promotion, and Recreation involves an application process. Each applicant must apply to UNT through GradCAS and submit official transcripts. Then, Graduate Admissions will process the application and send it to the department for review and final decision. See tgs.unt.edu/future-students/graduate-admissions/ for more information.

Minimum Requirements

- Earn a bachelor's degree from a regionally accredited college or university.
- Earn a 3.0 grade point average or higher on all undergraduate work OR a 3.25 GPA on the last 60 hours of your undergraduate degree OR a 3.4 GPA on your master's degree.
- A typed personal statement uploaded to the online application 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.

Human Performance and Movement Science, PhD

Admission to the doctoral program in Health Performance and Movement Science (HPMS) in the Kinesiology, Health Promotion, and Recreation (KHPR) Department is a multi-step process. Each potential applicant must secure a major professor (faculty advisor/mentor) **prior to applying**. Once secured, potential applicants will then need to apply to UNT through GradCAS and submit official transcripts. Then, Graduate Admissions will process the application and send it to the department for review and final decision. The potential major professor will review all application materials, with input from other HPMS graduate faculty and decide on admission based on a holistic consideration of all information provided. No single quantitative or qualitative measure, or any specific combination thereof, constitutes a definitive standard for admission. See tgs.unt.edu/future-students/graduate-admissions/ for more information.

Minimum Requirements

- Have completed a bachelor's or master's degree from a regionally accredited institution (or equivalent) in Kinesiology or related field.
- Typical GPA scores for successful applicants will be approximately 3.5 and above (on a 4.0 scale) for both bachelor's and master's degree holders who are applying to the program. However, GPA scores are listed for advisory purposes only and will not be the only deciding factor under consideration. If applicable, scores of 79 on the internet-based TOEFL, 550 on the paper-based TOEFL, or 6.5 on the IELTS will be expected.
- Have official transcripts from each college or university you have attended sent to the Toulouse Graduate School. Submit documents to:

University of North Texas
Toulouse Graduate School
1155 Union Circle #305459 (USPS)
1147 Union Circle, ESSC Room 354 (UPS/FedEx)
Denton, TX 76203
Email: GradAdmission@unt.edu
Phone: 940-565-2383
Fax: 940-565-2414

- Provide required supplemental materials:
  - Resume or Curriculum Vitae (CV).
  - Personal Statement (750-word maximum) that addresses the following:
    - How does your background make you a good candidate/fit for the program?
    - Research interests and experiences.
    - Selection of a faculty mentor/ advisor including why you would select them.
    - Career goals related to academia, industry, government, or other positions.
  - List of three references including contact information.
  - Provide an acceptable score on either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) for applicants whose native language is not English and if not the holder of a bachelor's or master's degree from an institution in the USA.

Note: Graduate Record Examination (GRE) scores will not be required for admission.

Master's Degree

Kinesiology, MS

The primary aims of the kinesiology program 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 a concentration in exercise physiology, sport and exercise psychology, or sport pedagogy.

Career opportunities include teaching, research, fitness leadership, sport psychology, coaching, athletic competition, sports performance, rehabilitation, and other allied health roles. Students may also choose to continue their graduate education by joining Ph.D. programs once graduated. Our alumni can be found in colleges, universities, government agencies, businesses, hospitals, and schools.

Research

Research is a fundamental component of our kinesiology master's program. Students will have numerous opportunities to participate in groundbreaking research in labs directed by department faculty. Current research areas include motor behavior and development, exercise physiology, sport performance and recovery, nutrition, immunology, obesity and cardiometabolic disease, sport sociology, psychosocial aspects of sport and exercise, exercise psychophysiology, stress reactivity, cerebral blood flow regulation, cognitive and brain function, exercise and physical activity interventions, and health disparities.

Financial support of faculty research comes from internal research grants, instructional grants, and external funding agencies.

Degree requirements, minimum of 36 hours

The Master of Science 36 credit hour degree includes a 9 credit hour core curriculum of courses in kinesiology (KINE). Students will take 21 to 24 credit hours of additional elective coursework that allows for the development of a concentration in exercise physiology, sport and exercise psychology, or sport pedagogy. Students must complete a 3 to 6 credit hour culminating experience to qualify for graduation (see culminating experience options below).

Kinesiology core, 9 hours

- KINE 5100 - Research Perspectives in Kinesiology, Health Promotion and Recreation
- KINE 5150 - Quantitative Procedures in Exercise and Sport Sciences
- KINE 5200 - Professional Development in Kinesiology

Electives, 21 to 24 hours

Select 21 to 24 credit hours of electives in consultation with advisor. No more than 6 credit hours should be taken outside the KINE program.

Culminating experience, 3 to 6 hours

Select one of the options below in consultation with advisor.

Thesis

- KINE 5950 - Master's Thesis

Non-Thesis

- KINE 5850 - Sport and Exercise Psychology Practicum
- KINE 5860 - Practicum, Field Problem or Internship
- KINE 5920 - Research Problems in Lieu of Thesis

Doctorate

Human Performance and Movement Science, PhD

The Department of Kinesiology, Health Promotion and Recreation (KHPR) offers coursework leading to a Ph.D. in Human Performance and Movement Science with tracks in Applied Physiology and Human Performance Psychology.

Research

The Human Performance and Movement Science Ph.D. program provides doctoral-level research training and educational opportunities to students interested in human performance and disease prevention through movement science. Students will gain knowledge and conduct research on the interrelatedness between physical activity and health in an effort to reduce health disparities in minoritized populations through physical activity and lifestyle change.

Requirements

The Human Performance and Movement Science, Ph.D. program is an apprenticeship-style program designed for students who have earned a bachelor's or master's degree in Kinesiology or a related field, to pursue doctoral-level research training and education aimed at improving human health in underrepresented populations.

The doctoral program in human performance and movement science requires a minimum of 42 credit hours of coursework and 12 hours of dissertation for those admitted with a master's degree. Those admitted without a master's degree will be required to complete a minimum of 36 additional credit hours of coursework.

Required coursework for all doctoral students, 42 hours

All courses are 3 credit hours each unless otherwise noted.

Kinesiology Core, 6 hours

- KINE 5100 - Research Perspectives in Kinesiology, Health Promotion and Recreation
- KINE 5150 - Quantitative Procedures in Exercise and Sport Sciences

Statistics Core, 6 hours

Select 6 credit hours of doctoral-level statistics courses.

Professional Development Core, 12 hours

- KINE 6010 - Seminar in Human Performance and Movement Science (1 credit hour x 4 semesters)
- KINE 6910 - Independent Research (2 credit hours x 4 semesters)

General Electives, 6 hours

Select 6 credit hours of graduate-level courses in consultation with advisor.

Prescribed courses (Applied Physiology track), 12 hours

- KINE 5290 - Current Topics in Exercise Physiology
- KINE 5390 - Physiological Assessment in the Health Sciences
- KINE 6190 - Neuromuscular Physiology of Exercise
- KINE 6200 - Cardiovascular Physiology of Exercise

Prescribed courses (Human Performance Psychology track), 12 hours

- KINE 5310 - Exercise and Fitness for Special Populations
- KINE 5450 - Implementing Health/Fitness Programs
- KINE 6135 - Exercise and Health Psychology II
- KINE 6150 - Current Topics in Human Performance Psychology

Additional required coursework for doctoral students entering with a bachelor's degree, 36 hours

Students entering with a bachelor's degree will have the opportunity to obtain a pass-through master's degree (Kinesiology, M. S.) upon completion of the Kinesiology, M. S. program requirements totaling a minimum of 36 credit hours (78 credit hours total minimum).

All courses are 3 credit hours each, unless otherwise noted.

Kinesiology Core, 3 hours

- KINE 5200 - Professional Development in Kinesiology

Culminating Research Experience, 6 hours

Select 6 credit hours of a culminating research experience in consultation with advisor.

- KINE 5920 - Research Problems in Lieu of Thesis
- KINE 5950 - Master's Thesis

Kinesiology electives, 18 hours

Select 18 credit hours of graduate-level KINE courses in consultation with advisor.

General Electives, 9 hours

Select 9 additional credit hours of graduate-level courses in consultation with advisor.

Dissertation, 12 hours

All doctoral students are required to complete a minimum of 12 credit hours of dissertation after all coursework is complete and the Qualifying Exam is passed.

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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: padm.hps.unt.edu

Simon A. Andrew, Chair

Faculty

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. The department also offers a bachelor's degree in nonprofit leadership studies and urban policy and planning. Additionally, it also offers a minor in public administration, nonprofit management, urban policy and planning, and alternative dispute resolution. Finally, the program offers two certificates, one in alternative dispute resolution and the other in volunteer and community resource 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, 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, nonprofit management, alternative dispute resolution, cultural competency issues, capital spending for infrastructure, and property tax policy and administration.

Faculty have published in a number of influential journals including: *Public Administration Review, State and Local Government Review, Urban Studies, Urban Science, Journal of Planning Education and Research, International Journal of Public Administration, Journal of Public Affairs Education, Public Performance and Management Review, Disasters, Journal of Homeland Security and Emergency Management, Natural Hazards, Disaster Prevention and Management, Public Budgeting and Finance, American Review of Public Administration, Journal of Nonprofit Education and Leadership, Journal of Public and Nonprofit Affairs, and a number of others.* The faculty have also authored, co-authored or edited books including: *A Revenue Guide for Local Government; Texas Politics; Budgeting: A Guide for Local Government; The Effective Local Government Manager; The Nature of the Nonprofit Sector; Understanding Nonprofit Organizations,* and *Zoning: A Guide for 21st Century Planning.*

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 maintains a close affiliation with 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.

Master's Degree

Public Administration, MPA

The mission of the MPA program is to prepare leaders for public and nonprofit organizations through an innovative curriculum and dedicated teaching; creating and disseminating knowledge to the field of public administration through interdisciplinary research and professional development activities; and serving the profession and the community to promote democratic governance and enhance quality of life.

Current information may be obtained by accessing the department's web site at https://hps.unt.edu/master-public-administration-mpa.

The MPA degree is accredited by the Network of Schools of Public Policy, Affairs, and Administration (NASPAA) (1029 Vermont Avenue NW, Suite 1100, Washington, DC 20005; 202-628-8965). The curriculum conforms to NASPAA standards.

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 MPA program. Applications to the MPA program are reviewed throughout the year.

The Master of Public Administration program uses a holistic review process for considering applications for admission. The application packet includes official transcripts for all college work (from which a grade point average is computed). Additional information may be requested for review, including up to 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, or a current resumé. These additional materials, if requested, may be submitted to the department directly at mpa@unt.edu. Department application deadlines conform to university deadlines for applications, as indicated on the university's website.

Degree requirements

The MPA degree requires 36 to 40 semester credit hours, depending on work experience. Depending on the length and level of managerial experience, students accepted into the program are placed into one of three categories: pre-career, in-career, or mid-career. Pre-career is for students with no managerial experience, and requires 40 hours of graduate course work, including an internship. In-career is for students with less than three years of full-time public management experience. It requires 39 hours of graduate course work. Mid-career is for students with three or more years of full-time, executive management experience, and requires 36 hours of graduate course work. The internship is not required for in-career or mid-career students.

Required courses (18 hours)

- PADM 5010 - Public Administration and Society
- PADM 5020 - Leading and Managing Public Organizations
- PADM 5030 - Managing Human Resources
- PADM 5420 - Revenue Policy and Administration
- PADM 5400 - Managing Financial Resources
- PADM 5500 - Administrative Research Methods I

Elective courses (18-21 hours)

Pre-Career and Mid-Career students must take six electives for 18 hours of credit. In-Career students must take 7 courses for 21 hours of credit.

Internship requirements

The purpose of the MPA internship is to provide pre-career students the opportunity to gain administrative experience in a public or nonprofit organization. It is required of all MPA students, unless they have a waiver of the requirement from the MPA Program

Coordinator. Students interested in pursuing the MPA as In-Career or Mid-Career students are encouraged to send an email to the MPA Program Coordinator at mpa@unt.edu prior to New Student Orientation.

Internships must be paid and at least 440 hours of employment. If one internship is less than the minimum number of hours, an additional internship must be completed to receive academic credit for PADM 5800. Pre-career students must register for PADM 5035 in the first or second semester of the program and before beginning an internship appointment. This course prepares students for the internship with resumé and interview preparation, and discussions of professional and ethical conduct. Pre-career students must register for PADM 5800 in the semester that coincides with their final internship hours.

- PADM 5035 - Professional Practice for Public Managers
- PADM 5800 - Public Management Internship

Doctorate

Public Administration and Management, PhD

The PhD with a major in public administration and management is designed primarily for those interested in scholarly careers as researchers and teachers. Currently, 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 resumé, 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 https://hps.unt.edu/public-administration-and-management-phd.

Official transcripts and test scores must be sent directly to the Toulouse Graduate School by the institution and ETS, respectively. Letters of recommendation, the resumé 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 57 hours of graduate credit beyond the master'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 (9 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 9 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 and Health Services

Main Office
Chilton Hall, Suite 218

Mailing address:
1155 Union Circle #311456
Denton, TX 76203-5017
940-565-2488
Web site: rhs.hps.unt.edu/

Rachita Sharma, Chair
Melissa Gaa, Coordinator of Rehabilitation Counseling Programs (MS)
Liam O'Neill, Coordinator of Health Services Administration (MS)
Benedict Jikong, Coordinator of Health Data Analytics (MS)
Rachita Sharma, Coordinator of Health Services Research (PhD)

Faculty

Degree Programs

The following graduate programs are available through the department:

- Rehabilitation Counseling, MS
- Health Services Administration, MS
- Health Data Analytics, MS
- Health Sciences, PhD

Our department also offers graduate and post-graduate certificate programs in:

- Rehabilitation Counseling advanced certificate
- Health Services Administration certificate

Departmental overview

Our department prepares professionals to enhance the lives of diverse populations including the aging population, individuals with disabilities, substance use disorders and/or chronic health concerns through training in advanced research, education and service delivery, or clinical practice. Our innovative programs offer students options for pursuing advanced degrees in various areas of rehabilitation and health services. Our department's excellence is demonstrated through our students, faculty, and the community outreach programs they maintain.

Career opportunities and accreditation

The Master of Science in Rehabilitation Counseling prepares graduates to work with adults or adolescents who are 16 years of age or older and who have a physical, developmental, cognitive, emotional, sensory, psychiatric, and/or substance use impairment or disorder and require assistance with attaining or maintaining employment or independent living needs. Rehabilitation counselors find employment with state and federal agencies that provide rehabilitation counseling services to individuals with disabilities (e.g., Texas Workforce Solutions Vocational Rehabilitation Services, Department of Veteran Affairs), private rehabilitation agencies, independent living centers, employee assistance programs, hospitals and clinics, mental health organizations, public school programs, employer-based disability prevention and management programs, substance and alcohol abuse treatment centers, and college and university disability accommodation offices. Our graduates are also employed in private practices providing counseling services.

Our rehabilitation counseling graduate program is accredited by the Council on Accreditation of Counseling and Related Educational Programs (CACREP). Graduates from this program are eligible for national certification as a Certified Rehabilitation Counselor (CRC) as well as licensure as a professional counselor in the state of Texas (LPC). Graduates may also be eligible for licensure as professional counselors in other states.

The Master of Science with a major in Health Services Administration offers the opportunity for graduates to assume leadership roles in healthcare delivery settings that serve a larger spectrum of the population. The program is designed to provide a broad foundation in healthcare delivery systems; management strategies; ethical and legal issues in the healthcare environment; the role of Information systems and technology in high-quality and efficient care delivery; marketing health services; and the principles of sound financial management.

Our Master of Science in Health Data Analytics shows graduates the importance of tracking data in a healthcare setting, such as knowing the number of occupied beds in hospitals, as well as understanding the bigger picture of healthcare delivery so organizations can make better decisions. Graduates also learn to view and compare valuable healthcare analytics examples like the number of admissions, cost, diagnosis by department division, and more, all in one place. The program also teaches students how to design tiered marketing plans for healthcare organizations; the role of Information systems and technology in high-quality and efficient care delivery; how to compare and contrast healthcare reimbursement plans in the healthcare marketplace; how to construct a comprehensive business plan for a healthcare organization; and more. This program can be completed 100% online, in a hybrid format, or on campus. It qualifies as a STEM program that offers international students three years of OPT after graduation and will comply with international student visa requirements.

The Doctor of Philosophy program in Health Sciences provides a broad interdisciplinary foundation in research and evaluation methods, and health and social policy analysis to meet the demands of a dynamic health delivery environment for individuals with health-related concerns, chronic health conditions, and disabilities, across the lifespan. The inter-professional education focus is on developing academic research scientists who are interested in contributing to complex health needs through research, education, and policy analysis. Students are admitted into one of four concentrations in the doctoral program. These include Applied Aging and Rehabilitation Studies (AARS), Behavior Analysis (BEHV), Audiology and Speech-Language Pathology (ASLP), and Physicians Assistance Preparation Studies (PAPS). Graduates of the PhD program in health sciences will be prepared to function as educators, researchers, and leaders in clinical and non-clinical academic and research environments.

Admission requirements

Admission to any graduate degree program within our department is contingent upon admission to the Toulouse Graduate School. Criteria for admission are detailed in the Admission section of this catalog. All program applications entail a process that is complete via GradCAS.

Applications to the graduate program in Rehabilitation Counseling are reviewed throughout the year; students can be accepted to begin the program in the spring or fall semesters, however, they are encouraged to enter the program in the fall term/semester. Acceptance to the program is a competitive process with successful applicants having a satisfactory GPA in addition to satisfactory letters of recommendation, self-statement, relevant work/volunteer experience and an interview with program faculty. Applicants may choose to submit Graduate Record Examination (GRE) scores (exam must have been taken within the last 5 years) however GRE scores are not required.

Applicants for the master's degree in Health Services Administration must obtain and file a program-specific application for admission to the program. No specific undergraduate major is required. Applicants may choose to submit Graduate Record Examination (GRE) scores (exam must have been taken within the last 5 years) however GRE scores are not required. No specific undergraduate major is required.

Applicants for the master's degree in Health Data Analytics must obtain and file a program-specific application for admission to the program. No specific undergraduate major is required however applicants with various medical science backgrounds are encouraged to apply. Applicants may choose to submit Graduate Record Examination (GRE) scores (exam must have been taken within the last 5 years) however GRE scores are not required. No specific undergraduate major is required. All international applicants are expected to complete the Test of English as a Foreign Language (TOEFL), or an equivalent official English proficiency exam. The English proficiency exam should be no more than two years old from the date of application.

Applicants for the doctoral program in Health Sciences must obtain and file a program-specific application, available via GradCAS, for admission to the health sciences program. No specific undergraduate or graduate major is required. However, applicants for the PhD program in health sciences should have completed 30 hours of graduate course work beyond the undergraduate degree or attained a master's degree or equivalent professional degree. Applicants may choose to submit Graduate Record Examination (GRE) scores (exam must have been taken within the last 5 years) however GRE scores are not required. All international applicants are expected to complete the Test of English as a Foreign Language (TOEFL), or an equivalent official English proficiency exam. The English proficiency exam should be no more than two years old from the date of application.

Master's Degree

Health Data Analytics, MS

Dr. Benedict Jikong– Health Data Analytics Program Coordinator

The Health Data Analytics degree is a combination of five courses from the Health Services Administration MS program and five courses from the Advanced Data Analytics MS program at UNT. The program is hybrid in nature such that the five Data Analytics courses will be offered face-to-face while the five Health Services courses will be offered online. This program is a good fit for international graduate students by offering them a STEM graduate degree that provides 3 years of OPT post-graduation.

Data analysts who are knowledgeable of healthcare settings are highly marketable. Health data analysts play a crucial role in the healthcare industry by collecting, analyzing, and interpreting health-related data to help improve patient care, operational efficiency, and healthcare outcomes. Their main responsibilities include:

1. Data Collection and Management: They gather data from a variety of sources, such as electronic health records (EHR), patient surveys, and clinical databases. Ensuring the data is accurate, complete, and up-to-date is vital.
2. Data Analysis: They use statistical methods and tools to analyze healthcare data, looking for trends, patterns, and insights that can inform decisions. For example, they might identify which treatments lead to better patient outcomes or where improvements can be made in healthcare delivery.
3. Reporting and Visualization: Health data analysts present their findings to healthcare providers, administrators, and policymakers. This often involves creating visual reports, dashboards, and presentations that make the data easier to understand and act upon.
4. Improving Efficiency: They analyze the performance of healthcare systems, identifying inefficiencies or bottlenecks, and suggesting improvements. This could involve optimizing resource use, reducing waste, or streamlining processes.
5. Ensuring Compliance: Analysts help ensure that healthcare organizations comply with regulations (like HIPAA in the U.S.) by monitoring data security and privacy standards, and making sure that sensitive information is handled appropriately.
6. Predictive Analytics: In some cases, they may use advanced analytics to forecast future trends, such as patient admissions or disease outbreaks, which can help with planning and resource allocation.

This program is designed to meet an identified need for graduate trainees who are familiar with data analytics as they pertain to the needs of healthcare organizations. Graduates of this program will be eligible for jobs as health data analysts in a variety of healthcare delivery environments that include hospitals, health insurance, pharmaceuticals, clinics, and other healthcare organizations.

Admission requirements

Before being admitted to the master's program, the applicant must meet the requirements for admission to the Toulouse Graduate School specified in the Admission section of the graduate 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 program. No specific undergraduate major is required.

Applicants may choose to submit Graduate Record Examination (GRE) scores (exam must have been taken within the last 5 years) however GRE scores are not required. No specific undergraduate major is required.

Required courses, 30 hours

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5250 - Large Data Visualization
- ADTA 5340 - Discovery and Learning with Big Data
- HLSV 5450 - Health Services Administration
- HLSV 5550 - Health Insurance and Managed Care
- HLSV 5740 - Financial Issues in Health Services Administration
- HLSV 5820 - Marketing Health Services
- HLSV 5940 - HLSV Capstone

Health Services Administration, MS

Dr. Liam O'Neill – Health Services Administration Program Coordinator

The Master of Science in health services administration offers the opportunity for graduates to assume leadership roles in healthcare delivery settings that serve a larger spectrum of the population. Healthcare administrators are the leaders within healthcare organizations, ensuring that everything runs smoothly and that patients receive optimal care. This role requires a mix of leadership, financial acumen, and a deep understanding of the healthcare industry. Consequently, our program is a skills-based graduate program focused on the development and practical application of all the leadership skills essential to health services administrators in today's competitive marketplace. This degree can be completed 100% online. International applicants can complete the degree on-campus.

The Master of Science in health services administration is designed to provide a broad foundation in health care delivery systems; management strategies; ethical and legal issues in the healthcare environment; the role of information systems and technology in high-quality and efficient care delivery; marketing health services; and in the principles of solid financial management. The 13 core courses in the program encompass the foundation of health services administration and is based on a model of 26 specific leadership competencies identified by the National Center for Healthcare Leadership. Each of the core courses in the program has an applied project or paper that provides the opportunity to practice and extend these essential management skills under faculty supervision.

Admission requirements

Before being admitted to the master's program, the applicant must meet the requirements for admission to the Toulouse Graduate School specified in the Admission section of the graduate catalog. All applications must be submitted via GradCAS. No specific undergraduate major is required.

Applicants may choose to submit Graduate Record Examination (GRE) scores (exam must have been taken within the last 5 years) however GRE scores are not required.

General degree requirements

The Master of Science with a major in health services administration is a fully online degree program that requires completion of 39 graduate hours.

Students must complete a capstone course prior to completion of the program. The capstone requires a comprehensive research project covering the student's field of specialization. The project is designed to demonstrate the student's mastery of the discipline and ability to apply knowledge acquired throughout the program to solve a real-world problem in the student's area of specialization under faculty supervision.

Core courses, 39 hours

- HLSV 5300 - Information Systems for Healthcare Management
- HLSV 5400 - Health Delivery Systems
- HLSV 5450 - Health Services Administration
- HLSV 5500 - Healthcare Quality Management
- HLSV 5550 - Health Insurance and Managed Care
- HLSV 5710 - Theories and Measures for Health and Wellness
- HLSV 5720 - Human Resources Management
- HLSV 5730 - Healthcare Policy and the Regulated Marketplace
- HLSV 5740 - Financial Issues in Health Services Administration
- HLSV 5820 - Marketing Health Services
- HLSV 5860 - Healthcare Economics
- HLSV 5880 - Healthcare Law and Ethics
- HLSV 5940 - HLSV Capstone

Rehabilitation Counseling, MS

Dr. Melissa Gaa–Rehabilitation Counseling Graduate Program Coordinator

The Master of Science (MS) degree with a major in rehabilitation counseling requires a minimum of 60 semester hours of academic preparation, including a 100-hour practicum and 600-hour internship during the last year of the student's course work. The curriculum combines academic theory and technique courses with hands-on practicum and field-site internship experiences and the program is nationally accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Opportunities for hands-on experiences are also available through the department's Wellness and Employment Lab (UNTWELL). A very high value is placed on the exposure of students to a broad spectrum of rehabilitation services, professional organizations, interdisciplinary professional activities, as well as advocacy and consumer groups in the field of rehabilitation. The core curriculum for the Rehabilitation Counseling program consists of basic preparatory studies in disability, educational and occupational information, counseling, case management, and the vocational rehabilitation process. All graduate students are required to have an approved degree plan developed in consultation with their academic advisor and must pass a comprehensive examination or national certification exam (CRC) administered during the last semester of their course work in order to be approved for graduation.

Effective September 1, 2017, HB 1508 created new laws that require entities that provide educational programs leading to an occupational license to notify all applicants and enrollees of the implications of a felony conviction which may make you ineligible for a license upon program completion. The law requires that this information be provided to all persons who are enrolled or apply in a counseling program without regard to whether the person has been convicted of a criminal offense.

You may review current guidelines used by the Texas Education Agency to determine the eligibility of the person to be licensed on the TEA's web site at https://tea.texas.gov/Texas_Educators/Investigations/National_Criminal_History_Checks-FAQs/. You also have a right to request a criminal history evaluation letter from TEA and the process and form available online at https://tea.texas.gov/Texas_Educators/Investigations/Preliminary_Criminal_History_Evaluation-FAQs/.

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. Although applications to the graduate program in rehabilitation counseling are reviewed throughout the year for Spring and Fall semester admissions, students are encouraged to enter the program in the fall term/semester. Acceptance to the program is a competitive process with successful applicants having a satisfactory GPA in addition to satisfactory letters of recommendation, self-statement, work/volunteer experience and interview with program faculty. Applicants may choose to submit Graduate Record Examination (GRE) scores (exam must have been taken within the last 5 years) however GRE scores are not required.

All applications should include the following:

1. rehabilitation counseling graduate program application (available via GradCAS);
2. self-statement regarding interest in field and program and career goals;
3. two letters of recommendation, one from a former instructor and one from a previous employer. Letters must be on letterhead and signed by the author of the letter;
4. current resume; and
5. evidence of a work/volunteer history with the equivalent of one year of full-time employment preferred.

Upon admission by the Toulouse Graduate School and receipt of the above documents, applicants will be scheduled for a group interview with other applicants and members of the rehabilitation counseling faculty. All applications are reviewed by the rehabilitation counseling admissions committee, who make decisions for acceptance of applicants to the program. Acceptance or denial of applications is determined by composite rather than a single criterion. Students are notified by email of the faculty's recommendation on their application.

Rehabilitation curriculum, 60 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 required courses and one elective.

- RHAB 5700 - Ethical and Professional Foundations in Rehabilitation Counseling
- RHAB 5710 - Multicultural Rehabilitation Counseling Practice
- RHAB 5715 - Disability Issues in Human Development
- RHAB 5720 - Rehabilitation Counseling Theories
- RHAB 5721 - Rehabilitation Counseling Applications
- RHAB 5722 - Advanced Counseling Techniques in Rehabilitation Counseling
- RHAB 5723 - Group Work and the Rehabilitation Process
- RHAB 5724 - Disability and the Family System
- RHAB 5730 - Medical and Psychosocial Aspects of Disability
- RHAB 5732 - Principles of Psychiatric Rehabilitation and Recovery
- RHAB 5734 - Psychopathology in Clinical Rehabilitation Counseling

- RHAB 5735 - Alcohol and Other Substance Use Counseling Models
- RHAB 5740 - Rehabilitation Assessment
- RHAB 5741 - Employment and Career Development
- RHAB 5742 - Professional Issues in Case Management
- RHAB 5770 - Rehabilitation Research and Program Evaluation
- RHAB 5811 - Practicum in Rehabilitation
- RHAB 5812 - Internship in Rehabilitation

Elective selected from

- RHAB 5718 - Transition Issues in Rehabilitation
- RHAB 5719 - Trauma and Crisis Intervention in Rehabilitation Counseling
- RHAB 5950 - Master's Thesis
- others approved by advisor

Additional requirements

Graduate comprehensive examination

Candidates for the master's degree must pass a final written comprehensive examination offered in the semester in which the candidate plans to graduate. 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 rehabilitation counseling 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 upon consultation with their faculty advisor.

Program accreditation and professional certification/licensing

The graduate curriculum in rehabilitation counseling is fully accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) 1001 North Fairfax Street, Suite 510, Alexandria, VA 22314.

Students completing the rehabilitation counseling program are eligible to take the examination for national certification as a rehabilitation counselor (CRC). Rehabilitation counseling students are also eligible for licensure as a Professional Counselor (LPC) by the Texas State Board of Examiners of Professional Counselors. Students seeking the LPC in Texas must first successfully pass the state licensing examination after graduation and then complete 3,000 hours of supervised practice to obtain their full license. Requirements for obtaining a master's level counseling license vary by state. Applicants and students are encouraged to become familiar with their state's requirements by visiting their state's licensing agency web site. Students may also complete academic requirements of the Texas Department of State Health Services for licensure as a Chemical Dependency Counselor (LCDC).

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. The rehabilitation counseling program is currently able to provide RSA scholarship 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.

Doctorate

Health Sciences, PhD

Dr. Rachita Sharma, PhD, LPC-S – Director, Doctoral Program

The Doctor of Philosophy program in Health Sciences provides a broad interdisciplinary foundation in research and evaluation methods, and health and social policy analysis to meet the demands of a dynamic health delivery environment for individuals with health-related concerns, chronic health conditions and disabilities, across the lifespan. The inter-professional education focus is on developing academic research scientists who are interested in contributing to the complex health needs through research, education and policy analysis. Students are admitted into one of four concentrations in the doctoral program. These include Applied Aging and Rehabilitation Studies (AARS), Behavior Analysis (BEHV), Audiology and Speech-Language Pathology (ASLP), and Physicians Assistance Preparation Studies (PAPS). Graduates of the PhD program in health sciences will be prepared to function as educators, researchers and leaders in clinical and non-clinical academic and research environments.

Admission requirements

Admission to PhD Program

Before being admitted to the PhD program in health sciences, the applicant must meet the requirements for admission to the Toulouse Graduate School specified in the admission section of the graduate catalog. All applications must be submitted via GradCAS. No specific undergraduate or graduate major is required. However, applicants for the PhD program in health sciences should have completed 30 hours of graduate course work beyond the undergraduate degree or attained a master's degree or equivalent professional degree.

GRE Score

An official and competitive GRE score, no more than five years old by date of application, is required from all applicants.

English Proficiency (TOEFL) Score

All international applicants are expected to complete the Test of English as a Foreign Language (TOEFL), or an equivalent official English proficiency exam. The English proficiency exam should be no more than two years old from the date of application.

Applicants are expected to have a minimum of 79 IBT on the TOEFL and be in the 7th band or above on the IELTS. The UNT institutional TOEFL code is 6481.

An official and competitive GRE score, no more than five years old by date of application, is required from all applicants.

There are only two waivers of this requirement for international applicants.

First, international applicants are waived from submitting the English proficiency score if international applicants have completed an undergraduate or graduate degree from a college or university in the United States.

Second, international applicants are waived if they reside in a country whose official governmental language is English AND whose education has been entirely in English. Prospective applicants should review an updated list of countries whose citizens meet the waiver criteria for English proficiency.

Statement of Vision, Goals, Rationale and Achievements

All applicants to the PhD program in health sciences are expected to prepare a written personal statement describing their reasons for applying to the program. Applicants should address previous academic and professional experience, research interests and experience, future vocational goals, and any information about your background, interests, and training you believe is relevant to your success in this program.

Writing sample

In addition to the written essay, all applicants are required to provide a writing sample of scholarly work—examples include a research paper, journal article or other examples of academic and scholarship ability.

Transcripts

Local applicants must submit official transcripts from all U.S.-based colleges and universities attended, including any graduate program in which the applicant was enrolled for admission. These transcripts must be certified, signed or stamped as official by the university's Registrar's Office.

International applicants and U.S. citizen and permanent resident applicants with an international degree must submit an official attested photocopy of academic documents such as a transcript, diploma, mark sheets, provisional degree certificate and/or your final degree certificate, in a school sealed envelope with the school seal stamped on the back side of the envelope.

The applicant's GPA from his/her last 60 semester credit hours or last 90 quarter credit hours will be used as a part of the admission committee's review for competitiveness for admission.

Resumé

All applicants are expected to provide a detailed resumé of all employment and volunteer history. Work experience is not required for admission to the PhD program; however, prior work and volunteer experience is considered highly beneficial.

Letters of Recommendation

Three professional letters of recommendation (two from former professors and one from current or past employer or community leader) are required for admission to the PhD program in health sciences. Letters of recommendation must be submitted via GradCAS.

Personal Interview

All applications will be reviewed by the program's Admissions Committee to guarantee the selection of the most qualified applicants based upon a holistic review of the items listed above. Multiple factors are considered by the Admissions Committee when evaluating applicants. The factors that are considered most important include an applicant's research experience and interests, the applicant's motivation for research and the applicant's likelihood of success in the program. After the initial screening, an interview with prospective candidates will be conducted with selected faculty members, either in person or via video conferencing.

General degree requirements

The Health Sciences PhD program is a 51-credit hour program.

Specific requirements include:

- 18 semester hours in foundation core courses covering health disparities across populations and various research designs and statistical analyses relevant in the field of health sciences
- 15 designated semester hours in the student's chosen concentration
- 9 semester hours of approved electives
- A minimum of 9 semester hours of dissertation

Health sciences foundation core, 18 hours

- HLSC 6400 - Health Sciences: Theory and Practice
- HLSC 6410 - Health Disparities and Social Justice
- HLSC 6500 - Research Methods and Design
- HLSC 6510 - Health Sciences: Statistical Research Methods I
- HLSC 6520 - Health Sciences: Statistical Research Methods II
- Students are required to take an additional 3-credit–hour course in advanced statistical research methodology that is aligned with their research interests and approved by their faculty advisor.

Concentration area, 15 hours

Applied Aging and Rehabilitation Science

This concentration area is designed for the health science practitioner who is interested in making contributions to the discipline through research, while maintaining their focus on active engagement with vulnerable populations, such as older individuals and those with chronic illness or disability. In the current health care environment, the emphasis is on increasing quality, decreasing the cost of service delivery and on achieving positive, measurable outcomes that improve the health of vulnerable populations and that make services accessible and affordable. The program relies on a science-practitioner model to develop researchers, educators and leaders who will make a positive impact on the health care environment.

- AARS 6800 - Social Policies for Health and Aging
- AARS 6810 - Global Perspectives on Aging and Disability
- AARS 6820 - Community Living and Participation
- AARS 6830 - Disability, Health and Functioning
- AARS 6840 - Organizations for Aging and Health Services

Audiology and speech-language pathology

This concentration area is designed to prepare competent researchers with advanced knowledge and technical expertise necessary for improving the quality of life for people with speech, language and hearing disabilities. The listed ASLP concentration courses will be offered based on enrollment and faculty availability. If the courses are not available, students in the ASLP concentration may take existing doctoral level courses available in the ASLP department with advisor and committee approval. For students with an AuD degree or who are completing AuD and PhD degrees simultaneously, up to 15 credit hours of AuD course work may be used to satisfy the PhD concentration course requirements. Permission to pursue dual AuD/PhD degrees must be obtained from the Chair of Rehabilitation and Health Services.

- ASLP 6991 - Instrumentation in Speech and Hearing Sciences
- ASLP 6992 - Advanced Neuroanatomy and Neurophysiology of Communication, Audition and Vestibular Functions
- ASLP 6993 - Advanced Topics in Audiology, Speech and Language
- ASLP 6994 - Auditory and Language Processing in the Brain
- ASLP 6995 - Communication and Communication Disorders Across the Life-Span

Behavior analysis

This concentration trains the next generation of behavioral scientists and scientist-practitioners to work across disciplinary boundaries to expand scientific understanding and capability and to solve socially relevant problems. Within the behavior analysis concentration, students can focus on a variety of research and application areas such as populations with learning differences (autism, intellectual disabilities), social justice, teaching sciences, animal behavior, behavioral neuroscience, and behavioral health and contingency management. The program relies on a junior-colleague model to develop world-class researchers, educators, and leaders inside and outside the academy.

- BEHV 6010 - Survey of Literature in the Experimental Analysis of Behavior
- BEHV 6020 - The Conceptual Basis of Radical Behaviorism

- BEHV 6140 - Advanced Strategies and Tactics in Behavior Analytic Research
- BEHV 6200 - Behavior Analysis from a Systems Perspective
- BEHV 6410 - The Dissemination and Application of Behavior Analysis

Physician Assistant professional studies

The Physician Assistant (PA) professional studies concentration is designed to develop physician assistant researchers to advance health care policy and practice. The program is designed with the practicing clinician in mind and allows flexibility while continuing PA practice. This concentration is offered through an inter-institutional agreement with the UNT Health Science Center (UNT Health). UNT Health faculty will facilitate the concentration courses. The concentration is designed to advance physician assistant practice within the healthcare delivery system and related research.

- PAPS 6200 - Foundations of Physician Assistant Practice
- PAPS 6210 - Genetics and Genomics for Health Professionals
- PAPS 6220 - Entrepreneurship and Innovative Problem Solving for Health Professionals
- PAPS 6230 - Organizational Leadership for Health Professionals
- PAPS 6240 - Lifestyle Medicine

Graduate Academic Certificate

Health Services Administration certificate

This Health Services Administration Graduate Academic Certificate will provide working professionals with the opportunity to enroll in a selection of relevant graduate courses that can help advance their existing professional skill set. Certificants who have completed this certificate have the option of using 12 of the 15 total credits towards a graduate degree in Health Services Administration. In addition, the certificate can facilitate admission to our full master's program in Health Services Administration.

Requirements

- HLSV 5450 - Health Services Administration
- HLSV 5550 - Health Insurance and Managed Care
- HLSV 5740 - Financial Issues in Health Services Administration
- HLSV 5820 - Marketing Health Services
- HLSV 5940 - HLSV Capstone

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 3, as established by the Commission on Rehabilitation Counselor Certification. The certificate requires 21 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/evaluation. (Category 3 Eligibility Criteria)

Students must apply to the UNT Toulouse Graduate School and must have transcripts of **all** academic work sent to UNT.

Students must also complete a program application. More information about the program and the application requirements can be found here.

Required courses

- RHAB 5700 - Ethical and Professional Foundations in Rehabilitation Counseling
- RHAB 5710 - Multicultural Rehabilitation Counseling Practice
- RHAB 5720 - Rehabilitation Counseling Theories

  or
- RHAB 5721 - Rehabilitation Counseling Applications
- RHAB 5730 - Medical and Psychosocial Aspects of Disability
- RHAB 5740 - Rehabilitation Assessment
- RHAB 5741 - Employment and Career Development
- RHAB 5742 - Professional Issues in Case Management

Course substitution

RHAB 5715 may be substituted for RHAB 5720 if a counseling theories course has been taken as a part of a 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 https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

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 specialist in aging certificate program offers an opportunity to extend multidisciplinary practice to significant issues, problems and concerns facing today's older populations.

Required courses, 15 hours

- AGER 5600 - Housing for the Elderly: Planning, Public Policy and Research
- AGER 5750 - Processes of Aging
- AGER 5760 - Geriatric Care Management
- AGER 5780 - Federal, State and Local Programs in Aging
- HLSV 5710 - Theories and Measures for Health and Wellness

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Department of Social Work

Main Office
Chilton Hall, Room 300

Mailing address:
1155 Union Circle #305370
Denton, TX 76203-5017
940-565-3437
Web site: https://hps.unt.edu/sowk/social-work

Jody Sundt, Interim Chair

Faculty

Social work addresses societal concerns and the well-being of people to ensure they have equal access to resources, services and opportunities. Social workers encourage change by striving to end discrimination, oppression, poverty and other forms of social injustice. They work in many different settings, including:

- child welfare and family service agencies
- community mental health or substance abuse treatment centers
- nonprofit, government or private human service programs
- retirement centers, nursing homes or other aging programs for older people and their families
- school or community programs to meet the needs of children

Our programs provide a solid foundation in the knowledge, skills and values necessary for the social work field and prepare students for the required state licensing exam.

We offer many opportunities to work with the community, practice skills, get involved in social work organizations and network.

Our faculty members are well-known researchers and practitioners with experience working in diverse areas. Their research has been published in recognized journals and presented regularly at national conferences.

The Social Work programs are accredited by the Council on Social Work Education (333 John Carlyle Street, Suite 400; Alexandria, VA 22314; telephone 703-683-8080). This accreditation means we meet or exceed strict academic standards for excellence in social work education.

Master's Degree

Social Work, MSW

The Master of Social Work degree with the specialization in advanced generalist practice prepares students with the advanced knowledge and skills to serve in complex practice environments, and to act to promote positive social change and respect for human diversity and the advancement of human rights to benefit the quality of life for individuals, groups, families, organizations and communities. The degree program is dedicated to preparing graduates to apply evidence-informed knowledge, skills and the values to address complex issues and problems while promoting social and economic justice and working with those who are vulnerable and oppressed. The degree leads to employment opportunities in health care, child and family services, mental health, and other health and human services career fields.

Requirements

Two types of students will be admitted to the Master of Social Work (MSW) program. The first group are graduates of bachelor's programs in fields other than Social Work (Foundation students) and they will complete a two-year (60 credit hour) MSW program. The second group of students are graduates of BSW programs who qualify for "Advanced Standing" status. For these students, the first "Foundation" year of the MSW is waived, and they complete the program in one year (30 credit hours).

Students accepted into the program for the full-time two-year component complete seven foundation courses (21 credit hours) and 9 credit hours of field practicum in the first year. The foundation field practicum requires 400 hours in an agency setting. After successful completion of the foundation courses, seven advanced courses (21 credit hours) and 9 credit hours of field practicum in the second year are required. The advanced year field practicum requires 500 hours in an agency setting.

Students accepted into the Advanced Standing one-year full-time component will complete seven advanced courses (21 credit hours) and 9 credit hours of field practicum. The advanced year field practicum requires 500 hours in an agency setting.

Students are required to choose two electives during their advanced year.

Required Courses

Foundation courses, 30 hours

- SOWK 5110 - Human Behavior in the Social Environment
- SOWK 5200 - Practice with Individuals and Groups
- SOWK 5210 - Practice with Organizations and Communities
- SOWK 5240 - Human Diversity and Multicultural Practice
- SOWK 5300 - The Social Work Profession: Ethics and Policy
- SOWK 5400 - Social Work Research Methods
- SOWK 5870 - Foundation Field Seminar
- SOWK 5875 - Foundation Field Practicum

Advanced courses, 24 hours

- SOWK 5230 - Multidimensional Assessment in Social Work
- SOWK 5250 - Interventions in Social Work
- SOWK 5330 - Policy Practice and Analysis
- SOWK 5410 - Program Administration and Evaluation
- SOWK 5880 - Advanced Field Seminar
- SOWK 5885 - Advanced Field Practicum

Electives, 6 hours

Choose any two courses from the following advanced electives.

- SOWK 5510 - Practice in Mental Health
- SOWK 5520 - Death, Dying and Bereavement
- SOWK 5530 - Theories and Interventions with Children
- SOWK 5540 - Child Maltreatment: Assessment and Intervention
- SOWK 5550 - Foster Care, Adoption and Permanency Planning
- SOWK 5560 - Aging in Contemporary Society
- SOWK 5570 - Seminar in Public Policy and Aging
- SOWK 5580 - Global Social Work

College of Information

Main Office
Discovery Park, Room E290
3940 N. Elm St.
Denton, TX 76207-7102

Mailing address:
1155 Union Circle #311068
Denton, TX 76203-5017
940-369-8164
Fax: 940-565-3101
Web site: ci.unt.edu

Kinshuk, Dean
Sharad Sharma, Associate Dean of Research and Development
Yunfei Du, Associate Dean of Academics

Faculty

The College of Information situates itself at the intersection of people, technology and information. Its faculty, staff and students invest in innovative research, collaborative partnerships and student-centered education to serve a global information society. The college is dedicated to serving state, regional, national and global communities by preparing information leaders and innovators; forging the creation of transformative and translational knowledge; and sharing knowledge that addresses information challenges and problems. By creating a community to discuss the intersecting areas of interest, the College aims to create exciting advancements in science and service to the communities. By creating a community to discuss our intersecting areas of interest, we can create exciting advancements in science and service to our communities. We at the College of Information have seen the power of cross-discipline pollination. The college's goals are as follows:

- 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

Departments within the college offer graduate programs leading to the following degrees:

- Data Science, MS
- Information Science, MS
- Learning Technologies, MS
- Library Science, MS
- Linguistics, MS
- Learning Technologies, PhD
- Information Science, PhD

The departments also offer teacher and librarian certifications, graduate academic certificates and a post-master's certificate of advanced study. General requirements for each graduate program are listed under each department.

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.

Advising

For general information, contact the Toulouse Graduate School at GraduateSchool@unt.edu. For specific requirements for graduate programs, contact the college advising office at ci-advising@unt.edu or an appropriate academic advisor in the Department of Information Science, Department of Learning Technologies or Department of Linguistics.

Anuradha and Vikas Sinha Department of Data Science

Main Office
Discovery Park, Room B131

Mailing address:
1155 Union Circle #311068
Denton, TX 76203-5017
Phone:940-565-2445
Fax: 940-565-3101
TDD access: 800-735-2989

E-mail: ds-chair@unt.edu
Web site: https://datascience.unt.edu

Junhua Ding, Chair

Faculty

The Anuradha and Vikas Sinha Department of Data Science is a forward-thinking academic unit dedicated to advancing data-driven discovery, artificial intelligence, and applied analytics. The department provides students with a strong foundation in theoretical principles, computational skills, artificial intelligence, and software engineering, preparing them to excel in data science, machine learning, big data analytics, and AI-driven software development. By integrating cutting-edge research with hands-on learning, the department fosters innovation and prepares graduates for academic, industry, and government careers in the rapidly evolving world of data and AI-driven decision making.

Master's Degree

Data Science, MS

The automation of various work processes within the organization has resulted in the creation of large digital repositories and big data warehouses that require highly-trained data science and data analytic professionals who can transform the growing amount of data and information into actionable knowledge. The ability to manage and manipulate the ever-growing volume of data and digital information will depend largely on the resources and expertise available within the organization that can deal with such a problem.

The Master of Science with a major in data science (MS-DS) is designed to address the current market needs for highly skilled data science and data analytics professionals. The program is designed to help graduates gain skills and experiences in designing, implementing and transforming data sets into actionable knowledge. It provides students with the skills and knowledge needed to develop competencies in managing data science and analytics projects and work with data analytics tools and technologies. The program will help educate a new generation of information professionals capable of taking the leadership role through connecting the dots and using data to support strategic initiatives within the organization.

Required courses, 9 hours

- DTSC 5501 - Fundamentals of Data Analytics
- DTSC 5502 - Principles and Techniques for Data Science
- DTSC 5505 - Machine Learning for Data Scientists

Guided electives, 15 hours

The guided electives are courses with advanced topics in both data science and data analytics. The student can choose from the following courses which concentrate on specific methodologies and tools in data science and data analytics.

Students must take 15 hours from the following list of courses.

- ADTA 5230 - Data Analytics II
- CSCE 5213 - Modeling and Simulation
- CSCE 5218 - Deep Learning
- CSCE 5300 - Introduction to Big Data and Data Science

- DSCI 5240 - Data Mining and Machine Learning for Business

  or
- CSCE 5380 - Data Mining

- DSCI 5330 - Business Intelligence Foundations
- DSCI 5340 - Predictive Analytics and Business Forecasting
- INFO 5040 - Information Behavior
- INFO 5206 - Information Retrieval Design
- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5503 - Knowledge Management Processes and Practices
- INFO 5810 - Data Analysis and Knowledge Discovery

- DSCI 5360 - Data Visualization for Analytics

  or
- INFO 5709 - Data Visualization and Communication

- LING 5410 - Foundations of Computational Linguistics
- LING 5412 - Advanced Models of Language
- LING 5415 - Special Topics in Computational Linguistics

General electives, 9 hours

Students must take 9 hours from the following list of courses. They are allowed to pursue courses from outside this list and in their areas of interest with the approval of the advisor.

- BMEN 5210 - Biomedical Engineering Laboratory
- BMEN 5315 - Computational Methods in Biomedical Engineering
- BMEN 5940 - Biomedical Engineering Seminar
- CSCE 5200 - Information Retrieval and Web Search
- CSCE 5214 - Software Development for Artificial Intelligence
- CSCE 5216 - Pattern Recognition
- DTSC 5091 - Data Science Internship
- INFO 5200 - Information Organization
- INFO 5205 - Information Indexing, Abstracting and Retrieval
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5224 - Metadata for Information Organization and Retrieval II
- INFO 5305 - Systems Analysis and Design
- INFO 5365 - Health Librarianship and Informatics
- INFO 5637 - Medical Informatics
- INFO 5707 - Data Modeling for Information Professionals

- INFO 5731 - Computational Methods for Information Systems
- INFO 5735 - Usability and User Experience Metrics
- INFO 5737 - Information and Cyber-Security
- INFO 5745 - Information Architecture
- INFO 5770 - Introduction to Health Data Analytics
- INFO 6050 - Health Research Methodology
- LING 5405 - Programming for Linguistics
- LTEC 5300 - Learning and Cognition
- LTEC 5320 - Contemporary Issues in Workforce Learning and Performance
- LTEC 5702 - Evaluation of Generative AI Tools in Education
- LTEC 5703 - Ethical and Social Impacts of AI in Education

Practicum/research project/thesis, 3-6 hours

- DTSC 5082 - Seminar in Research and Research Methodology
- INFO 5090 - Practicum and Internship in the Field Study

Department of Information Science

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: ci-advising@unt.edu
Web site: http://informationscience.unt.edu

Yunfei Du, Interim Chair

Faculty

The Department of Information Science prepares graduates of our graduate and undergraduate degree programs 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 two undergraduate programs with Bachelor of Science degrees in information science and data science.

The department offers certificates (non-degree) programs for advanced study in both information science and library science, and graduate academic certificates in multiple areas of professional knowledge and skills.

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 Information Science web site at http://informationscience.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 data science, library science and information science. Research interests include data analytics; 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.

Academic advising

Student advising for the Department of Information Science's programs and courses is available through the College of Information advising and admissions student support services office, Discovery Park, Room C232; 940-565-2445; ci-advising@unt.edu. All students should have an approved degree audit on file as early as possible. Out of state students must contact the college advising office for advising clearance before registering for classes. Calls and visits by prospective students are welcomed from 9 a.m. to 5 p.m. Monday through Friday.

Scholarships

The Department of Information Science provides and connects students to various scholarships and funding opportunities for students in this discipline. These opportunities may be available whether students are undergraduate or graduate, entering or continuing, transfer students, or international students. For specific information and application forms, contact the department chair, administrative assistant, or visit the web page: http://informationscience.unt.edu/scholarships-and-awards.

Further information

For further information about any degree or certificate program, write or call the Department of Information Science or visit the department's web site: http://informationscience.unt.edu/. Personal interviews and counseling may be arranged through the department office.

The Department of Information Science 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, Discovery Park, Room E292; 940-565-2445.

Master's Degree

Health Informatics, MS

The healthcare landscape continues evolving with advancements in technology. Health data is being generated at a pace never witnessed before; new models of health services delivery continue changing, and the available technology is making healthcare more consumer-centric. Health informatics professionals need to be equipped with the competencies to address technical and societal challenges with a data science approach. The UNT Master of Science in Health Informatics (MSHI) program combines health informatics and data science. The purpose of the MSHI program is to educate leaders in health informatics who can apply data science methods and techniques to improve the delivery of healthcare with a patient-centered focus. We want to educate forward-thinking health informatics professionals that will impact the delivery of healthcare in diversified health environments.

Requirements

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 Information Science 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 3.2 (4.0 scale) or at least 3.2 in the last 60 hours of undergraduate work; or completed master's degree or other post-baccalaureate degree with GPA of at least 3.5.
3. For international students, a satisfactory score on the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or successful completion of the UNT Intensive English Language Institute (IELI) through level 6.
4. Two 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.
5. 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.
6. Interview (optional). Prospective students are welcome to visit the department and can schedule a meeting with an academic advisor for an in-person or online session. 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.

Application materials and instructions are available from the Toulouse Graduate School (gradschool.unt.edu) and the Department of Information Science (http://informationscience.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 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.

Additional requirements

At least 24 additional hours of guided and general electives, *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 HINF courses (excludes transfer courses and independent study).

Further information concerning these requirements may be obtained through the department.

Required courses, 12 hours

- HINF 5365 - Information Systems in Healthcare
- HINF 5637 - Introduction to Health Informatics
- HINF 5770 - Introduction to Health Data Analytics
- HINF 5955 - Health Informatics Capstone Project

Guided electives, 15 hours

Students select five (5) courses from the list below:

- HINF 5204 - Health Information Terminology and Standards
- HINF 5025 - Legal and Ethical Issues in Health Informatics
- HINF 5506 - Applications of Artificial Intelligence in Health
- HINF 5631 - Searching for Evidence in Health
- HINF 5638 - Consumer Health Informatics
- HINF 5639 - Population Health Informatics
- HINF 5771 - Applications of Health Data Analytics
- INFO 5080 - Research Methods and Analysis
- INFO 5306 - Project Management for Information Systems
- INFO 5709 - Data Visualization and Communication

General electives, 9 hours

Students select three (3) courses from the list below, or the catalog or transferred from other programs with the approval of the academic advisor and program advisor.

- HLSV 5300 - Information Systems for Healthcare Management
- HLSV 5400 - Health Delivery Systems
- INFO 5365 - Health Librarianship and Informatics
- INFO 5634 - Disaster/Emergency Management for Information Professionals
- INFO 5635 - Genomics and Translational Medicine for Information Professionals
- INFO 5636 - Community-Based Health Information
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5737 - Information and Cyber-Security
- INFO 5745 - Information Architecture
- INFO 5777 - Virtual Reality and its Applications
- INFO 5810 - Data Analysis and Knowledge Discovery
- INFO 6050 - Health Research Methodology

Information Science with a concentration in Archival Studies, MS

This concentration is intended to prepare graduates to work with archives and records management. The program includes the production archival and preservation of records, photographs, digital images, digital information databases, medical records, etc. It equips students with important skill sets for current and future library and museum information professionals. In addition, the program prepares individuals to assume positions as experts in the broader markets of libraries, archives and information centers. An integral part of the educational experience for the students enrolled in the program is the opportunity to work as interns at area museums, archives and information centers.

General requirements

Total coursework of 36 credit hours (12 courses).

Enroll in INFO 5090 (practicum), unless officially waived based on previous professional and industry experience.

Completion of the Capstone Experience.

Required courses, 9 hours

A grade of B or higher must be earned in all 3 core courses.

- INFO 5000 - Information and Knowledge Professions
- INFO 5200 - Information Organization
- INFO 5600 - Information Access and Knowledge Inquiry

Archival studies concentration, 12 hours

- INFO 5240 - Archival Arrangement and Description
- INFO 5295 - Preservation

  or
- INFO 5843 - Digital Curation: Strategies and Application

  or
- INFO 5297 - Introduction to Special Materials Preservation
- INFO 5371 - Archives and Manuscripts

  or
- INFO 5290 - Special Collections and Archives
- INFO 5375 - Archival Appraisal

Guided electives, 6 hours

Completion of at least two of the following major prescribed courses (6 hours) with the guidance of their academic advisor.

- INFO 5230 - Documents and Records Management
- INFO 5290 - Special Collections and Archives
- INFO 5297 - Introduction to Special Materials Preservation
- INFO 5380 - Contemporary Issues in Archival Science
- INFO 5450 - Rare Books
- INFO 5742 - Web Archiving
- INFO 5843 - Digital Curation: Strategies and Application
- INFO 5960 - Library and Information Sciences Institute or Seminar

General electives, 9 hours

Additional three elective courses (9 hours) selected from the following list or from outside with the approval of their academic advisor.

- INFO 5080 - Research Methods and Analysis
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5224 - Metadata for Information Organization and Retrieval II

- INFO 5740 - Introduction to Digital Libraries
- INFO 5741 - Digital Humanities
- INFO 5814 - Web Content Development and Maintenance
- INFO 5815 - Topics in Digital Imaging for Information Professionals
- INFO 5841 - Data Curation and Management

Information Science with a concentration in Health Librarianship, MS

The M.S. in Information Science with a concentration in Health Librarianship is designed to meet the current need for highly qualified health information professionals with cutting-edge knowledge and skills. Career possibilities include specialized positions in academic health sciences centers, research and/or teaching institutions (e.g. community colleges), health care systems, public libraries with consumer health services, hospitals, government agencies, pharmaceutical companies, biotechnology/bioengineering companies, and other health care settings. Health information professionals interact with health care providers, researchers, consumers of health information, and/or community partners. Students in the program will learn about the intersection of information science, health informatics, and data science and how it applies to the management of health information. Graduates of the program will be visionary leaders with a strong foundation in health information science.

General Requirements

1. Total coursework of 36 credit hours (12 courses).
2. Enrollment in INFO 5090 (practicum/internship), unless officially waived based on previous professional and industry experience.
3. Completion of the Capstone Experience.

Required courses, 9 hours

A grade of B or better must be earned in all core courses.

- INFO 5000 - Information and Knowledge Professions
- INFO 5200 - Information Organization
- INFO 5600 - Information Access and Knowledge Inquiry

Health librarianship concentration, minimum 12 hours

Completion of **at least** four courses (12 hours) from the list below.

INFO 5365 - Health Librarianship and Informatics (required)

- HINF 5637 - Introduction to Health Informatics
- INFO 5631 - Searching for Evidence
- INFO 5634 - Disaster/Emergency Management for Information Professionals
- INFO 5635 - Genomics and Translational Medicine for Information Professionals
- INFO 5636 - Community-Based Health Information
- INFO 5737 - Information and Cyber-Security
- INFO 5770 - Introduction to Health Data Analytics
- INFO 5771 - Applications of Health Data Analytics
- INFO 6050 - Health Research Methodology

Guided electives, minimum 6 hours

Completion of **at least** two of the following major prescribed courses (6 hours) with the guidance of the academic advisor. Students are allowed to pursue courses other than the ones listed below and in their areas of interest with the approval of the advisor:

- INFO 5305 - Systems Analysis and Design
- INFO 5306 - Project Management for Information Systems
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5709 - Data Visualization and Communication

General electives, 9 hours

Completion of additional three elective courses (9 hours) selected from the list of courses below or transferred from other programs, such as from the School of Public Health at the University of North Texas Health Science Center. Other courses may be taken with academic advisor approval.

- DTSC 5502 - Principles and Techniques for Data Science
- HLSV 5300 - Information Systems for Healthcare Management
- HLSV 5400 - Health Delivery Systems
- INFO 5080 - Research Methods and Analysis
- INFO 5205 - Information Indexing, Abstracting and Retrieval
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5290 - Special Collections and Archives
- INFO 5503 - Knowledge Management Processes and Practices
- INFO 5740 - Introduction to Digital Libraries
- INFO 5841 - Data Curation and Management
- INFO 5900 - Special Problems
- LTEC 5300 - Learning and Cognition

Information Science with a concentration in Information Organization, MS

In the Information Organization concentration, students learn how to organize information for a wide variety of information formats, resources, systems, and environments. Graduates may be responsible for library cataloging, classification, metadata development and use, indexing and abstracting, organizing digital resources and organizing special materials in libraries, museums, and archives.

Graduates are expected to understand the principles and application of concepts related to information representation, management, and access, including issues related to quality control, and the need to respond actively to users' needs. They are also expected to have a foundation in various systems and technologies used for organizing information.

General requirements

Total coursework of 36 credit hours (12 courses).

Enroll in INFO 5090 (practicum), unless officially waived based on previous professional and industry experience.

Completion of the Capstone Experience.

Required courses, 9 hours

A grade of B or better must be earned in all three core courses.

- INFO 5000 - Information and Knowledge Professions

- INFO 5200 - Information Organization
- INFO 5600 - Information Access and Knowledge Inquiry

Guided electives, 6 hours

Completion of **at least** two of the following major prescribed courses (6 hours) with the guidance of the academic advisor:

- INFO 5305 - Systems Analysis and Design
- INFO 5306 - Project Management for Information Systems
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5814 - Web Content Development and Maintenance
- INFO 5960 - Library and Information Sciences Institute or Seminar

Information Organization concentration, 12 hours

Completion of **at least** four courses (12 hours) from the categories listed below with the guidance of the academic advisor. It is also required that each student complete at least one course from each of the following areas:

Information Organization

- INFO 5205 - Information Indexing, Abstracting and Retrieval
- INFO 5210 - Introduction to Cataloging and Classification
- INFO 5220 - Advanced Cataloging and Classification
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5224 - Metadata for Information Organization and Retrieval II

System and Application

- INFO 5206 - Information Retrieval Design
- INFO 5224 - Metadata for Information Organization and Retrieval II
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5717 - Networked Data Modeling and Processing
- INFO 5740 - Introduction to Digital Libraries
- INFO 5750 - Managing Library Automation Projects
- INFO 5814 - Web Content Development and Maintenance
- INFO 5815 - Topics in Digital Imaging for Information Professionals
- INFO 5819 - Web Administration for Information Professionals

Management

- INFO 5300 - Management of Information Agencies
- INFO 5305 - Systems Analysis and Design
- INFO 5306 - Project Management for Information Systems
- INFO 5390 - Technical Services in Libraries and Information Centers

General electives, 9 hours

Additional three elective courses (9 hours) selected from the catalog or transferred from other programs with the approval of the academic advisor.

Information Science with a concentration in Information Systems, MS

The concentration in Information Systems prepares students for positions that require technical knowledge and skills. This concentration gives students a strong foundation in system analysis, system design, IT project management, databases and enterprise infrastructure. Today, employers are seeking professionals who can demonstrate creative ideas and have the ability to use information technology to further their business goals. They must gain the basic skills and technical competencies that will enable them to properly deploy and utilize technology in their organization at different levels. Completion of this concentration provides students with the basic skills and competencies that will enable them to support their organization to gain strategic and tactical competitive advantage. Courses offered in this concentration are a blend of hands-on experience and theory, with the flexibility of online delivery or classroom instruction.

General Requirements

1. Total coursework of 36 credit hours (12 courses).
2. Enroll in INFO 5090 (practicum), unless officially waived based on previous professional and industry experience.
3. Completion of the Capstone Experience.

Required courses, 9 hours

A grade of B or better must be earned in all three core courses.

- INFO 5000 - Information and Knowledge Professions
- INFO 5200 - Information Organization
- INFO 5600 - Information Access and Knowledge Inquiry

Guided electives, 9 hours

Completion of **at least** three of the following major prescribed courses (9 hours) with the guidance of the academic advisor.

- INFO 5206 - Information Retrieval Design
- INFO 5305 - Systems Analysis and Design
- INFO 5306 - Project Management for Information Systems
- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5731 - Computational Methods for Information Systems

Information systems concentration, 9 hours

Completion of **at least** three courses (9 hours) from the categories listed below with the guidance of the academic advisor. It is also required that each student completes at least one course from the following list.

- INFO 5206 - Information Retrieval Design
- INFO 5224 - Metadata for Information Organization and Retrieval II
- INFO 5305 - Systems Analysis and Design

- INFO 5306 - Project Management for Information Systems
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5713 - Telecommunications and Information Professionals
- INFO 5717 - Networked Data Modeling and Processing
- INFO 5730 - Microcomputer Applications for Information Management
- INFO 5735 - Usability and User Experience Metrics
- INFO 5737 - Information and Cyber-Security
- INFO 5745 - Information Architecture
- INFO 5815 - Topics in Digital Imaging for Information Professionals

General electives, 9 hours

Additional three elective courses (9 hours) selected from the catalog or transferred from other programs with the approval of the academic advisor.

Further information concerning these requirements may be obtained through the department.

Information Science with a concentration in Knowledge Management, MS

The concentration in knowledge management prepares students for positions in the private and public sectors that deals with various aspects of knowledge management processes and practices. It equips students with the skills and knowledge needed to manage organizational knowledge, intellectual capital and knowledge assets. Today's knowledge management professionals are expected to manage data and data analysis within the organization, cultivate innovation, increase collaboration, promote knowledge sharing, and identify knowledge gaps. At the same time, employers are seeking information and knowledge professionals who can demonstrate creative thinking and ability to use knowledge and technology to further their business goals and enhance productivity. Completion of the concentration provides students with the basic skills and competencies that will enable them to support their organization to gain strategic and tactical competitive advantage.

General requirements

Total coursework of 36 credit hours (12 courses).

Enroll in INFO 5090 (practicum), unless officially waived based on previous professional and industry experience.

Completion of the Capstone Experience.

Required courses, 9 hours

A grade of B or better must be earned in all three core courses.

- INFO 5000 - Information and Knowledge Professions
- INFO 5200 - Information Organization
- INFO 5600 - Information Access and Knowledge Inquiry

Guided electives, 9 hours

Completion of **at least** three of the following major prescribed courses (9 hours) with the guidance of the academic advisor:

- INFO 5206 - Information Retrieval Design
- INFO 5305 - Systems Analysis and Design
- INFO 5306 - Project Management for Information Systems
- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5731 - Computational Methods for Information Systems

Knowledge Management concentration, 9 hours

Completion of **at least** three courses (9 hours) from the list of Courses below:

- INFO 5230 - Documents and Records Management
- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5315 - Competitive Intelligence
- INFO 5500 - Foundational Principles in Knowledge Management
- INFO 5503 - Knowledge Management Processes and Practices

General electives, 9 hours

Additional three elective courses (9 hours) selected from the list below, the UNT catalog or transferred from other programs with the approval of the academic advisor:

- INFO 5305 - Systems Analysis and Design
- INFO 5306 - Project Management for Information Systems
- INFO 5310 - Marketing and Customer Relationships for Information Professionals
- INFO 5443 - Storytelling in Knowledge Transfer
- INFO 5770 - Introduction to Health Data Analytics
- INFO 5737 - Information and Cyber-Security
- INFO 5745 - Information Architecture
- INFO 5810 - Data Analysis and Knowledge Discovery

Information Science, MS

Graduate students in Department of Information Science Masters Programs may enroll in 9 credit hours in Fall or Spring semesters, and 6 credit hours in Summer. Additional credit hour enrollment can only be permitted with the department's consent.

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 for careers as information professionals in a variety of roles and settings. The master's program objectives are for students to demonstrate knowledge and skills related to:

- The roles and impacts of information policies, practices, and information itself on diverse populations, including underserved groups, in a rapidly changing technological and global information society.
- The design and implementation of conceptual and technological systems and services to facilitate the discovery, identification, selection, acquisition,

organization and description, storage and retrieval, preservation, dissemination, management, and use of recordable information and knowledge in any format for effective access.

- Human information behavior in order to develop and implement information systems and services that meet user needs related to information and knowledge creation, communication, discovery, identification, selection, retrieval, analysis, interpretation, evaluation, synthesis, management, and use.
- Communication and networking for personal and professional growth, leadership, collaboration, policy development, and change management.
- Teaching, research, and service, including interdisciplinary activities, that contribute to the advancement of the field.
- The philosophy, principles, and legal and ethical responsibilities of the field.

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 a one-day on-site institute for each core course 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.

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 Information Science 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 3.0 (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 3.5.
3. For international students, a satisfactory score on the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or successful completion of the UNT Intensive English Language Institute (IELI) through level 6.
4. Two 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.
5. 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.
6. 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. Prospective students are welcome to visit the department and can schedule a meeting with an academic advisor for an in-person or online session.

Application materials and instructions are available from the Toulouse Graduate School (gradschool.unt.edu) and the Department of Information Science (http://informationscience.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 portfolio and file an application for the degree.

Course requirements

- INFO 5000 - Information and Knowledge Professions (3 hours)
- INFO 5200 - Information Organization (3 hours)
- INFO 5600 - Information Access and Knowledge Inquiry (3 hours)

Additional course requirements

At least 27 additional hours of guided and general electives, *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 INFO courses (excludes transfer courses, practicums and independent study).

Master's students 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 INFO 5090 - Practicum and Internship in the Field Study. INFO 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.

Concentrations

The concentrations are intended to prepare graduates to succeed in a wide range of positions and information settings in both private and public organizations. They serve as advising guides for students. Each student works with a faculty advisor to create an individualized program reflecting the student's career goals. Information describing typical careers in the information profession and recommended courses for each program are listed on the departmental web site.

Archival studies and imaging technology

Provides graduates with the skills needed for production, archival and preservation of records, appraisal, and acquisitions. Also prepares students to work with imaging for archives, museums and libraries.

Health librarianship

Prepares graduates to work with health and medical applications, electronic medical records, clinical research data, health education, and e-science, as well as legal and ethical issues concerning health information.

Information organization

Provides graduates with the necessary skills to organize information for a wide variety of information formats, resources, systems and environments. Graduates may be responsible for library cataloging, classification, metadata development and use.

Information systems

Provides graduates with the basic skills and competencies that will enable them to support their organization to gain strategic and tactical competitive advantage. Also prepares students for positions that require technical knowledge and technical skills.

Knowledge management

Prepares students for positions in the private and public sectors that deals with various aspects of knowledge management processes and practices. It equips students with the skills and knowledge needed to manage organizational knowledge, intellectual capital and knowledge assets.

General program of study

Prepares graduates to succeed in a wide range of positions in both private and public organizations. Also provides leadership and demonstrates theoretical knowledge of library and information science and their applications in different fields.

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 Information Science, 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 INFO 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 with a concentration in Archival Studies, MS

The Archival Studies concentration is intended to prepare graduates to work with archives and records management careers. The program includes the production archival and preservation of records, photographs, digital images, digital information databases, medical records, etc. It equips students with important skill sets for current and future library and museum information professionals. In addition, the program prepares individuals to assume positions as experts in the broader markets of libraries, archives, and information centers. An integral part of the educational experience for the students enrolled in the program is the opportunity to work as interns at area museums, archives, and information centers.

General requirements

Total coursework of 36 credit hours (12 courses).

Enroll in INFO 5090 (practicum), unless officially waived based on previous professional and industry experience.

Completion of the Capstone Experience.

Required courses, 9 hours

A grade of B or better must be earned in all three core courses.

- INFO 5000 - Information and Knowledge Professions
- INFO 5200 - Information Organization
- INFO 5600 - Information Access and Knowledge Inquiry

Concentration required courses, 12 hours

- INFO 5240 - Archival Arrangement and Description
- INFO 5295 - Preservation

  or
- INFO 5297 - Introduction to Special Materials Preservation

  or
- INFO 5843 - Digital Curation: Strategies and Application
- INFO 5371 - Archives and Manuscripts

  or
- INFO 5290 - Special Collections and Archives
- INFO 5375 - Archival Appraisal

Degree/Major Guided electives, 6 hours

- INFO 5230 - Documents and Records Management
- INFO 5290 - Special Collections and Archives
- INFO 5297 - Introduction to Special Materials Preservation
- INFO 5380 - Contemporary Issues in Archival Science
- INFO 5450 - Rare Books
- INFO 5960 - Library and Information Sciences Institute or Seminar
- INFO 5742 - Web Archiving

General electives, 9 hours

Additional three elective courses (9 hours) selected from the following list or from outside with the consent of their academic advisor.

- INFO 5080 - Research Methods and Analysis
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5224 - Metadata for Information Organization and Retrieval II
- INFO 5740 - Introduction to Digital Libraries
- INFO 5741 - Digital Humanities
- INFO 5815 - Topics in Digital Imaging for Information Professionals
- INFO 5841 - Data Curation and Management
- INFO 5843 - Digital Curation: Strategies and Application

Library Science with a concentration in Children's and Young Adult Librarianship, MS

The concentration in children's and young adult librarianship prepares candidates for people-centered, community based, and equity driven service in various settings. Course experiences educate students to become visionary leaders who demonstrate an understanding of human development and family engagement, then apply this knowledge as a collaborative partner in supporting the information needs of diverse groups.

(NOTE: This concentration DOES NOT prepare one to work in a school library setting. Students interested in School Librarianship should consult the School Librarian Certification program page.)

General Requirements

1. Total coursework is 36 credit hours (12 courses).

2. Enrollment in INFO 5090 (practicum) unless officially waived based on previous professional and industry experience.

3. Completion of the Capstone Experience.

Required courses, 9 hours

A grade of B or better must be earned in all three core courses.

- INFO 5000 - Information and Knowledge Professions
- INFO 5200 - Information Organization
- INFO 5600 - Information Access and Knowledge Inquiry

Prescribed electives

Completion of the following major elective courses (18 hours).

- INFO 5310 - Marketing and Customer Relationships for Information Professionals
- INFO 5320 - Public Libraries
- INFO 5400 - Information Resources Development
- INFO 5421 - Literature for Youth in Public Libraries
- INFO 5445 - History and Culture of Youth Information Services
- INFO 5960 - Library and Information Sciences Institute or Seminar

Three additional elective courses from:

Completion of at least three courses (9 hours) from the list of courses below with the guidance of the academic advisor.

- INFO 5080 - Research Methods and Analysis
- INFO 5210 - Introduction to Cataloging and Classification
- INFO 5220 - Advanced Cataloging and Classification
- INFO 5300 - Management of Information Agencies
- INFO 5302 - Advanced Management of Information Agencies
- INFO 5303 - Financial and Human Resource Management in Information Agencies
- INFO 5410 - Adult Materials and Reading Interests
- INFO 5415 - Graphic Novels and Comics
- INFO 5427 - Inclusive Materials for Children and Youth
- INFO 5440 - Storytelling for Information Professionals
- INFO 5441 - Advanced Storytelling
- INFO 5685 - Information Resources and Services in Culturally Diverse Communities
- INFO 5845 - Creating Online Content for Youth Services

Additional information

School Librarian Certification students should see the respective program pages for specific requirements, as their options may differ from other programs.

Further information concerning these requirements may be obtained through the department.

Library Science with a concentration in Information Organization, MS

In the Information Organization concentration, students learn how to organize information for a wide variety of information formats, resources, systems, and environments. Graduates may be responsible for library cataloging, classification, metadata development, and use, indexing and abstracting, organizing digital resources, and organizing special materials in libraries, museums, and archives.

Graduates are expected to understand the principles and application of concepts related to information representation, management, and access, including issues related to quality control, and the need to respond actively to users' needs. They are also expected to have a foundation in various systems and technologies used for organizing information.

General requirements

1. Total coursework is 36 credit hours (12 courses).

2. Enrollment in INFO 5090 (practicum) unless officially waived based on previous professional and industry experience.

3. Completion of the Capstone Experience.

Required courses, 9 hours

A grade of B or better must be earned in all three core courses.

- INFO 5000 - Information and Knowledge Professions
- INFO 5200 - Information Organization
- INFO 5600 - Information Access and Knowledge Inquiry

Guided electives, 6 hours

Completion of **at least** two of the following major prescribed courses (6 credit hours) with the guidance of the academic advisor:

- INFO 5080 - Research Methods and Analysis
- INFO 5210 - Introduction to Cataloging and Classification
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5300 - Management of Information Agencies
- INFO 5400 - Information Resources Development

Four additional courses, 12 hours

Completion of **at least** four courses (12 credit hours) from the categories listed below with the guidance of the academic advisor. It is also required that each student complete at least one course from each of the following areas.

Information Organization

- INFO 5205 - Information Indexing, Abstracting and Retrieval
- INFO 5210 - Introduction to Cataloging and Classification
- INFO 5220 - Advanced Cataloging and Classification

- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5224 - Metadata for Information Organization and Retrieval II

System and Application

- INFO 5206 - Information Retrieval Design
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5717 - Networked Data Modeling and Processing
- INFO 5740 - Introduction to Digital Libraries
- INFO 5750 - Managing Library Automation Projects
- INFO 5814 - Web Content Development and Maintenance
- INFO 5815 - Topics in Digital Imaging for Information Professionals
- INFO 5819 - Web Administration for Information Professionals

Management

- INFO 5300 - Management of Information Agencies
- INFO 5305 - Systems Analysis and Design
- INFO 5306 - Project Management for Information Systems
- INFO 5390 - Technical Services in Libraries and Information Centers

General electives, 9 hours

Additional three elective courses (9 credit hours) selected from the catalog or transferred from other programs, with the approval of the academic advisor.

Library Science with a concentration in Knowledge Management, MS

The concentration in knowledge management prepares students for positions in the private and public sectors that deal with various aspects of knowledge management processes and practices. It equips students with the skills and knowledge needed to manage organizational knowledge, intellectual capital and knowledge assets. Today's knowledge management professionals are expected to manage data and data analysis within the organization, cultivate innovation, increase collaboration, promote knowledge sharing, and identify knowledge gaps. At the same time, employers are seeking information and knowledge professionals who can demonstrate creative thinking and have the ability to use knowledge and technology to further their business goals and enhance productivity. Completion of the concentration provides students with the basic skills and competencies that will enable them to support their organization to gain strategic and tactical competitive advantage.

General requirements

1. Total coursework is 36 credit hours (12 courses).
2. Enrollment in INFO 5090 (practicum) unless officially waived based on previous professional and industry experience.
3. Completion of the Capstone Experience.

Required core courses, 9 hours

A grade of B or better must be earned in all three core courses.

- INFO 5000 - Information and Knowledge Professions
- INFO 5200 - Information Organization
- INFO 5600 - Information Access and Knowledge Inquiry

Required courses, 9 hours

Completion of at least three of the following major prescribed courses (9 hours) with the guidance of the academic advisor:

- INFO 5210 - Introduction to Cataloging and Classification
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5300 - Management of Information Agencies
- INFO 5305 - Systems Analysis and Design
- INFO 5306 - Project Management for Information Systems
- INFO 5307 - Knowledge Management Tools and Technologies

Concentration required courses, 9 hours

Completion of **at least** three courses (9 hours) from the list of courses below:

- INFO 5230 - Documents and Records Management
- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5315 - Competitive Intelligence
- INFO 5500 - Foundational Principles in Knowledge Management
- INFO 5503 - Knowledge Management Processes and Practices

General electives, 9 hours

Additional three elective courses (9 hours) selected from the list of courses below, the UNT catalog or transferred from other programs with the approval of the academic advisor:

- INFO 5305 - Systems Analysis and Design
- INFO 5306 - Project Management for Information Systems
- INFO 5310 - Marketing and Customer Relationships for Information Professionals
- INFO 5443 - Storytelling in Knowledge Transfer
- INFO 5737 - Information and Cyber-Security
- INFO 5745 - Information Architecture
- INFO 5770 - Introduction to Health Data Analytics
- INFO 5810 - Data Analysis and Knowledge Discovery

Library Science with a concentration in Law Librarianship and Legal Informatics, MS

The law librarianship and legal informatics concentration 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.

General Requirements

1. Total coursework is 36 credit hours (12 courses).
2. Enrollment in INFO 5090 (practicum/practicum) unless officially waived based on previous professional and industry experience.
3. Completion of the Capstone Experience.

Required courses, 9 hours

A grade of B or better must be eared in all three core courses.

- INFO 5000 - Information and Knowledge Professions
- INFO 5200 - Information Organization
- INFO 5600 - Information Access and Knowledge Inquiry

Guided electives, minimum 6 hours

Completion of **at least** two of the following major prescribed courses (6 hours) with the guidance of the academic advisor.

- INFO 5080 - Research Methods and Analysis
- INFO 5210 - Introduction to Cataloging and Classification
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5300 - Management of Information Agencies
- INFO 5400 - Information Resources Development

Law librarianship and legal informatics concentration, 6 hours

Completion of **at least** two courses (6 hours) from the list of courses below with the guidance of the academic advisor.

- INFO 5366 - Law Library Management
- INFO 5647 - Legal Information and Access Services
- INFO 5960 - Library and Information Sciences Institute or Seminar (when topic is "Advanced Legal Information and Legal Informatics")

General electives, 12 hours

Completion of additional four elective courses (12 hours) from the categories listed below in *addition* to INFO 5090, if it is not waived by the advisor.

Information resources and retrieval

- INFO 5615 - Electronic Databases and Information Services
- INFO 5637 - Medical Informatics
- INFO 5646 - Information and Access Services in Business
- INFO 5660 - Government Information and Access Services

Information technology

- INFO 5224 - Metadata for Information Organization and Retrieval II
- INFO 5711 - Internet Applications, Services and Management for Information Professionals
- INFO 5712 - Horizon Technologies for Library and Information Centers
- INFO 5713 - Telecommunications and Information Professionals
- INFO 5730 - Microcomputer Applications for Information Management
- INFO 5750 - Managing Library Automation Projects
- INFO 5814 - Web Content Development and Maintenance

Management

- INFO 5303 - Financial and Human Resource Management in Information Agencies
- INFO 5305 - Systems Analysis and Design
- INFO 5306 - Project Management for Information Systems
- INFO 5500 - Foundational Principles in Knowledge Management

  or
- INFO 5503 - Knowledge Management Processes and Practices
- INFO 5960 - Library and Information Sciences Institute or Seminar (when topic is "Information Policy" or "Intellectual Property for Information Professionals")

Additional information

School Library Certification students should see the respective program pages for specific requirements, as their options may differ from other programs.

Further information concerning these requirements may be obtained through the department.

Library Science, MS

Graduate students in Department of Information Science Masters Programs may enroll in 9 credit hours in Fall or Spring semesters, and 6 credit hours in Summer. Additional credit hour enrollment can only be permitted with the department's consent.

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 for careers as information professionals in a variety of roles and settings. The master's program objectives are for students to demonstrate knowledge and skills related to:

- The roles and impacts of information policies, practices, and information itself on diverse populations, including underserved groups, in a rapidly changing technological and global information society.
- The design and implementation of conceptual and technological systems and services to facilitate the discovery, identification, selection, acquisition, organization and description, storage and retrieval, preservation, dissemination, management, and use of recordable information and knowledge in any format for effective access.
- Human information behavior in order to develop and implement information systems and services that meet user needs related to information and knowledge creation, communication, discovery, identification, selection, retrieval, analysis, interpretation, evaluation, synthesis, management, and use.
- Communication and networking for personal and professional growth, leadership, collaboration, policy development, and change management.
- Teaching, research, and service, including interdisciplinary activities, that contribute to the advancement of the field.
- The philosophy, principles, and legal and ethical responsibilities of the field.

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 a one-day on-site institute for each core course 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.

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 Information Science 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 3.0 (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 3.5.
3. For international students, a satisfactory score on the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS) or successful completion of the UNT Intensive English Language Institute (IELI) through level 6.
4. Two 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.
5. 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.
6. 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. Prospective students are welcome to visit the department and can schedule a meeting with an academic advisor for an in-person or online session.

Application materials and instructions are available from the Toulouse Graduate School (gradschool.unt.edu) and the Department of Information Science (http://informationscience.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 portfolio and file an application for the degree.

Course requirements

- INFO 5000 - Information and Knowledge Professions (3 hours)
- INFO 5200 - Information Organization (3 hours)
- INFO 5600 - Information Access and Knowledge Inquiry (3 hours)

Additional course requirements

At least 27 additional hours of guided and general electives, *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 INFO courses (excludes transfer courses, practicums and independent study).

Master's students 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 INFO 5090 - Practicum and Internship in the Field Study. INFO 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.

Concentrations

Archival studies and imaging technology

Provides graduates with the skills needed for production, archival and preservation of records, appraisal, and acquisitions. Also prepares students to work with imaging for archives, museums and libraries.

Information organization

Provides graduates with the necessary skills to organize information for a wide variety of information formats, resources, systems and environments. Graduates may be responsible for library cataloging, classification, metadata development and use.

Knowledge management

Prepares students for positions in the private and public sectors that deals with various aspects of knowledge management processes and practices. It equips students with the skills and knowledge needed to manage organizational knowledge, intellectual capital and knowledge assets.

Law librarianship and legal informatics

Prepares graduates for careers in law libraries, information organizations using legal information resources and information publishers. Enables law librarians to play key roles in the management of legal information in diverse settings.

Youth librarianship

Prepares graduates for a career in different library settings including metropolitan, suburban, rural, public and academic libraries where they can provide library services to people who teach and work with youth and youth-related information services.

General program of study

Prepares graduates to succeed in a wide range of positions in both private and public organizations. Also provides leadership and demonstrates theoretical knowledge of library and information science and their applications in different fields.

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 Information Science, 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 INFO 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 with a concentration in Consumer Insights (Consumer Analytics), PhD

A student with a previous master's degree must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, independent study and the dissertation. Additional courses above the 60 hours also may be stipulated as needed, such as the research tool and subject tool requirement. Courses counted toward the doctorate must be numbered 5000 or above (except IINFO 5000, INFO 5080, INFO 5200 or INFO 5600) and must be chosen with the approval of a faculty academic advisor.

A student with no previous master's degree must earn a minimum of 72 semester hours of graduate course work in organized course work, independent study and the dissertation. Additional courses above the 72 hours also may be stipulated as needed. 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.

Required core courses, 12 hours

- INFO 6000 - Seminar in Information Science
- INFO 6660 - Readings in Information Science
- INFO 6700 - Seminar in Communication and Use of Information
- INFO 6945 - Trends and Issues in Information Science

Research courses, minimum of 24 hours

Minimum of 24 semester credit hours, including doctoral dissertation.

Required research course, 3 hours

- INFO 6940 - Research Methodology in Information Science

Quantitative research methods/statistics, 6 hours

Chosen in consultation with advisor.

Qualitative research methods, 3 hours

Chosen in consultation with advisor.

Dissertation, minimum of 12 hours

- INFO 6950 - Doctoral Dissertation

Consumer Insights (Consumer Analytics), 12 hours

- CMHT 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management
- CMHT 5440 - Consumer Theory
- CMHT 5770 - Digital Strategies & Consumer Insight

  or
- CMHT 6770 - Digital Strategies and Consumer Insight
- CMHT 5870 - Customer Relationship Management Analytics

  or
- CMHT 6870 - Customer Relationship Management Analytics

Concentration electives, minimum of 12 hours

Minimum of 12 semester credit hours, focusing on one of the following competencies.

Hospitality and Tourism Management Perspective

- CMHT 5400 - Quantitative Data Analysis: Applications in Merchandising & Hospitality Management
- CMHT 5460 - Human Capital Development in Merchandising and Hospitality Management
- CMHT 6500 - Social Media Analytics using SNA
- CMHT 6600 - Network Analysis Visualization (NAV) for Social Media Marketing
- CMHT 6900 - Special Problems (3 hours taken with the major professor; required)
- HMGT 5250 - Restaurant Development
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMGT 5520 - Global Tourism Systems
- HMGT 5530 - International Sustainable Tourism
- HMGT 5540 - Tourism Services Management and Marketing
- HMGT 5585 - SMART Destination
- HMGT 5560 - Planning and Policy in Sustainable Tourism
- HTAN 5300 - Hospitality and Tourism Data Analytics
- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5790 - Field Experience in Hospitality and Tourism
- HMGT 5860 - Strategic Management in the Hospitality Industry

Merchandising Perspective

- CMHT 5600 - Managing Customer Experiences
- CMHT 6500 - Social Media Analytics using SNA
- CMHT 6600 - Network Analysis Visualization (NAV) for Social Media Marketing
- CMHT 6900 - Special Problems (3 hours taken with the major professor; required)
- MDSE 5240 - Global Retailing
- MDSE 5510 - Advanced Buying, Planning and Allocation
- MDSE 5710 - Digital Optimization
- MDSE 5750 - Digital Retailing
- MDSE 5800 - Social Media Analytics: Data Visualization and Insights

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 Information Science. 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.

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.

The maximum time allowed for completing the doctoral degree is 8 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.

Information Science with a concentration in Cybersecurity, PhD

A student with a previous master's degree must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, independent study and the dissertation. Additional courses above the 60 hours also may be stipulated as needed, such as the research tool and subject tool requirement. Courses counted toward the doctorate must be numbered 5000 or above (except INFO 5000, INFO 5080, INFO 5200 or INFO 5600) and must be chosen with the approval of a faculty academic advisor.

A student with no previous master's degree must earn a minimum of 72 semester hours of graduate course work in organized course work, independent study and the dissertation. Additional courses above the 72 hours also may be stipulated as needed. 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.

Required core courses, 12 hours

- INFO 6000 - Seminar in Information Science
- INFO 6660 - Readings in Information Science
- INFO 6700 - Seminar in Communication and Use of Information
- INFO 6945 - Trends and Issues in Information Science

Research courses, minimum of 24 hours

Courses may include individual research, direct studies, special topics, internships and doctoral dissertation.

Required research course, 3 hours

- INFO 6940 - Research Methodology in Information Science

Quantitative research methods/statistics, 6 hours

Chosen in consultation with advisor

Qualitative research methods, 3 hours

Chosen in consultation with advisor.

Dissertation, minimum of 12 hours

Cybersecurity concentration core, 12 hours

Other relevant courses may be used upon department approval.

- INFO 5707 - Data Modeling for Information Professionals

  or
- CSCE 5350 - Fundamentals of Database Systems

- INFO 5960 - Library and Information Sciences Institute or Seminar (when topic is "Knowledge Management, Tools and Technologies")

- BCIS 5740 - Information Security Management

  or
- CSCE 5550 - Introduction to Computer Security

- CSCE 5380 - Data Mining

Concentration electives, minimum of 12 hours

The following is a partial list. Other relevant courses may be used upon department approval.

- BCIS 5620 - Networking and Telecommunications
- BCIS 5650 - Emerging Information Technologies
- BCIS 5670 - International Issues in Information Technology
- BCIS 5680 - Web-Based Systems Development
- BCIS 5690 - Topics in Information Technology
- BCIS 5700 - Information Systems and Technologies Capstone
- CSCE 5550 - Introduction to Computer Security
- CSCE 5933 - Topics in Computer Science and Engineering (when topic is Design and Analysis of Trusted Secure Computing Platform")

- CJUS 5100 - Cyber Crime and Victimization
- INFO 5347 - Digital Citizenship
- INFO 5960 - Library and Information Sciences Institute or Seminar (when topic is "Information Privacy," "Data Analysis and Knowledge Discovery" or "Topics in Information Security")

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 Information Science. 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.

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.

The maximum time allowed for completing the doctoral degree is 8 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.

Information Science with a concentration in Data Science, PhD

A student with a previous master's degree must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, independent study and the dissertation. Additional courses above the 60 hours also may be stipulated as needed, such as the research tool and subject tool requirement. Courses counted toward the doctorate must be numbered 5000 or above (except INFO 5000, INFO 5080, INFO 5200 or INFO 5600) and must be chosen with the approval of a faculty academic advisor.

A student with no previous master's degree must earn a minimum of 72 semester hours of graduate course work in organized course work, independent study and the dissertation. Additional courses above the 72 hours also may be stipulated as needed. 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.

Required core courses, 12 hours

- INFO 6000 - Seminar in Information Science
- INFO 6660 - Readings in Information Science
- INFO 6700 - Seminar in Communication and Use of Information
- INFO 6945 - Trends and Issues in Information Science

Research courses, 24 hours minimum

Minimum of 24 graduate credit hours, e.g., individual research courses, directed studies, special topics courses, internships and doctoral dissertation.

Required research course, 3 hours

- INFO 6940 - Research Methodology in Information Science (or equivalent upon Information Science PhD Program Office approval)

Quantitative research methods/statistics, 6 hours

Chosen from MSCI or MATH 6000-level courses, or statistics courses chosen in consultation with Information Science PhD Program Office Advisor.

Qualitative research methods, 3 hours

Chosen in consultation with Information Science PhD Program Office Advisor.

Dissertation, 12 hours minimum

- INFO 6950 - Doctoral Dissertation

Concentration core, 15 hours

Students take the following courses; students may take equivalent courses upon approval by the Information Science PhD Program Office.

- CSCE 5300 - Introduction to Big Data and Data Science
- DSCI 5350 - Big Data Analytics (or equivalent, e.g., CMHT 6500 - Social Media Analytics using SNA)
- DSCI 5360 - Data Visualization for Analytics (or INFO 5709 - Data Visualization and Communication)
- DTSC 5502 - Principles and Techniques for Data Science
- INFO 5500 - Foundational Principles in Knowledge Management

Electives, 9 hours minimum

Minimum of 9 credit hours; the following is a partial list; other relevant courses may be used upon Information Science PhD Program Office approval:

- CSCE 5210 - Fundamentals of Artificial Intelligence
- CSCE 5216 - Pattern Recognition
- CSCE 5225 - Digital Image Processing
- CSCE 5310 - Methods in Empirical Analysis
- CSCE 5350 - Fundamentals of Database Systems
- CSCE 5380 - Data Mining
- CSCE 6260 - Advanced Topics in Pattern Recognition and Image Processing
- CSCE 6350 - Advanced Topics in Database Systems
- DSCI 5220 - Survey Analytics
- DSCI 5250 - Statistical Techniques in Simulation
- DSCI 5260 - Business Analytics Capstone
- DSCI 5310 - Risk and Life-Data Analysis
- DSCI 5340 - Predictive Analytics and Business Forecasting
- EENG 5640 - Computer Vision and Image Analysis
- INFO 5707 - Data Modeling for Information Professionals (or equivalent, e.g., BCIS 5420 - Foundations of Database Management Systems)
- INFO 5717 - Networked Data Modeling and Processing
- INFO 5735 - Usability and User Experience Metrics

- INFO 5737 - Information and Cyber-Security (or equivalent, e.g., CSCE 5550 - Introduction to Computer Security)
- INFO 6880 - Seminar in Information Science and Technology (when topic is "Social Network Analysis for Information Professionals")
- INFO 6880 - Seminar in Information Science and Technology (when topic is "Health Research Methodology")
- LING 5410 - Foundations of Computational Linguistics
- LING 6060 - Data Analysis in Human Language Technology (HLT) I
- LING 6130 - Natural Language Processing (or equivalent, e.g., CSCE 5290 - Natural Language Processing)
- LTEC 6514 - Seminar on Advanced Research Topics in Learning Technologies and Information Sciences (or equivalent, e.g., LING 5560 - Discourse Analysis)
- LTEC 6514 - Seminar on Advanced Research Topics in Learning Technologies and Information Sciences (when topic is "Scaling Methods") (or equivalent, e.g., LING 5560 - Discourse Analysis)

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 Information Science. 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.

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.

The maximum time allowed for completing the doctoral degree is 8 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.

Information Science with a concentration in Geospatial Information Science, PhD

A student with a previous master's degree must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, independent study and the dissertation. Additional courses above the 60 hours also may be stipulated as needed, such as the research tool and subject tool requirement. Courses counted toward the doctorate must be numbered 5000 or above (except INFO 5000, INFO 5080, INFO 5200 or INFO 5600) and must be chosen with the approval of a faculty academic advisor.

A student with no previous master's degree must earn a minimum of 72 semester hours of graduate course work in organized course work, independent study and the dissertation. Additional courses above the 72 hours also may be stipulated as needed. 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.

Interdisciplinary core, 3 hours

- INFO 6945 - Trends and Issues in Information Science

Subject core, 9 hours

- INFO 6000 - Seminar in Information Science
- INFO 6660 - Readings in Information Science
- INFO 6700 - Seminar in Communication and Use of Information

Research courses, 24 hours

Minimum of 24 graduate credit hours, e. g., individual research courses, directed studies, special topics courses, internships and doctoral dissertation. Research methods courses are chosen with approval of major advisor. Other relevant courses may be used with advisor approval.

- GEOG 5185 - Statistical Research Methods in Geography
- GEOG 5550 - Advanced Geographic Information Systems (or GEOG 5900 if student has taken GEOG 5550)
- GEOG 5900 - Special Problems
- INFO 6940 - Research Methodology in Information Science
- INFO 6950 - Doctoral Dissertation (12 hours)

Concentration core, 15 hours

Chosen with approval of major advisor. Other relevant courses may be used with advisor approval.

- GEOG 5230 - Location Intelligence: Advanced Business GIS Concepts and Applications
- GEOG 5410 - Location-Allocation Modeling
- GEOG 5510 - GIS for Applied Research
- GEOG 5560 - Application Development with Python Programming
- GEOG 5570 - Special Topics in GIS
- GEOG 5580 - Advanced GIS Methods in Health
- GEOG 5590 - Advanced GIS Programming

Electives, 9 hours

Chosen with approval of major advisor. Other relevant courses may be used with advisor approval.

- BIOL 5040 - Contemporary Topics in Environmental Science and Ecology
- BIOL 5050 - Foundations of Ecological Theory
- CSCE 5170 - Graph Theory
- CSCE 5213 - Modeling and Simulation
- CSCE 5215 - Machine Learning
- CSCE 5220 - Computer Graphics
- CSCE 5225 - Digital Image Processing
- CSCE 5350 - Fundamentals of Database Systems
- CSCE 5380 - Data Mining
- CSCE 5820 - Advances in Bioinformatics

- CSCE 6260 - Advanced Topics in Pattern Recognition and Image Processing
- CSCE 6350 - Advanced Topics in Database Systems
- EENG 5640 - Computer Vision and Image Analysis
- EMDS 5610 - Disaster Preparedness and Management
- EMDS 5615 - Environmental Planning and Hazards
- GEOG 5210 - Seminar in Urban Geography
- GEOG 5350 - Geomorphology
- GEOG 5400 - Environmental Modeling
- SOCI 5210 - Introduction to Social Statistics
- SOCI 5350 - Seminar on Urbanization

Research tool requirement

Students must demonstrate proficiency in research methods or statistics prior to or within the first semester of 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 (or 72) hours required for the doctoral degree.

- COMM 5185 - Quantitative Research Methods in Communication
- DSCI 5180 - Analytics Foundations for Business
- EPSY 5210 - Educational Statistics
- INFO 5080 - Research Methods and Analysis

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 Information Science. 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.

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.

The maximum time allowed for completing the doctoral degree is 8 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.

Information Science with a concentration in Health Informatics, PhD

A student with a previous master's degree must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, independent study and the dissertation. Additional courses above the 60 hours also may be stipulated as needed, such as the research tool and subject tool requirement. Courses counted toward the doctorate must be numbered 5000 or above (except INFO 5000, INFO 5080, INFO 5200 or INFO 5600) and must be chosen with the approval of a faculty academic advisor.

A student with no previous master's degree must earn a minimum of 72 semester hours of graduate course work in organized course work, independent study and the dissertation. Additional courses above the 72 hours also may be stipulated as needed. 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.

Core areas, 12 hours

- INFO 6000 - Seminar in Information Science
- INFO 6660 - Readings in Information Science
- INFO 6700 - Seminar in Communication and Use of Information
- INFO 6945 - Trends and Issues in Information Science

Research courses, 24 hours minimum

Minimum 24 credit hours, e.g. individual research courses, directed studies, special topics courses, internships and doctoral dissertation.

- Required: INFO 6940 - Research Methodology in Information Science
- Quantitative research methods/statistics (6 graduate credit hours in consultation with advisor)
- Qualitative research methods (3 graduate credit hours in consultation with advisor)
- Dissertation hours (minimum of 12 hours of INFO 6950)

Concentration core, 12 hours

Chosen with approval of major advisor. Other relevant courses may be used with advisor approval.

- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5637 - Medical Informatics
- INFO 6220 - Information Retrieval Theory

Concentration electives, 12 hours

Consult with an advisor to determine 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 Information Science. 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.

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.

The maximum time allowed for completing the doctoral degree is 8 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.

Information Science with a concentration in Journalism, PhD

A student with a previous master's degree must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, independent study and the dissertation. Additional courses above the 60 hours also may be stipulated as needed, such as the research tool and subject tool requirement. Courses counted toward the doctorate must be numbered 5000 or above (except INFO 5000, INFO 5080, INFO 5200 or INFO 5600) and must be chosen with the approval of a faculty academic advisor.

A student with no previous master's degree must earn a minimum of 72 semester hours of graduate course work in organized course work, independent study and the dissertation. Additional courses above the 72 hours also may be stipulated as needed. 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.

Core courses, 12 hours

Note: This section of the degree plan is the same for every concentration or general program of study in the Information Science, PhD program.

- INFO 6000 - Seminar in Information Science
- INFO 6660 - Readings in Information Science (taken in the last semester of course work with the major professor)
- INFO 6700 - Seminar in Communication and Use of Information
- INFO 6945 - Trends and Issues in Information Science

Research courses, 21 hours

Minimum of 21 hours, e.g. individual research courses, direct studies, special topics courses, internships and doctoral dissertation.

- INFO 6940 Research Methodology in Information Science
- Quantitative research methods/statistics (3 graduate hours in consultation with advisor)
- Qualitative research methods (3 graduate hours in consultation with advisor)
- Dissertation hours (minimum of 12 hours of INFO 6950 with the major professor after completion of course work and qualifying examination)

Concentration core courses, 15 hours

Chosen with approval of major advisor. Other relevant courses may be used with advisor approval.

- INFO 5040 - Information Behavior
- INFO 5815 - Topics in Digital Imaging for Information Professionals
- JOUR 5040 - Media Studies and Theories
- JOUR 5310 - Media Ethics
- JOUR 5320 - New Technologies of Mass Communication

Concentration electives, 12 hours

Minimum of 12 hours. The following is a partial list; other relevant courses may be used upon department approval. NOTE: These courses are open for all Information Science, PhD program students regardless of concentration.

- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5441 - Advanced Storytelling
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5711 - Internet Applications, Services and Management for Information Professionals
- INFO 5735 - Usability and User Experience Metrics
- INFO 5810 - Data Analysis and Knowledge Discovery
- INFO 5841 - Data Curation and Management
- INFO 5960 - Library and Information Sciences Institute or Seminar
- INFO 6740 - Scholarly and Scientific Communication
- INFO 6930 - Information and Communication Measurement
- JOUR 5140 - Strategic Persuasion and Media Effects
- JOUR 5150 - International Mass Communication
- JOUR 5210 - Race, Gender and the Media: A Methods Approach
- JOUR 5220 - Advanced Business Journalism
- JOUR 5280 - Media Management
- JOUR 5330 - Strategic Social Media
- JOUR 5700 - Advanced Feature Writing
- JOUR 5710 - Narrative Journalism
- JOUR 5750 - Advanced Multimedia Storytelling for News

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 Information Science. 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.

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.

The maximum time allowed for completing the doctoral degree is 8 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.

Information Science with a concentration in Knowledge Management, PhD

A program that focuses on the study of knowledge management in government agencies and corporations for the purpose of supporting stated organizational goals and objectives, and prepares individuals to function as information resource managers. Includes instruction in information technology, principles of computer and information systems, management information systems, applicable policy and regulations, and operations and personnel management.

A student with a previous master's degree must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, independent study and the dissertation. Additional courses above the 60 hours also may be stipulated as needed, such as the research tool and subject tool requirement. Courses counted toward the doctorate must be numbered 5000 or above (except INFO 5000, INFO 5080, INFO 5200 or INFO 5600) and must be chosen with the approval of a faculty academic advisor.

A student with no previous master's degree must earn a minimum of 72 semester hours of graduate course work in organized course work, independent study and the dissertation. Additional courses above the 72 hours also may be stipulated as needed. 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.

Required core, 12 hours

- INFO 6000 - Seminar in Information Science
- INFO 6660 - Readings in Information Science
- INFO 6700 - Seminar in Communication and Use of Information
- INFO 6945 - Trends and Issues in Information Science

Methods core, 12 hours

- INFO 6940 - Research Methodology in Information Science

  Quantitative Research Methods/Statistics 6 hours

  Qualitative Research Methods 3 hours

Concentration core with guided electives, 15 hours

Completion of at least two of the following prescribed courses (6 hours) with the guidance of their academic advisor:

- ADTA 5100 - Fundamentals of Data Analytics
- INFO 5306 - Project Management for Information Systems
- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5500 - Foundational Principles in Knowledge Management
- INFO 5503 - Knowledge Management Processes and Practices

Completion of at least three of the following prescribed courses (9 hours) from the list below or other electives as approved by advisor or Major Professor:

- CSCE 5300 - Introduction to Big Data and Data Science
- DTSC 5502 - Principles and Techniques for Data Science
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5224 - Metadata for Information Organization and Retrieval II
- INFO 5230 - Documents and Records Management
- INFO 5347 - Digital Citizenship
- INFO 5441 - Advanced Storytelling
- INFO 5709 - Data Visualization and Communication
- INFO 5711 - Internet Applications, Services and Management for Information Professionals
- INFO 5810 - Data Analysis and Knowledge Discovery
- INFO 5841 - Data Curation and Management
- INFO 6740 - Scholarly and Scientific Communication
- INFO 6930 - Information and Communication Measurement
- JOUR 5280 - Media Management

Concentration electives, 9 hours

Electives as approved by advisor or Major Professor.

Dissertation, 12 hours

- INFO 6950 - Doctoral Dissertation

Research tool requirement

Students must demonstrate proficiency in research methods or statistics prior to or within the first semester of 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 (or 72) hours required for the doctoral degree.

- COMM 5185 - Quantitative Research Methods in Communication
- DSCI 5180 - Analytics Foundations for Business
- EPSY 5210 - Educational Statistics
- INFO 5080 - Research Methods and Analysis

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 Information Science. 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.

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.

The maximum time allowed for completing the doctoral degree is 8 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.

Information Science with a concentration in Linguistics, PhD

A student with a previous master's degree must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, independent study and the dissertation. Additional courses above the 60 hours also may be stipulated as needed, such as the research tool and subject tool requirement. Courses counted toward the doctorate must be numbered 5000 or above (except INFO 5000, INFO 5080, INFO 5200 or INFO 5600) and must be chosen with the approval of a faculty academic advisor.

A student with no previous master's degree must earn a minimum of 72 semester hours of graduate course work in organized course work, independent study and the dissertation. Additional courses above the 72 hours also may be stipulated as needed. 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.

Required core courses, 12 hours

These courses are the same for every concentration or general program of study in the information science PhD program.

- INFO 6000 - Seminar in Information Science
- INFO 6660 - Readings in Information Science
- INFO 6700 - Seminar in Communication and Use of Information
- INFO 6945 - Trends and Issues in Information Science

Research courses, 21 hours minimum

Minimum of 21 graduate credit hours, e. g., individual research courses, directed studies, special topics courses, internships and doctoral dissertation.

Required research courses

- ANTH 5031 - Ethnographic and Qualitative Methods

  or
- ANTH 5032 - Ethnographic and Qualitative Methods for Non-Majors

- INFO 6940 - Research Methodology in Information Science
- LING 5070 - Research Design in Linguistics (or 6000-level equivalent)

Remaining research hours

For the remaining required hours of research, students choose from the following.

- LING 6514 - Seminar on Advanced Research Topics in Linguistics
- LING 6950 - Doctoral Dissertation
- LTEC 6501 - Introduction to Research in Learning Technologies
- LTEC 6511 - Analysis of Research in Learning Technologies
- LTEC 6512 - Analysis of Qualitative Research in Learning Technologies

Concentration required courses, 18 hours

The following courses are required for the concentration in linguistics; their equivalents may be substituted with an advisor's approval.

- LING 6010 - Morpho-Syntax
- LING 6020 - Syntax II
- LING 6030 - Semantics and Pragmatics II
- LING 6040 - Introduction to Statistical Methods in Computational Linguistics
- LING 6050 - Phonology II
- LING 6110 - Linguistic Variation

Concentration electives, 9 hours minimum

Students take a minimum of 9 hours of electives in the concentration from the following list; students may take equivalent courses with advisor approval.

- LING 6060 - Data Analysis in Human Language Technology (HLT) I
- LING 6120 - Annotation Standards
- LING 6130 - Natural Language Processing
- LING 6140 - Data Analysis in Human Language Technology (HLT) II
- LING 6150 - Semantic Ontologies
- LING 6800 - Topics in Linguistics
- LING 6900 - Special Problems

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 Information Science. 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.

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.

The maximum time allowed for completing the doctoral degree is 8 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.

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. The following units actively participate in the doctoral program:

- Department of Computer Science and Engineering, College of Engineering
- Department of Criminal Justice, College of Health and Public Service
- 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 Information Science, College of Information
- Department of Linguistics, College of Information
- College of Merchandising, Hospitality and Tourism

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 or Bachelor's degree from a regionally accredited institution.
2. Overall grade point average of 3.5 (4.0 scale).
3. Competitive 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 recommendation letters from former professors, employers or others who can give evidence of the applicant's academic potential, 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 academic writing (published paper, major term paper, thesis chapter, etc.).
9. Optional: Interview with program faculty 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.

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

A student with a previous master's degree must earn a minimum of 60 semester hours of graduate credit beyond the master's degree in organized course work, independent study and the dissertation. Additional courses above the 60 hours also may be stipulated as needed, such as the research tool and subject tool requirement. Courses counted toward the doctorate must be numbered 5000 or above (except INFO 5000, INFO 5080, INFO 5200 or INFO 5600) and must be chosen with the approval of a faculty academic advisor.

A student with no previous master's degree must earn a minimum of 72 semester hours of graduate course work in organized course work, independent study and the dissertation. Additional courses above the 72 hours also may be stipulated as needed. 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

- INFO 6945 - Trends and Issues in Information Science

Subject core, 9 hours

- INFO 6000 - Seminar in Information Science
- INFO 6700 - Seminar in Communication and Use of Information
- INFO 6660 - Readings in Information Science

Methods core, 9 hours

- Research design
- Research statistics
- Elective

Areas of emphasis, 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 within the first semester of 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 - Analytics Foundations for Business
- EPSY 5210 - Educational Statistics
- INFO 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 INFO 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 one research topic in the in areas of emphasis 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 Information Science. 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.

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.

The maximum time allowed for completing the doctoral degree is 8 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

Library 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, 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 https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Graduate Academic Certificate

Advanced Management in Libraries and Information Agencies certificate

The graduate academic certificate in advanced management in libraries and information agencies provides students with a comprehensive working knowledge of the fundamental principles of library and information agency management, public awareness, planning, human resources, and financial operations. Graduates will develop knowledge and skills to effectively lead their organization; utilize the latest research and practices in the areas of management, partnerships, budgeting, and public presentations; and foster external relationships. Graduates will learn to effectively organize their library or information agency's internal resources for improved accessibility and productivity.

Graduate academic certificates

The department offers graduate academic certificates in multiple areas of professional knowledge and skills.

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 (see Master of Science program).

Program requirements: Graduate academic certificates consist of three or four courses. They can be pursued independently or concurrently with the master's degree.

Required courses, 12 hours

- INFO 5300 - Management of Information Agencies
- INFO 5302 - Advanced Management of Information Agencies
- INFO 5303 - Financial and Human Resource Management in Information Agencies

Plus one of the following

- INFO 5320 - Public Libraries
- INFO 5330 - Academic Libraries
- INFO 5340 - Learning Resources Centers and Services
- INFO 5360 - Special Libraries and Information Centers
- INFO 5365 - Health Librarianship and Informatics
- INFO 5366 - Law Library Management

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Archival Management certificate

The Department of Information Science offers a graduate academic certificate in archival management. The graduate certificate program requires 15 semester credit hours of course work and students must earn at least a B average in each course.

Admission to the program

The student must have a:

1. bachelor's or a master's degree from a regionally-accredited college or university.
2. bachelor's GPA of 3.0 or higher or a master's GPA of 3.5 or higher.

Certificate requirements

A minimum of 15 hours of course work with at least a B in each course must be completed as follows:

Required, 9 hours

The student must complete the following three core courses:

- INFO 5240 - Archival Arrangement and Description
- INFO 5371 - Archives and Manuscripts
- INFO 5375 - Archival Appraisal

Electives, 6 hours

The student must complete at least two of the following elective courses:

- INFO 5090 - Practicum and Internship in the Field Study
- INFO 5230 - Documents and Records Management
- INFO 5290 - Special Collections and Archives
- INFO 5295 - Preservation
- INFO 5841 - Data Curation and Management
- INFO 5842 - Digital Curation Tools and Applications (must have completed INFO 5841 or be concurrently enrolled)
- INFO 5900 - Special Problems
- INFO 5960 - Library and Information Sciences Institute or Seminar (when topic is "Collections Conservation")

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Big Data and Intelligent Systems certificate

The Graduate Academic Certificate in Big Data and Intelligent Systems provides ready-to-deploy knowledge and skills but also a path to a master's degree in the Department of Information Science. Students are expected to have a strong foundation in math, science and technology. Data Science is an emerging interdisciplinary field that combines information science, computer science, statistics and social sciences in dealing with issues pertaining to the increased reliance on big data and knowledge extracted from the data using intelligent systems. Big data and intelligent systems are the key to driving economic growth and life quality improvement recently and in the near future. The Dallas Fort-worth Metropolitan area is ranked among the top 10 regions in the U.S. for technology-oriented businesses with an expected expansion growth of at least 11% in the next 5 years. The growth will include data science and intelligent jobs created by the relocation of large companies and newly started high-tech companies.

Required courses, 9 hours

- DTSC 5501 - Fundamentals of Data Analytics
- DTSC 5502 - Principles and Techniques for Data Science
- DTSC 5505 - Machine Learning for Data Scientists
- DTSC 5565 - Software Engineering for Data Scientists
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5810 - Data Analysis and Knowledge Discovery

Children's and Young Adult Library and Community Services certificate

The graduate academic certificate in children's and young adult library and community services provides students with core knowledge in services, programs, literature and information organization for children and teens. Graduates will develop skills to effectively organize and deliver programs and services for children and teens in culturally diverse communities. This GAC responds to the ongoing need for library professionals with cutting-edge knowledge and skills to work with contemporary children and teens, as cited in American Library Association research.

Note: This GAC is not the same as school librarianship. Teachers seeking state certification for school librarianship must apply to the school library certification program.

Graduate academic certificates

The department offers graduate academic certificates in multiple areas of professional knowledge and skills.

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 (see Master of Science program).

Program requirements: Graduate academic certificates consist of three or four courses. They can be pursued independently or concurrently with the master's degree.

Certificate requirements, 12 hours

- INFO 5421 - Literature for Youth in Public Libraries

  or
- INFO 5427 - Inclusive Materials for Children and Youth
- INFO 5445 - History and Culture of Youth Information Services
- INFO 5685 - Information Resources and Services in Culturally Diverse Communities

  or
- INFO 5310 - Marketing and Customer Relationships for Information Professionals

One course from:

- INFO 5208 - Learning Resources Organization

  or
- INFO 5210 - Introduction to Cataloging and Classification
- INFO 5400 - Information Resources Development

  or
- INFO 5405 - Collection Development and Analysis in School Libraries
- INFO 5320 - Public Libraries

  or
- INFO 5330 - Academic Libraries
- INFO 5440 - Storytelling for Information Professionals
- INFO 5845 - Creating Online Content for Youth Services
- INFO 5960 - Library and Information Sciences Institute or Seminar (with approved topic from CYAL faculty advisor)
- Another course negotiated with the advisor.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Cultural Heritage Stewardship certificate

The Graduate Academic Certificate in Cultural Heritage Stewardship will provide students with key skills and experiences needed for competitive careers in museum archives and other cultural heritage settings. Students will learn the theory that drives the practice through hands-on learning experiences in grant writing, museum education, preservation, and museum archiving.

Understanding how and why individuals and communities engage with cultural heritage institutions is vital to the preservation of both heritage and citizenship in the US. Galleries, libraries, archives, and museums (GLAMs) that exhibit cultural heritage collections allow visitors to seriously engage with materials that push them to learn about themselves, their communities, and the world at large. These institutions are also responsible for the appraisal of which materials are deemed worthy of preservation as cultural heritage. In response to the national need for workforce in museum archives, this graduate academic certificate, with an emphasis on the preservation of museum collections, serves archivists, preservation specialists, and other information professionals which are critical to the stewardship of cultural heritage collections in museums and archives.

Requirements

15 Credit Hours required comprised of three courses of 3 credit hours each and one course of 6 credit hours that provides an internship at a museum archive.

- INFO 5092 - Museum Archive Professional Internship
- INFO 5295 - Preservation

  or
- INFO 5297 - Introduction to Special Materials Preservation
- INFO 5900 - Special Problems

  or
- ARTE 5940 - Seminar in Art Museum
- INFO 5380 - Contemporary Issues in Archival Science

  or
- INFO 5960 - Library and Information Sciences Institute or Seminar

Disclosures

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

Data Science certificate

The graduate academic certificate in data science is a 12-hour certificate.

Required courses, 9 hours

Students are required to take the following 9 hours.

- DTSC 5501 - Fundamentals of Data Analytics
- DTSC 5502 - Principles and Techniques for Data Science

- DTSC 5505 - Machine Learning for Data Scientists

Prescribed elective, 3 hours

Students choose an additional 3 hours from the list below.

- INFO 5307 - Knowledge Management Tools and Technologies
- DTSC 5504 - Advanced Principles and Techniques of Data Science
- INFO 5709 - Data Visualization and Communication
- INFO 5810 - Data Analysis and Knowledge Discovery

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Digital Content Management certificate

The Digital Content Management graduate academic certificate prepares information professionals to meet the challenges of managing the life cycle of digital assets regardless of their types and formats or their method of delivery. The courses provide theoretical foundation and conceptual tools through structured learning experiences and supervised class projects. Student will learn basic knowledge and technical skills necessary to manage digital content, build applications, and develop services that respond to institutional and individual user needs.

Required courses, 12 hours

This graduate academic certificate requires 12 total semester credit hours in the following courses:

- INFO 5206 - Information Retrieval Design
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5740 - Introduction to Digital Libraries
- INFO 5745 - Information Architecture

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Digital Curation and Data Management certificate

The graduate academic certificate in digital curation and data management prepares students and practicing information professionals with knowledge and skills for the emerging digital curation and data management workforce. The curriculum provides the conceptual foundation and application experiences to develop a defined set of competencies needed to perform essential job functions involving management, curation, preservation, and stewardship of digital data and information. The courses provide students hands-on experiences with technologies and applications in a virtual lab setting. The following courses are intended to be taken in sequence and it is possible to take two courses concurrently. INFO 5841 is the first course and is a prerequisite for subsequent courses. INFO 5842 can be taken concurrently with INFO 5841.

Graduate academic certificates

The department offers graduate academic certificates in multiple areas of professional knowledge and skills.

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 (see Master of Science program).

Program requirements: Graduate academic certificates consist of three or four courses. They can be pursued independently or concurrently with the master's degree.

Requirements

Completion of 12 credit hours of coursework, including 9 hours of required courses and 3 hours of elective courses.

Required courses, 9 hours

- INFO 5740 - Introduction to Digital Libraries
- INFO 5841 - Data Curation and Management
- INFO 5843 - Digital Curation: Strategies and Application

Elective courses, 3 hours

One of the following courses will fulfill the elective course requirement:

- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5741 - Digital Humanities
- INFO 5742 - Web Archiving

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Health Data Science certificate

The purpose of the Graduate Academic Certificate in Health Data Science is to educate professionals who can apply data science methods and techniques to health-related problems. The program will be delivered in a hybrid format combining online and face-to-face course delivery. Individuals who complete the GAC in Health Data Science will be able to describe the framework of modern healthcare and the current challenges facing data-driven healthcare. Skills achieved include the ability to identify methods and tools related to managing computable health data, information, and knowledge, and to manipulate, organize, analyze, and visualize health data to improve the delivery of healthcare.

Required courses, 9 hours

- HINF 5637 - Introduction to Health Informatics
- HINF 5770 - Introduction to Health Data Analytics

  or
- INFO 5770 - Introduction to Health Data Analytics

- HINF 5771 - Applications of Health Data Analytics

  or

- INFO 5771 - Applications of Health Data Analytics

Prescribed elective course, 3 hours

- DTSC 5505 - Machine Learning for Data Scientists
- HINF 5365 - Information Systems in Healthcare
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5709 - Data Visualization and Communication

Health Information certificate

Healthcare providers and researchers depend upon information to improve patient care. Therefore, health information professionals need to understand how to manage health information and deliver health information services to healthcare providers, researchers, and consumers with the ultimate goal of improving patient outcomes. The purpose of the General Academic Certificate in Health Information is to prepare information professionals to deliver health information services in a variety of settings. The GAC will be delivered both online and in a hybrid format combining online and face-to-face course delivery. Individuals who complete the GAC in Health Information will be able to describe the importance of information in the healthcare enterprise as well as locate, evaluate, synthesize, and deliver authoritative health information. They will integrate principles of evidence-based practice in the delivery of health information services, and identify the health information needs of the communities being served.

Required courses, 9 hours

- INFO 5365 - Health Librarianship and Informatics
- INFO 5636 - Community-Based Health Information

- INFO 5631 - Searching for Evidence

  or

- HINF 5631 - Searching for Evidence in Health

Prescribed elective courses

Students selects one course from the list below:

- INFO 5080 - Research Methods and Analysis
- INFO 5634 - Disaster/Emergency Management for Information Professionals

Rural Library Management certificate

Required courses, 12 hours

Students who are interested in earning a graduate academic certificate in rural library management must take the following four courses (12 hours). These four courses must be successfully completed within a four-year time frame.

- INFO 5325 - Topics in Rural Libraries
- INFO 5615 - Electronic Databases and Information Services
- INFO 5750 - Managing Library Automation Projects

- INFO 5310 - Marketing and Customer Relationships for Information Professionals

  or

- INFO 5350 - Library Partnership and Community Outreach

One of the following

- INFO 5740 - Introduction to Digital Libraries
- INFO 5745 - Information Architecture
- INFO 5814 - Web Content Development and Maintenance
- INFO 5815 - Topics in Digital Imaging for Information Professionals

Admission procedures

Students must be admitted to the University of North Texas Toulouse Graduate School and are required to submit the following application materials:

- Toulouse Graduate School application for admission
- Department of Information Science application for admission
- required transcripts

Graduate academic certificate applicants do not need to submit standardized test scores such as the Graduate Record Exam (GRE), letters of recommendation, statement of purpose, etc., for admission.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Storytelling certificate

The graduate academic certificate in storytelling provides students with comprehensive knowledge of the role of storytelling in enabling children and adults to understand and make meaning in their lives. Story is the richest heritage of human civilizations. Storytelling has emerged from the oral tradition into modern platforms represented in books, dance, music, theatre, movies, etc. Story preserves, perpetuates, and transforms culture and is finding new applications in education, corporations, industry, and entertainment. Graduates will develop skills to effectively discover, create, compose, tell, and record stories for a variety of settings.

Graduate academic certificates

The department offers graduate academic certificates in multiple areas of professional knowledge and skills.

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 (see Master of Science program).

Program requirements: Graduate academic certificates consist of three or four courses. They can be pursued independently or concurrently with the master's degree.

Certificate requirements, 12 hours

Required courses, 6 hours

- INFO 5440 - Storytelling for Information Professionals
- INFO 5441 - Advanced Storytelling

Additional courses, 6 hours

Choose two courses from the following.

- INFO 5442 - Digital Storytelling
- INFO 5443 - Storytelling in Knowledge Transfer
- INFO 5445 - History and Culture of Youth Information Services

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Teacher Certification

School librarian certification

Routes to certification for graduate students

School library certification varies from state to state, but completion of the courses listed below meets general curricular requirements in all states. In Texas, the requirements to work as a school librarian are:

1. two years experience as an early childhood–12th grade classroom teacher;
2. a master's degree (any major);
3. completion of a state-approved program in librarianship (courses in the list below must be no more than 6 years old when application is made for school library certification); and
4. passing score on the TExES (exam administered by the State of Texas).

Students may pursue school library certification alone or as part of the master's degree program in the Department of Information Science.

School library certification program only, 27 hours

Admission

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 complete the school library certification program and later apply for admission to the master's program will be required to submit additional materials (see Library Science, MS).

Course requirements

Students are strongly encouraged to take courses in the sequence shown.

Practicum (INFO 5090) is required for all school library certification students. Every student must spend time in a school library under the mentorship of a qualified school librarian, who signs off on each item of the official proficiency checklist.

A grade of B or better in all courses is required for certification.

- INFO 5001 - School Librarianship
- INFO 5050 - Trends and Practices in School Librarianship
- INFO 5090 - Practicum and Internship in the Field Study
- INFO 5208 - Learning Resources Organization
- INFO 5340 - Learning Resources Centers and Services
- INFO 5345 - School Library Program Development
- INFO 5405 - Collection Development and Analysis in School Libraries
- INFO 5420 - Literature for Youth in School Libraries
- INFO 5720 - Instructional Materials Production and Use

School library certification as part of the MS

Students who pursue school library certification as part of the Master of Science program in the Department of Information Science must meet all requirements of the master's program.

General requirements

1. Submit all required application materials for the master's program.
2. Meet admission standards for the master's program.
3. Complete a total of 36 credit hours (12 courses) including two of the three required core courses (INFO 5000 and INFO 5600) and ten electives. The electives include eight of the nine courses in the school library certification sequence plus two additional courses. The required school library certification practicum (INFO 5090) does not count toward the required 36 hours course work toward the master's degree.
4. Earn a grade of B or better in the master's program core courses and all courses required for certification.
5. During the final semester before graduation, pass the Capstone experience.

For more information and course lists, see Library Science, MS and the department web site at informationscience.unt.edu.

Department of Learning Technologies

UNT Discovery Park
3940 North Elm Street, Suite G150
Denton, TX 76207
940-565-2057
Fax: 940-565-4194
Web site: lt.unt.edu

Xun Ge, Chair

Faculty

The Department of Learning Technologies offers course work in learning technologies; applied technology, training and development; and computer education, instructional technology and cognitive systems.

Degree programs focus on such areas as learning technologies, instructional and educational technologies, technological solutions in 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, learning analytics, digital game-based learning, 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-time and part-time students in various areas associated with learning technologies including emotional and behavior disorders, autism and autism intervention, and transition and correctional special education.

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 Science with a major in learning technologies
- Doctor of Philosophy with a major in learning technologies

Further specialization at the master's level is offered in Artificial Intelligence, Instructional Systems Technology, Instructional Systems Design, Teaching and Learning with Technology, Workforce Leadership & Development, and Project Management in Workforce Performance.

The department also supports students seeking 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 Information Science respectively.

Depending on the degree attained, graduates of these programs typically seek employment in business, education, industry, or 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.

Further information

Additional information is available on the program website (lt.unt.edu).

Master's Degree

Learning Technologies, MS

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

Admission requirements

1. Bachelor's degree from an accredited college or university.
2. Bachelor's grade point average (GPA) of 3.0 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. 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.
4. Resume or curriculum vitae that includes the candidate's previous work or educational experiences.
5. A personal statement from the candidate stating his or her career goals and rationale for applying to the learning technologies program and a brief description of his or her career and research expectations with regard to work and further education. The personal statement should link goals to relevant educational experiences and strengths; a description of critical thinking and writing abilities; and a summary of technology skills.

Degree requirements

This degree is a comprehensive program with options to prepare individuals for positions in both education and industry related to learning, instructional and educational technology. Options include artificial intelligence; instructional systems design; instructional systems; instructional systems technology; teaching and learning with technology; workforce leadership and development; and project management in workforce performance. Theoretical foundations in cognition and systems as well as instructional technology processes are expanded through applications in distance education, instructional systems, multimedia development, and instructional systems development.

This degree is a 36-hour program. Requirements include a core of 12 hours and 12 hours of foundation courses. Selection of one of the program tracks is also required to reach the 36 hours required for the degree.

Core courses, 12 hours

- LTEC 5210 - Instructional Systems Design I
- LTEC 5220 - Multimedia in Technology Applications
- LTEC 5580 - LTEC Capstone: Integrated Portfolios (which is to be taken during the last 6 hours of course work)
- LTEC 5610 - Analysis of Research in Learning Technologies

Foundation courses, 12 hours

- LTEC 5030 - Foundations of Learning Technologies
- LTEC 5200 - New Technologies of Instruction
- LTEC 5300 - Learning and Cognition
- LTEC 5510 - Technology-Based Learning Environments

Program Concentration, 12 hours

Students can complete one of the program concentrations listed below. Alternatively, students may choose no concentration wherein they choose any four (4) elective courses in addition to completing any core or foundation courses.

Artificial intelligence in education

Goal: Prepare educators, leaders, and EdTech professionals to integrate artificial intelligence into education.

Core Competencies:

- Foundational knowledge of generative AI
- Analytical skills for evaluating AI tools
- Design and development of AI-powered solutions
- Ethical and cultural awareness
- LTEC 5701 - Foundations of Artificial Intelligence in Education
- LTEC 5702 - Evaluation of Generative AI Tools in Education
- LTEC 5703 - Ethical and Social Impacts of AI in Education
- LTEC 5704 - Generative AI Technologies for Learning and Performance

Instructional design and technology

- LTEC 5040 - Online Design and Pedagogy
- LTEC 5310 - Human-Computer Interaction

And the completion of 2 of the following:

- LTEC 5211 - Instructional Systems Design II
- LTEC 5260 - Computer Graphics for Mediated Communications
- LTEC 5420 - Web Authoring
- LTEC 5421 - Advanced Web and Media Development

Learning Analytics

Goal: Develop and implement analytical skills to solve educational challenges.

Core Competencies:

- Foundational programming skills in R/Python
- Analytical skills for predictive modeling and advanced text analysis
- Collect and analyze unstructured data
- Design and apply AI-driven solutions for educational needs/assessment
- LTEC 5601 - Introduction to Learning Analytics
- LTEC 5602 - Predictive Modeling in Learning Analytics
- LTEC 5603 - Text Mining and Natural Language Processing in Learning Analytics
- LTEC 5604 - Dashboard Design in Learning Analytics

Teaching and learning with technology

- LTEC 5040 - Online Design and Pedagogy
- LTEC 5111 - Introduction to Video Technology
- LTEC 5260 - Computer Graphics for Mediated Communications
- LTEC 5420 - Web Authoring

Workforce leadership and performance management

Choose four courses from the following:

- LTEC 5100 - Foundations of Workforce Learning and Performance
- LTEC 5121 - Corporate Training Presentation Skills
- LTEC 5470 - Interpersonal Skills Development
- LTEC 5640 - Organization Development, Technology and Change
- LTEC 5650 - Technology Entrepreneurship
- LTEC 5660 - Project Management for Performance Improvement
- LTEC 5670 - Distributed Leadership
- LTEC 5900 - Special Problems

Doctorate

Learning Technologies, PhD

The Learning Technologies PhD program is offered in two formats: residential and distributed. Both options require attendance at a once-per-year on-site meeting to meet state residency requirements.

Admission requirements

Admission to doctoral studies in the Department of Learning Technologies is based on several factors including a student's academic qualifications, alignment of their interests to program topics, and the ability of faculty members to support a student's intended topic area. Each prospective student will be evaluated by the faculty to ensure a good fit with the program in terms of their academic interests and our course offerings. Admission to the program will be considered only after the applicant meets or exceeds the University of North Texas' admission standards for the Toulouse Graduate School. However, meeting the program standards does

not automatically mean the student will be accepted to the program. The process is competitive and admission depends upon both the applicant's qualifications and the capacity 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 3.5 (on a 4.0 scale) or, under some circumstances, a bachelor's degree with sufficient additional courses required to secure a master's degree while working on the PhD. A total grade point average of 3.0 or a grade point average of 3.5 (on a 4.0 scale) over the last 60 hours is required.
2. A Graduate Record Examination (GRE) score and/or an equivalent examination must be on file at the time the application is reviewed. Alternatively, students may be considered with submission of the following materials with their application.

- A scholarly presentation on a learning technologies-related topic at a professional conference, or
- Completion of 6 hours of graduate course work in the field with a grade point average of 3.0 or higher, or
- A peer-reviewed, scholarly publication.

No GRE is required under the following conditions:

- Automatic waiver of GRE for students graduating from our LT Master's in the last three (3) years
- Waiver of GRE for students graduating from any UNT Master's in the last three (3) years with GPA of 3.5 or above
- Upon program review, waiver of GRE for students graduating from another university's Learning Technologies-equivalent program in the last three (3) years with 3.5 or above

3. For international students, the Test of English as a Foreign Language (TOEFL) examination or successful completion of the UNT Intensive English Language Institute (IELI) through level 6 must be on file. 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. A personal resume or CV that includes a summary of teaching, administrative, and/or training experience.
4. An application to the program that indicates desired delivery format (i.e., residential or online) and indicates a preference of academic faculty with which the student would like to work during their doctoral career.
5. A 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
- Contribution to the diversity of the field

6. Three letters of recommendation submitted on your behalf. Letters should be from former professors or others who you believe can evaluate your academic qualifications. These may include work supervisors who can assess your potential for success in the learning technologies doctoral program.
7. Letter of intent submitted by a program faculty member (in-residence offering) or associate graduate faculty member (distributed offering) who would work with the applicant if accepted into the program.
8. (Optional) Interview with program faculty may be requested by the admission committee.

Degree requirements

This program includes formal course work, a portfolio-based qualifying examination, independent study and research including, but not limited to, a supervised study and dissertation. The student will spend significant time conducting independent research and working collaboratively with the faculty related to complete the dissertation and other projects. The doctoral degree will require at least 60 semester credit hours beyond the master's degree.

LTEC 5030 or the equivalent skills contained in that course are minimally required for leveling new students within the program to ensure necessary knowledge and skills in the field of learning technologies were attained. Additional courses or experiences may be required depending on applicant ability.

Successful completion of LTEC 5210, LTEC 5220, LTEC 5420 and LTEC 5570 are considered necessary for this degree. These courses may be waived if there is evidence that the student possesses equivalent skills that resulted from completion of similar courses taken during other graduate course work or learned because of work experience.

Course requirements

Core, 15 hours

Students will complete each of the following required core courses.

- LTEC 6000 - Philosophy of Computing in Learning Technologies
- LTEC 6010 - Theories of Instructional Technology
- LTEC 6020 - Advanced Instructional Design: Models and Strategies
- LTEC 6030 - Emerging Technologies in Education
- LTEC 6040 - Theory and Practice of Distributed Learning

Electives, 15 hours

In consultation with their advisor, students will choose five courses from the following options.

- LTEC 6200 - Message Design in Learning Technologies
- LTEC 6210 - Theory of Design of Interactive Multimedia Systems
- LTEC 6220 - Theory of Learning Technology Implementation
- LTEC 6230 - Advanced Production Design for Learning Technologies
- LTEC 6240 - Artificial Intelligence Applications
- LTEC 6250 - Learning Technology Systems Design and Management
- LTEC 6260 - Creating Technology-Based Learning Environments
- LTEC 6270 - Developing Funding Opportunities in Learning Technologies
- LTEC 6700 - Practicum/Internship
- LTEC 6800 - Special Topics in Learning Technologies
- LTEC 6900 - Special Problems in Learning Technologies

Research, 18 hours

- LTEC 6480 - Research Seminar (taken in last semester of course work)
- LTEC 6505 - Introduction to Quantitative Research in Learning Technologies
- LTEC 6501 - Introduction to Research in Learning Technologies

- LTEC 6511 - Analysis of Research in Learning Technologies
- LTEC 6512 - Analysis of Qualitative Research in Learning Technologies

Choose one course from:

- LTEC 6280 - Project Planning and Evaluation in Educational Technology
- LTEC 6514 - Seminar on Advanced Research Topics in Learning Technologies and Information Sciences
- LTEC 6515 - Advanced Research: Scaling Methods
- LTEC 6516 - Advanced Research: Computer Mediated Discourse Analysis

Minor

This choice may be included in the degree plan for residential students only. This would require 6 hours taken as electives and an additional 6 hours from outside the Department of Learning Technologies. Completion of a residential minor will increase the total number of hours for the degree. The minor option is not available in the distance-delivered offering.

Dissertation, 12 hours

- LTEC 6950 - Doctoral Dissertation

Additional course requirements

Candidates for the PhD with a major in learning technologies must additionally complete a tool subject requirement. This obligation consists of 9 hours of graduate learning technologies 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 (LTEC 6900), practicum or internship (LTEC 6700).

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 learning technologies 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.

Doctoral handbook

See unt.edu/doctoral-programs for the learning technologies PhD handbook.

Graduate Academic Certificate

Instructional Design and Technology certificate

The 12-hour graduate academic certificate in instructional design and technology prepares students with competency and skills for the instructional design and technology workforce. The curriculum provides the conceptual foundation and application experiences to develop a defined set of competencies needed to perform essential job functions involving analysis, design, development, implementation, and assessment of instructional units. The courses provide students with hands-on experiences with technologies and applications. The following courses are intended to be taken in sequence and it is possible to take two courses concurrently. LTEC 5210 is the first course and is a prerequisite for subsequent courses.

Requirements, 9 hours

- LTEC 5210 - Instructional Systems Design I
- LTEC 5220 - Multimedia in Technology Applications
- LTEC 5310 - Human-Computer Interaction

Prescribed electives, 3 hours

- LTEC 5200 - New Technologies of Instruction
- LTEC 5211 - Instructional Systems Design II
- LTEC 5260 - Computer Graphics for Mediated Communications
- LTEC 5510 - Technology-Based Learning Environments

Department of Linguistics

Main Office
Discovery Park, Room B201

Mailing Address:
1155 Union Circle #311068
Denton, Texas 76203-5017
940-565-4552
E-mail: ling-info@unt.edu
Web site: linguistics.unt.edu

William Salmon, Chair

Faculty

The Department of Linguistics offers an MA with a major in linguistics, as well as optional concentrations in ESL, computational linguistics, and language documentation. The Department also offers two graduate academic certificates, one in teaching English to speakers of other languages and a second in computational linguistics.

MA in linguistics

The MA with a major in linguistics offers students broad training in all core areas of the discipline. Our MA program prepares students for challenging careers in a variety of industries, including government, education, law, bioinformatics, natural language processing, and teaching English as a Second Language. Our MA program also serves as an excellent foundation for doctoral studies in linguistics and other language-related fields such as speech pathology, deaf education, audiology, computational linguistics, or the teaching of English as a second language.

The five major foci of graduate studies in linguistics are:

Teaching English to speakers of other languages (TESOL)

Of general interest to many of our students, but of special interest to those interested in teaching English as a second language, are courses on second language acquisition; pedagogical approaches to English grammar; methods and practicum in teaching English as a second or additional language; and English language variation and change, including varieties of English spoken worldwide. Our practicum in ESL is often available at an international venue. We also offer a graduate academic certificate in teaching English to speakers of other languages.

Language documentation, curation and conservation

The world's languages, approximately 7,000 of them, are disappearing at an alarming rate. Each language encodes unique knowledge about the ecologies – both animals and plants – of the societies that are centered on the languages spoken. To preserve and employ this data to further our understanding of this essential part of what it means to be human, linguists and interested members of language communities work together to collect and analyze linguistic data, and to preserve it in archives for use in the future. We offer courses on scientifically sound and ethically appropriate data collection methodologies, gold standard archiving practices, and methods for data mining. All these lead to research projects on non-Indo–European languages and provide students with extraordinary opportunities to learn about new cultures and customs.

Language variation and change

Languages can vary in just about every aspect of their grammar. Compare for example American English and Australian English, which differ in accent, words used to refer to the same objects, and also in some sentence patterns. To understand language as a human system we ask how languages vary, the limits to the ways in which they may vary, and what causes them to vary. We offer courses on theoretical frameworks dealing with these questions and these data. We also offer courses on the many varieties of English in America, the structure of African-American English vernacular, the structure and history of the Englishes around the world, and on principles of language change, reconstruction and change through language contact.

Computational Linguistics

The newest focus of the UNT Linguistics Department's graduate offerings is computational linguistics (CL). CL technologies are increasingly present in daily life, from voice-enabled smart phone assistants to predictive text input to machine translation technologies. From an academic viewpoint, CL is the scientific study of language from a computational perspective, living at the intersection of language and technology. Students develop keen skills in linguistics and linguistic analysis. This knowledge can then be applied to the design of computational systems for automating linguistic analysis. At UNT we place a particular focus on how computational methods can support the work of documenting endangered languages, linking two of our department's strengths. We also offer a graduate academic certificate in computational linguistics.

Syntax, semantics, and pragmatics

The Department of Linguistics offers a range of courses in the syntactic structure of the world's languages as well as in semantics and pragmatics, which are concerned with how meaning arises out of words, phrases, sentences and the uses of all of these linguistic items.

CNN lists linguistics as the second most overlooked job possibility for new graduates. A degree in linguistics makes students competitive for jobs in fields such as:

- language education
- language testing service
- teaching English as a second/foreign language
- speech and hearing– language pathology and audiology
- language documentation/fieldwork
- natural language processing
- digital data curation
- codes and code breaking
- law – forensic linguistics
- advertising
- publishing
- translation/interpretation
- marketing

Because linguistics provides students with the skills to analyze language, companies like Microsoft, Google and Apple are also eager to hire students with linguistics degrees. Read more on the Linguistic Society of America web site (www.linguisticsociety.org).

Academic advising

Advising on courses, programs and related questions is available through the college advising office, Discovery Park, Room C232; 940-565-2445; or ci-advising@unt.edu. All students should have an approved degree plan audit on file as early as possible, but not later than the beginning of the final 60 hours of courses. Calls and visits by prospective students are welcomed from 8 a.m. to 5 p.m., Monday through Friday.

Master's Degree

Linguistics with a concentration in Computational Linguistics, MS

Admission and degree requirements

Admission requirements and procedures

MS in linguistics with a concentration in computational linguistics. 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:

- a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MS;

- a sample research paper;
- three letters of recommendation; and
- a current vita or resume.

To be eligible for admission to the MS with a major in linguistics , 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. Applicants whose native language is not English must also submit a score on the TOEFL or IELTS examination. Competitive scores on the Internet-based TOEFL examination are in the range of 88 and above and on the IELTS 6.5 and above. The department conducts a holistic review of all application materials and does not decline students based solely on a single low test score.

Financial support

Beginning full-time students who meet all qualifications may apply for financial assistance from the UNT office of Student Financial Aid and Scholarships. In addition, beginning and continuing students may apply for financial assistance from the Department of Linguistics. This assistance can be in the form of teaching assistantships, graduate assistantships or research assistantships. The positions are competitive and awarded through an application process. Information regarding departmental assistantships may be requested from the Department of Linguistics web site.

Foreign language requirement

All candidates pursuing a master's degree in linguistics 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. Students must meet the foreign language requirement before completing their last semester.

Degree plan requirement

Students are required to file a degree plan during the second semester of graduate work toward the master's degree. Students should meet with an advisor to file their degree plan as soon as possible after the registration period during their second semester's work.

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. (Optional) official Graduate Record Examination (GRE) scores sent from the Educational Testing Service.
3. Official scores from the Test of English as a Foreign Language (TOEFL) or IELTS examination for students whose native language is not English.
4. Official transcripts for all previous undergraduate and graduate academic work.

Applicants for the MS with a major in linguistics should send the following materials directly to the College of Information advising office:

1. a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MA;
2. a sample research paper;
3. three letters of recommendation; and
4. a current vita or resume.

Degree requirements

The MS with a major in linguistics and concentration in computational linguistics is a 36-hour program. Course requirements include 15 hours of core courses and 21 hours of foundation courses (15 of the 21 foundation hours are specific to the concentration and required). Students who elect to write a thesis will take 6 hours of thesis (LING 5950).

Core courses, 15 hours

- LING 5070 - Research Design in Linguistics
- LING 5300 - Phonology I
- LING 5310 - Syntax I
- LING 5530 - Semantics and Pragmatics I
- LING 5990 - Graduate Research Seminar in Linguistics (Will be offered every Fall. Should be taken in a student's second or third semester, depending on if the student begins the program in Fall or Spring)

Foundation courses, 21 hours

Choose foundation courses in conjunction with the graduate advisor.

Required Foundation courses, 12 hours

Required foundation courses relating to the concentration.

- LING 5405 - Programming for Linguistics
- LING 5410 - Foundations of Computational Linguistics
- LING 5412 - Advanced Models of Language
- LING 5415 - Special Topics in Computational Linguistics

Linguistics with a concentration in English as a Second Language (ESL), MS

The Department of Linguistics offers an MS in Teaching English to speakers of other languages, which prepares students for careers in teaching English as a second language and/or foreign language and language arts instruction for K-12 (with additional certification and course work from the College of Education). Our MS programs also serve as an excellent foundation for doctoral studies in second language acquisition and the teaching of English as a second language.

Admission and degree requirements

Admission requirements and procedures

Applicants for the MS with a major in linguistics 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:

- a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MS;
- a sample research paper;
- three letters of recommendation; and
- a current vita or resume.

To be eligible for admission to the MS with a major in linguistics , 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. Applicants whose native language is not English must also submit a score on the TOEFL or IELTS examination. Competitive scores on the Internet-based TOEFL examination are in the range of 88 and above and on the IELTS 6.5 and above. The department conducts a holistic review of all application materials and does not decline students based solely on a single low test score.

Financial support

Beginning full-time students who meet all qualifications may apply for financial assistance from the UNT office of Student Financial Aid and Scholarships; In addition, beginning and continuing students may apply for financial assistance from the Department of Linguistics. This assistance can be in the form of teaching assistantships, graduate assistantships or research assistantships. The positions are competitive and awarded through an application process. Information regarding departmental assistantships may be requested from the Department of Linguistics web site.

Foreign language requirement

All candidates pursuing a master's degree in linguistics 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. Students must meet the foreign language requirement before completing their last semester.

Degree plan requirement

Students are required to file a degree plan during the second semester of graduate work toward the master's degree. Students should meet with an advisor to file their degree plan as soon as possible after the registration period during their second semester's work.

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. (Optional) official Graduate Record Examination (GRE) scores sent from the Educational Testing Service.
3. Official scores from the Test of English as a Foreign Language (TOEFL) or IELTS examination for students whose native language is not English.
4. Official transcripts for all previous undergraduate and graduate academic work.

Applicants for the MS with a major in linguistics should send the following materials directly to the College of Information advising office:

1. a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MS;
2. a sample research paper;
3. three letters of recommendation; and
4. a current vita or resume.

Degree requirements

The MS with a major in linguistics with a concentration in English as a Second Language (ESL) is a 36-hour program. Course requirements include 15 hours of core courses, 21 hours of foundation courses (12 of the 21 foundation hours are specific to the concentration and required). Students who elect to write a thesis will take 6 hours of thesis (LING 5950).

Core courses, 15 hours

- LING 5070 - Research Design in Linguistics
- LING 5300 - Phonology I
- LING 5310 - Syntax I
- LING 5530 - Semantics and Pragmatics I
- LING 5990 - Graduate Research Seminar in Linguistics (Will be offered every Fall. Should be taken in a student's second or third semester, depending on if the student begins the program in Fall or Spring)

Foundation courses, 21 hours

Choose foundation courses in conjunction with the graduate advisor.

Required Foundation courses, 12 hours

Required foundation courses relating to the concentration.

- 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

Linguistics with a concentration in Language Documentation, MS

Admission and degree requirements

Admission requirements and procedures

Applicants for the MS with a major in linguistics 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:

- a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MS;
- a sample research paper;
- three letters of recommendation; and
- a current vita or resume.

To be eligible for admission to the MS with a major in linguistics , 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. Applicants whose native language is not English must also submit a score on the TOEFL or IELTS examination. Competitive scores on the Internet-based TOEFL examination are in the range of 88 and above and on the IELTS 6.5 and above. The department conducts a holistic review of all application materials and does not decline students based solely on a single low test score.

Financial support

Beginning full-time students who meet all qualifications may apply for financial assistance from the UNT office of Student Financial Aid and Scholarships; In addition, beginning and continuing students may apply for financial assistance from the Department of Linguistics. This assistance can be in the form of teaching assistantships, graduate assistantships or research assistantships. The positions are competitive and awarded through an application process. Information regarding departmental assistantships may be requested from the Department of Linguistics web site.

Foreign language requirement

All candidates pursuing a master's degree in linguistics 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. Students must meet the foreign language requirement before completing their last semester.

Degree plan requirement

Students are required to file a degree plan during the second semester of graduate work toward the master's degree. Students should meet with an advisor to file their degree plan as soon as possible after the registration period during their second semester's work.

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. (Optional) official Graduate Record Examination (GRE) scores sent from the Educational Testing Service.
3. Official scores from the Test of English as a Foreign Language (TOEFL) or IELTS examination for students whose native language is not English.
4. Official transcripts for all previous undergraduate and graduate academic work.

Applicants for the MS with a major in linguistics should send the following materials directly to the College of Information advising office:

1. a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MS;
2. a sample research paper;
3. three letters of recommendation; and
4. a current vita or resume.

Degree requirements

The MS with a major in Linguistics with a concentration in Language Documentation is a 36-hour program. Course requirements include 15 hours of core courses, 21 hours of foundation courses (9 of the 21 foundation hours are specific to the concentration and required). Students who elect to write a thesis will take 6 hours of thesis (LING 5950).

Core courses, 15 hours

- LING 5070 - Research Design in Linguistics
- LING 5300 - Phonology I
- LING 5310 - Syntax I
- LING 5530 - Semantics and Pragmatics I
- LING 5990 - Graduate Research Seminar in Linguistics (Will be offered every Fall. Should be taken in a student's second or third semester, depending on if the student begins the program in Fall or Spring)

Foundation courses, 21 hours

Choose foundation courses in conjunction with the graduate advisor.

Required Foundation courses, 9 hours

Required foundation courses relating to the concentration.

- LING 5350 - Language Typology and Universals
- LING 5380 - Linguistic Field Methods
- LING 5400 - Tools and Methods for Lexicography and Language Analysis

Linguistics, MS

Admission and degree requirements

Admission requirements and procedures

Applicants for the MS with a major in linguistics 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:

- a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MS;
- a sample research paper;
- three letters of recommendation; and
- a current vita or resume.

To be eligible for admission to the MS with a major in linguistics, 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. Applicants whose native language is not English must also submit a score on the TOEFL or IELTS examination. Competitive scores on the Internet-based TOEFL examination are in the range of 88 and above and on the IELTS 6.5 and above. The department conducts a holistic review of all application materials and does not decline students based solely on a single low test score.

Financial support

Beginning full-time students who meet all qualifications may apply for financial assistance from the UNT office of Student Financial Aid and Scholarships. In addition, beginning and continuing students may apply for financial assistance from the Department of Linguistics. This assistance can be in the form of teaching assistantships, graduate assistantships, or research assistantships. The positions are competitive and awarded through an application process. Information regarding departmental assistantships may be requested from the Department of Linguistics website.

Foreign language requirement

All candidates pursuing a master's degree in linguistics 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. Students must meet the foreign language requirement before completing their last semester.

Degree plan requirement

Students are required to file a degree plan during the second semester of graduate work toward the master's degree. Students should meet with an advisor to file their degree plan as soon as possible after the registration period during their second semester's work.

Application checklist

The applicant then submits the following documents to the Department of Linguistics:

1. A completed graduate application form with the intended major indicated in the appropriate blank.
2. (Optional) official Graduate Record Examination (GRE) scores sent from the Educational Testing Service.
3. Official scores from the Test of English as a Foreign Language (TOEFL) examination or IELTS for students whose native language is not English.
4. Official transcripts for all previous undergraduate and graduate academic work.

Applicants for the MS with a major in linguistics should send the following materials directly to the Department of Linguistics:

1. a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MS;
2. a writing sample (e.g., a research paper, manual, or proposal);
3. three letters of recommendation; and
4. a current vita or resume.

Degree requirements

The MS with a major in linguistics is a 36-hour program. Course requirements include 15 hours of core courses, 21 hours of foundation courses. Students who elect to write a thesis will take 6 hours of thesis (LING 5950).

Core courses, 15 hours

- LING 5070 - Research Design in Linguistics
- LING 5300 - Phonology I
- LING 5310 - Syntax I
- LING 5530 - Semantics and Pragmatics I
- LING 5990 - Graduate Research Seminar in Linguistics Will be offered every Fall. Should be taken in a student's second or third semester, depending on if the student begins the program in Fall or Spring)

Foundation courses, 21 hours

Select courses in conjunction with your graduate advisor.

Graduate Academic Certificate

Computational Linguistics certificate

This is a four-course (12 hour) graduate certificate program in Computational Linguistics. Computational Linguistics (CL) and Natural Language Processing (NLP) – often viewed as one and the same thing – are rapidly growing fields in the high-tech sector, critical for development of technologies such as voice-enabled smart phones (e.g. Siri, Cortana) and home assistants (e.g. Alexa). IBM's Jeopardy-winning Watson system is another example of what CL can do. Yet another application area is text analytics for market analysis.

This certificate is specifically intended to address a growing need for language processing skills, particularly those associated with the rapid growth of artificial intelligence/cognitive technologies. Systems like Siri or Alexa are built on a pipeline of language processing technologies, ranging from voice and speech recognition to language understanding and automatic question answering. Developing such technologies is a complex process that requires knowledge from both linguistics and computer science.

Required courses, 12 hours

- LING 5045 - Introduction to Linguistics for NLP
- LING 5410 - Foundations of Computational Linguistics
- LING 5412 - Advanced Models of Language
- LING 5415 - Special Topics in Computational Linguistics

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

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 concentration 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 3070 or LING 5040

Required courses, 12 hours

- 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 https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

College of Liberal Arts and Social Sciences

Main Office
General Academic Building, Room 210

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

Dr. Albert Bimper, Executive Dean
Dr. Nancy Stockdale, The Dr. Jean Schaake Associate Dean for Academic Affairs
Dr. Steven Cobb, Senior Divisional Dean, Division of Communication, Media and Performance
Dr. Lisa Henry, Divisional Dean, Division of Social Sciences
Dr. Jennifer Wallach, Divisional Dean, Division of Humanities
Dr. Lisa Nagaoka, Associate Dean for Research
Kathryn Cullivan, Associate Dean for Fiscal and Human Resources

Faculty

Programs of study

The College of Liberal Arts and Social Sciences, through its disciplines of humanities and arts, and social sciences, offers course work leading to the following degrees:

- Master of Arts,
- Master of Fine Arts,
- Master of Science, and
- Doctor of Philosophy.

Many of the master's degrees in the College of Liberal Arts and Social Sciences offer more specialized areas to students (see individual program descriptions in this catalog for specific information)

Doctoral programs in the college typically reflect the areas of academic specialization or focus of the various departments (see individual program 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 offers graduate programs in academic departments and programs.

- Anthropology
- Communication Studies
- Economics
- English
- Geography and the Environment
- History
- International Studies
- Media Arts
- Philosophy and Religion
- Political Science
- Psychology
- Sociology
- Technical Communication
- Women's and Gender Studies
- World Languages, Literatures and Cultures
- CLASS also includes the Frank W. and Sue Mayborn School of Journalism. See the Frank W. and Sue Mayborn School of Journalism section of the catalog for more information.

Research and Creative Activity

Innovative research and creative activity is under way in such areas as applied geography and applications of geographic information systems; clinical and counseling psychology; creative writing, documentary film production, econometrics; environmental philosophy, medical anthropology; peace studies; technical communication, and regional and military history,

Advising

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

Scholarships

Dean's Graduate Scholarship

An endowment fund to support graduate students enrolled in a degree program within the College of Liberal Arts and Social Sciences who have demonstrated academic promise.

The UNT Foundation Endowed Fund for CLASS

An endowment fund to support graduate students enrolled in a degree program within the College of Liberal Arts and Social Sciences who have demonstrated academic promise. This scholarship rotates between the three divisions of CLASS.

Voertman-Ardoin Scholarship in Liberal Arts

A fund supporting students enrolled in a degree program within the College of Liberal Arts and Social Sciences.

Master's Degree

Women's and Gender Studies, MA

Admission requirements

Due to the interdisciplinary nature of women's and gender studies as a program of study, admission to our graduate program is open to many who did not major in this field as undergraduates. In compiling your application materials, please reflect on your course work, academic projects, and relevant life experiences that have prepared you to pursue a graduate degree in women's and gender studies.

To be considered for admission to the master's program in women's and gender studies, you must submit an online application and college transcripts to the UNT Toulouse Graduate School. In addition to the institutional requirements for applications, applicants must submit supporting materials for the women's and gender studies program. Only complete applications will be considered for admission decisions.

Please include the following items in your online application:

- **An application letter** that includes a statement in which you address your purpose in pursuing graduate study in the women›s and gender studies program at UNT. Include your professional plans, career goals, background in topics/theories related to women›s and gender studies, and areas of research interest relevant to our program
- **A current vita or resume** in which you address the following areas (as applicable): a) educational background; b) previous work and leadership experience; c) publications, performances, exhibitions, or other scholarly activities; d) previous research experience, including publications; e) involvement in community activities
- **Two signed letters of recommendation** from individuals familiar with your academic and/or professional abilities. At least one letter *must* be from a professor who can speak to your academic capacities and potential to succeed in

graduate study; one letter *may* be submitted by a current or past employer. Academic references are preferred. After indicating who you would like to provide your letters of recommendation, they will receive an invitation from the system to submit their letters online through the application portal.

- **A scholarly writing sample** from an upper-level undergraduate course or an honor›s thesis. The writing sample should demonstrate your proficiency at conducting and reporting research.

Degree requirements

Students must complete at least 30 hours of graduate course work as part of an approved master's degree plan. All students are required to complete WGST 5100, WGST 5350 and WGST 5300. In addition to these 9 hours of required course work, students will select courses approved by director.

Additional requirements

Students must also fulfill one of three "exit options," chosen in consultation with the major professor.

Thesis track option

If you wish to complete a thesis, you will work in close consultation with your major professor and selected committee members on a substantial research project during your final two long semesters of enrollment.

The 30-hour program with thesis option is distributed as follows:

- Course work: 21 hours
- Research methods: 3 hours
- Thesis: 6 hours WGST 5950 and an oral thesis defense

Non-thesis track options

Internship/fieldwork option

Serving in an internship offers valuable hands-on experiences that enable you to glean an insider's perspective of a non-profit organization. You must complete at least 12 hours of graduate WGST course work before enrolling in an internship and must work in close consultation with your major professor.

The 30-hour program with internship/fieldwork non-thesis option is distributed as follows:

- Course work: 27 hours
- Internship: 3 hours of WGST 5850
- written and oral comprehensive examinations (taken during your last long semester of enrollment)

Special project option

This option will allow you to focus on a semester-long research or creative project opportunity, suitable for publication or professional review. You must complete at least 12 hours of graduate WGST course work before enrolling in this special problems course and must work in close consultation with your major professor.

The 30-hour program with special project non-thesis option is distributed as follows:

- Course work: 27 hours
- Special problems: 3 hours of WGST 5900
- written and oral comprehensive examinations (taken during your last long semester of enrollment)

Department of Anthropology

Main Office
Sycamore Hall, Room 119A

Mailing address:
1155 Union Circle #310409
Denton, TX 76203-5017
940-565-2290
Web site: anthropology.unt.edu

Doug Henry, Chair

Faculty

The Department of Anthropology offers both on-campus and online graduate programs leading to the Master of Arts 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.

Areas of interest

While students are not required to choose a specific track in the graduate program, the department offers several areas of interest. Please view our faculty directory for more information about individual faculty members.

Business, Technology and Design Anthropology
Christina Wasson and Susan Squires specialize in this area. It includes the areas of organizational analysis and change, teams, user-centered design, marketing, communication in the workplace, human-computer interaction, consumer behavior, diversity and globalization. We work with both the private sector and the not-for-profit sector. The Dallas-Fort Worth metroplex offers opportunities for partnerships with a wide variety of organizations.

Crossing Borders: Migration and Identities
Jara Carrington, Alicia Re Cruz, Doug Henry, Andrew Nelson, and Mariela Nuñez-Janes represent this area. This area addresses the experiences of immigrants and refugees through an emphasis on the politics and policing of mobility across cultural and physical borders. In particular, we are interested in the relationships between migration and the formation/negotiation of identities, such as religion, gender, ethnicity, race, class, caste, nationality and sexual orientation in transnational, national, local, and global contexts.

Medical Anthropology
Lisa Henry and Doug Henry specialize in this area. Topics include public health, healthcare delivery, risk, program evaluation, and the health issues of ethnic minorities, migrants and/or refugees. Students have access to the affiliated UNT Health Science Center at Fort Worth. In addition, the DFW area provides innumerable opportunities for students interested in the health issues of ethnic minorities, migrants and/or refugees from all over the world.

Anthropology of Education
Mariela Nuñez-Janes and Alicia Re Cruz represent this area. It focuses on understanding various aspects related to the educational process. It explores the connection between culture and education in a variety of contexts paying particular attention to concerns related to teaching and learning. Both faculty members focus on the challenges of bilingual education.

Environmental and Ecological Anthropology
Karine Narahara, Chelsea Hunter and Jamie Johnson represent this area, which examines human relationships with their environments. This includes climate change forecasting and adaptation, political ecology, environmental justice, the cultural politics of protected spaces, extraction and conflict, as well as the environmental epistemologies foundational to how we interact with the world around us. This emphasis has applications in the realms of environmental management, urban planning, policy writing, and activist environmental organizing.

Urban Anthropology
Andrew Nelson, Mariela Nuñez-Janes, and Jamie Johnson represent this area. Urban anthropology studies social phenomena in cities with an emphasis on the relationship between spatial, cultural and political-economic structures and the everyday life of people. It has applications in the arenas of policy, planning, social and health services, education, labor and migration, technology, business, ecology and community relations.

Students take 2-3 electives in one of these areas and 2-3 electives outside of anthropology. The reason we emphasize a second discipline is that the various institutions in which applied anthropologists work all have their own forms of knowledge. Students will be better prepared for jobs if they have prior exposure to those disciplines.

Funding

Each term/semester the department is able to provide a limited number of instructional assistant positions for graduate students who live in the state. If interested, the student should fill out an application and turn it in to the department before the beginning of the new term/semester. Check the department web site for the most up-to-date information.

The Department of Anthropology has a limited number of scholarships it is able to offer. To maintain eligibility for a scholarship, on-campus students must take a minimum of 9 hours, and online students must take a minimum of 6 hours.

Master's Degree

Applied Anthropology, MA

Admission requirements

1. The applicant must complete application forms through University Graduate CAS. 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 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 Graduate Program Coordinator for more information (anthropology@unt.edu).
4. Applicants must submit a statement of purpose (500–750 words).
5. Applicants must submit a writing sample.
6. Applicants must submit three Reference Evaluation Forms (or letters of recommendation) from persons familiar with their academic record.

See anthropology.unt.edu/graduate/courses.html for details.

Program requirements

For the Master of Arts degree, students fulfill the 36 hours of degree requirements as listed below.

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 Capstone and Career

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. 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 in Public Health
- ANTH 5300 - Migrants and Refugees
- ANTH 5400 - Environmental Anthropology
- ANTH 5620 - Anthropology of Education
- ANTH 5700 - Topics in Applied Anthropology (when the topic is "Evaluation Anthropology")
- 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 5700 - Topics in Applied Anthropology (when the topic is "Evaluation Anthropology")
- 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 or non-thesis research, 6 hours

All candidates must take either 6 credit hours of ANTH 5950 or both ANTH 5920 and ANTH 5930, depending on if they are completing the thesis or non-thesis option.

- ANTH 5950 - Applied Thesis
- ANTH 5920 - Non-Thesis Research 1
- ANTH 5930 - Non-Thesis Research 2

Dual Program

Applied Anthropology, MA / Public Health, MPH (UNT Health)

The Department of Anthropology at the University of North Texas at Denton and the College of Public Health at the UNT Health Sciences Center in Fort Worth have developed a cooperative credit sharing agreement that allows students to simultaneously pursue the Master of Public Health and a Master of Arts 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 2½-3 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/graduate/dual-degree-anthropology-and-public-health for details.

Admission requirements

In addition to the application requirements for the MA, applicants to the dual-degree program must also apply to the UNTHSC, which functions as a separate university under the same system.

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 Capstone and Career
- ANTH 5201 - Medical Anthropology
- ANTH 5210 - Anthropology in Public Health

Applied thesis, 6 hours

Culminating experience in medical anthropology and public health.

- ANTH 5950 - Applied Thesis (topic to overlap PHED 5297)

Master of Public Health, 36 hours (UNTHSC)

Required courses in public health, 30 hours

- BACH 5300 - Theoretical Foundations of Individual and Community Health
- BACH 5340 - Community Assessment and Program Planning
- BACH 5350 - Community Health Program Evaluation
- BIOS 5300 - Principles of Biostatistics
- EOHS 5300 - Environmental Health
- EPID 5300 - Principles of Epidemiology
- HMAP 5300 - Introduction to Health Management and Policy
- HMAP 5336 - Health Politics and Policy
- HMAP 5332 - Public Health Law
- HMAP 5328 - Organizational Leadership

Elective courses in public health, 3 hours

- Any one course offered in the School of Public Health (consult with MPH advisor)

Comprehensive examination and culminating experience, 3 hours

Culminating experience in public health.

- PHED 5000 CPH Comprehensive Exam (0 hours)
- PHED 5297 Practice Experience (1 hour, taken 3 separate times)

Department of Communication Studies

Main Departmental Office
General Academic Building, Room 309A

Mailing address:
1155 Union Circle #305268
Denton, TX 76203-5017
940-565-2588
Fax: 940-565-3630
Web site: www.comm.unt.edu

Suzanne Enck, Chair

Faculty

The Department of Communication Studies offers qualified students the opportunity to earn a graduate degree (MA). The master's degree in communication studies offers the student the opportunity to learn about theory and research in communication studies by examining 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 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, political, legal, cultural, aesthetic, health and international contexts. Among the topics students will encounter in their graduate program are gender and diversity issues, social influence, ethics, narrative, and social change. The graduate experience is enhanced by opportunities to engage in conducting research with faculty members, participating in regional and national festivals and processional conferences, and internships with corporations, social service organizations, and government entities.

The degree program requires 36 hours of graduate course work as part of an approved master's degree plan. As part of this degree plan, students have three options for completing the MA degree in Communication Studies: 1) comprehensive exams and 3-hour Problem in Lieu of Thesis (a semester-long research project); 2) comprehensive exams and 3-hour Internship course (requiring 150 hours of internship hours in a role related to the field of Communication Studies); or 3) 6-hour Thesis project (completed over the course of two long semesters).

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

We generally have three areas of departmental faculty and course work in communication studies (communication, culture and public discourse; interpersonal, digital and organizational communication; and performance studies), the research interests of our faculty span a wide array of areas, including:

1. rhetorical analysis and criticism of persuasive public communication in historical, political and cultural contexts;
2. the role of communication in organizations, professions, sports, and groups, including stress in the workplace, message framing, conflict management, whistleblowing, interpersonal and professional relationships, pedagogy, 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. health communication;
5. sport communication;
6. computer-mediated and digital communication;
7. critical and cultural studies of communication, cultural values, ideologies and politics;
8. investigations into rhetorics of policy-making and public policy practices;
9. intercultural communication; and
10. narrative studies.

Teaching assistantships

The department offers a number of teaching assistantships that provide graduate students with valuable experience as a classroom teacher or a debate assistant, in addition to financial support. Teaching Assistants work with a variety of courses, including teaching stand-alone recitations and serving as graders for a wide breadth of courses. TAs receive extensive training during pre-semester orientations, ongoing mentoring from faculty, and the Communication and Pedagogy graduate course.

Students working toward a master's degree carry their own 9-credit class load during the fall and spring semesters, while working as a TA for 20 hours/ week. Students receiving Teaching Assistantships upon admission to the communication studies program are awarded the assistantship for one academic year, which will automatically be renewed for a second year as long as the student remains in good standing with the Department and University. Summer assistantships are optional but limited, and are available based on University funding and student enrollments.

Admission requirements and procedures

Our graduate program in communication studies is a research-based, theoretically grounded graduate program that invites students to develop a mastery of human communication. Our program requires a certain background in communication discipline (undergraduate courses related to the discipline of communication and/or related social scientific fields). Because of the interdisciplinary nature of much of the work done in the Department of Communication Studies, admission is open to many who did not major in communication as undergraduates. Applicants with fewer than 24 hours of undergraduate communication course work may request admission on the basis of communication-related courses.

Application deadlines

Our application deadlines are rolling, and we accept applications throughout each semester; however, 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.

For Fall semesters: Rolling applications accepted. Application review for the Fall admissions begins January 15 and continues until available openings are filled. For international applicants, applying by April 15 increases the chance of timely admission and I-20 processing, if admitted.

For Spring semesters: Rolling applications accepted. Application review for Spring admissions begin August 1 and continues until available openings are filled. For international applicants, applying by October 15 increases the chance of timely admission and I-20 processing, if admitted.

For step-by-step instructions on the application process, please visit the Graduate Admissions web site. This will include details on how to submit materials including transcripts, letters of recommendation and other items.

Required admissions materials

1. An online application through the UNT GradCAS (Centralized Application System). Graduate School application fee is due at the time of application. Please note that the department has no ability to waive the application fee.

2. Official transcripts from all colleges and universities that you have attended.
3. Application letter: In addition to indicating the semester and year you would like to enter the program, your letter of application that conveys your purpose in pursuing a graduate degree at UNT in Communication Studies (specifically addressing your research interests), experiences that have served as a foundation for graduate work in Communication Studies, and how pursing a graduate degree in our department will aid in your professional plans and/or career aspirations. If you would like to be considered for a Teaching Assistantship, this letter should also include a paragraph that indicates your relevant work or academic experience and how serving as a TA would fit into your professional goals.
4. 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.)
    - GRE Exemption: Students graduating with a major in communication studies (or speech communication) who earned a minimum GPA of 3.25 overall and 3.5 in their major are exempt from the GRE requirements.
5. A current vita or resume in which you address each of the following areas (as applicable):
    a. educational background;
    b. previous work experience (highlighting skills relevant to pursuing a master's degree and/or serving as a Teaching Assistant);
    c. publications, performances, exhibitions or other scholarly activities;
    d. previous research experience (e.g., completion of an undergraduate thesis or honor's project, large-scale course research projects, work as a Research Assistant);
    e. involvement in community and extracurricular activities;
    f. awards and recognitions.
6. Two signed letters of recommendation. We ask that you submit 2 signed letters of recommendation from individuals familiar with your academic and/or professional abilities. At least one letter must be from a professor. One letter may be submitted by a current or past employer, though academic references are preferred.
7. An essay or writing sample from a upper-level undergraduate course or honors thesis. The writing sample needs to demonstrate your proficiency at conducting and reporting research, including clear use of cited academic research that follows an appropriate style guide (e.g., APA, MLA, or Chicago). If an applicant does not have a suitable writing sample, the applicant is invited to complete a research paper on a topic related to the field of communication studies.

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.

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.

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
Dance and Theatre Building, Room 103
Web site: www.danceandtheatre.unt.edu

Steven Wolverton, Chair

Faculty

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 Dance and Theatre Building, 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 Joyce abd C.R. Pennington Dance Education Scholarship; the Jonathan Bostick Memorial Dance Scholarship; the Eugene Mills Dance Scholarships; and the Chun Hui Lee Dance Scholarships.

Department of Economics

Main Departmental Office
Wooten Hall, Room 325

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

Jeffrey Rous, Chair

Faculty

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 economics

This is a STEM designated program. The 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 economics.

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.

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 economics 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)
- 7 hours of Calculus (MATH 1710 and MATH 1720)
- and an appropriate background in probability and statistics (ECON 4630, ECON 5630, MATH 3680, MATH 4650 or DSCI 3710, with a grade of B or better).

Degree programs

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

Scholarships

The Faculty Scholarship in Memory of Karla Lynch

This scholarship is in memory of long-time faculty member Karla Lynch, who passed away on February 21, 2015. Karla was also an alumna of our program, earning her Master's in economics in 1992. She was a master teacher and a caring mentor, and she touched the lives of generations of students, colleagues and friends fortunate enough to have known her. The scholarship is funded by Karla's colleagues and many friends as a way of honoring her commitment to her students and to higher education in general.

The Lewis M. Abernathy Scholarship in Economics

This scholarship is named in honor of Professor Lew Abernathy (1932-2005). Dr. Abernathy served the Department from 1967 until his retirement in 1999. He was chairman from 1984 to 1994. His passion was labor education and he directed the UNT Institute for Labor and Industrial Relations and the UNT Econ Labor Education Program. This scholarship is merit based for full-time graduate or undergraduate majors in economics. Students must have a minimum 3.0 average and maintain full time enrollment status unless they are graduating.

The Rising Eagle Scholarship

This scholarship is for current economics majors who are graduating with a BA/BS/BBA in Economics and who will join the Master's program in Economics in the fall of the coming year. The number and amount of awards depend on the availability of funding.

Department of Economics Graduate Scholarships for Academic Excellence

This scholarship is for outstanding graduate students in the Master's program in Economics who are making good progress towards completion of their degree. Several of these scholarships may be awarded if funds are available.

Faculty of the Department of Economics Scholarships

This scholarship is made possible by the contributions of current faculty members in the Department of Economics. The scholarship is merit based and is awarded to an undergraduate or graduate economics major with an outstanding academic record. Students must have a minimum 3.0 average and maintain full time enrollment status unless they are graduating.

The Aaron Wuensch Memorial Scholarship

This scholarship was created by members of the Department of Economics and the family and friends of Aaron Wuensch, a former graduate student in the Department of Economics who lost his life in June of 2009. This scholarship is intended to honor the memory of this outstanding student and fine young man.

William H. & Virginia W. Wallace Graduate Scholarship

This scholarship is in memory of Dr. William H. Wallace and his wife. Dr. Wallace was an economist and served as adjunct instructor at UNT from 2001 to 2012. He had a brilliant academic career at numerous universities, including the University of Illinois, Duke University, the Institute of Economics of the Russian Academy of Sciences in Moscow, and Old Dominion University in Norfolk, VA (where he was Dean of the College of Business). He also worked at the Federal Reserve Bank, serving on the Board of Governors in Washington, DC, and as First Vice President and Chief Operating Officer at the Dallas branch. The scholarship is open to new and continuing full-time graduate students in Economics. New students must meet minimum entrance standards; continuing students must meet academic performance standards of the department and have a minimum 3.5 GPA.

HOUS Scholarships

This scholarship is made possible by the contributions of Richard Johnson (BS'16) in honor of Drs. Hauge and Rous and their contributions to economics education. The scholarship is merit based and is awarded to an undergraduate or graduate economics major with an outstanding academic record. Students must have a minimum 3.0 average and maintain full time enrollment status unless they are graduating.

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.

Economics Research Group

Michael C. Carroll, Director

Yang Zhou, Assistant Director

The Department of Economics at the University of North Texas houses the Economics Research Group (ERG), one of the country's leading economics research groups. By providing support to communities and industry, the ERG is leading the study of the *innovation economy*, defining the dynamics of this economy and analyzing it to provide understanding and actionable data. ERG conducts in-depth research, solving tough economic issues leading to new ideas and solutions facing society. Examples include water costs and impacts, efficiencies associated with the movement of goods, infrastructure development and integration assessment, and bio-based industry growth.

Committed to the creation and application of world-class economic strategies, ERG is working with global partners to assess the economy and transform data and trends into innovative, actionable solutions. Areas of expertise include: innovation economy, social network theory, embedded economy, creative economy, economic impact studies, and economic development strategies.

Master's Degree

Economics, MS

Requirements of this program consist of a minimum of 36 semester hours of course work. A grade of B or better is required in every course in these 36 hours. All students must pass a written comprehensive exam. Students must complete 15 hours of core courses and at least 15 hours of Category II electives. The remaining 6 hours can be chosen from the list of Category I electives, Master's Thesis (ECON 5950), Research Problems in Lieu of Thesis (ECON 5920-ECON 5930), or a 6-hour minor approved by the graduate advisor. Core courses are listed below. Please see the current Economics Graduate Student Handbook and Success Manual for the list of Category I and II electives.

Core courses

- ECON 5330 - Advanced Macroeconomic Theory
- ECON 5340 - Advanced Microeconomic Theory
- ECON 5600 - Mathematical Economics
- ECON 5640 - Multivariate Regression Analysis
- ECON 5650 - Advanced Econometrics

Note

Students who have already taken ECON 5640 at the undergraduate level may substitute 3 hours of Category 1 electives with the approval of the graduate advisor.

Graduate Academic Certificate

Advanced Data Analytics in Economics certificate

With the *Advanced Data Analytics in Economics* certificate, students will learn advanced econometric tools through a rigorous combination of theoretical foundations and practical applications. By completing this certificate, students master techniques such as linear and non-linear regression models, panel data analysis, and time series forecasting. Emphasis is placed on the analysis and interpretation of empirical data using econometric software including R, Stata, Python, and SAS, enabling students to solve complex economic and business-related problems. This certificate prepares students for high-level quantitative research and data-driven decision-making.

Requirements

This certificate program provides essential training in data analysis and econometrics, emphasizing the application of statistical and econometric tools to analyze intriguing relationships in economics, business, and other real-world contexts. Students must complete nine hours (3 classes) from the courses listed below:

- ECON 5645 - Empirical Linear Modeling
- ECON 5650 - Advanced Econometrics
- ECON 5655 - Econometric Analysis of Panel Data
- ECON 5660 - Time Series Econometrics and Forecasting
- ECON 5670 - Applied Econometrics

Disclosures

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

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. A grade of B or better is required in every course counted toward the certificate. All course prerequisites must be met.

First required economics course

Choose one of the following.

- ECON 5030 - Microeconomic Analysis
- ECON 5340 - Advanced Microeconomic Theory

First required geography course

- GEOG 5230 - Location Intelligence: Advanced Business GIS Concepts and Applications

Second required economics course

Choose one of the following.

- ECON 5640 - Multivariate Regression Analysis
- ECON 5645 - Empirical Linear Modeling

Second required geography course

Choose one of the following.

- GEOG 5060 - Applied GIS: MapInfo Professional
- GEOG 5560 - Application Development with Python Programming

Electives

Choose two courses from the following.

- ECON 5645 - Empirical Linear Modeling
- ECON 5750 - Urban Economics
- GEOG 5210 - Seminar in Urban Geography
- GEOG 5220 - Applied Retail Geography
- GEOG 5245 - International Development
- GEOG 5510 - GIS for Applied Research
- GEOG 5550 - Advanced Geographic Information Systems
- GEOG 5590 - Advanced GIS Programming

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

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

Nicole Smith, Chair

Faculty

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 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 University of Michigan 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 with a concentration in creative writing). 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. 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.

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, or by taking ENGL 5000 and earning a grade of B or better. 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.

Application deadlines

- September 15 for early admission, for UNT undergraduate students only. A decision will be rendered by December 1 for admission in the spring or in the fall semester.
- 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 scores from the Test of English as a Foreign Language (TOEFL) for students whose native language is not English.
3. 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 to the Toulouse Graduate School:

1. A 300 to 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, 15–25 pages of fiction, or 15–25 pages of nonfiction)
3. These applicants should have two referees send directly to GradEnglishStudies@unt.edu a letter of recommendation that assesses the candidate's potential for pursuing graduate-level work in creative writing. Please provide referees the above e-mail address for file attachment.

Note: Applicants should also indicate in an e-mail to GradEnglishStudies@unt.edu whether or not access is waived to these letters of recommendation.

Applicants for the MA with a major in English

Applicants for the MA with a major in English should send the following to the Toulouse Graduate School:

1. A 300 to 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)
3. These applicants should have two referees send directly to GradEnglishStudies@unt.edu a letter of recommendation that assesses the candidate's potential for pursuing graduate level work in English literature. Please provide referees the above e-mail address for file attachment.

Note: Applicants should also indicate in an e-mail to GradEnglishStudies@unt.edu whether or not access is waived to these letters of recommendation.

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 standard.

1. **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.

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 scores from the Test of English as a Foreign Language (TOEFL) examination for students whose native language is not English.
4. Letter of intent. The letter should describe the applicant's scholarly field of interest or creative genre of specialization. It should explain why the applicant wants to work toward a Doctor of Philosophy with a major in English.
5. Writing Sample(s). All applicants must submit one substantial example of critical writing (12–20 pages). Those applying for the concentration in creative writing must also submit a sample of their creative writing (10 pages of poetry, 15–25 pages of fiction, or 15–25 pages of nonfiction).
6. A current curriculum vitae.

Applicants should have three referees send directly to GradEnglishStudies@unt.edu:

Note: Applicants should also indicate in an e-mail to GradEnglishStudies@unt.edu whether or not access is waived to these letters of recommendation.

If you have questions about the degree or application process, please contact the Graduate Studies in English Office at 940-565-2273.

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, or (3) by taking ENGL 5000 and earning a grade of B or better.

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 33 hours of course work as follows:

Form and theory, 3 hours

Choose one in genre of the student's focus:

- ENGL 5140 - Form and Theory: Poetry

  or
- ENGL 5145 - Form and Theory: Prose

Workshops, 12 hours

Choose three courses in the genre of focus, one course outside of the genre of focus.

Electives (excluding workshops), 12 hours

Note: a maximum of 3 hours may be taken from ENGL 5900, ENGL 5910, ENGL 6900 or ENGL 6910.

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.

English, MA

Program requirements

All students must complete 30 hours of course work as follows:

Foundation course, 3 hours

- ENGL 5760 - Scholarly and Critical Writing (to be taken during the first spring)

Distribution courses, 15 hours

- 3 hours in postcolonial or transatlantic studies
- 3 hours in British studies (pre-1660)
- 3 hours in British studies (post-1660)
- 3 hours in American studies (pre-1860)
- 3 hours in American studies (post-1860)

Electives, 9 hours, and Research Problems in Lieu of a Thesis (5930), 3 hours; OR Electives, 6 hours, and MA Thesis (5950), 6 hours

No student will be allowed to register for ENGL 5930 or ENGL 5950 until the foreign language requirement has been met.

Note: a maximum of 3 hours may be taken from ENGL 5900, ENGL 5910, ENGL 6900 or ENGL 6910.

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 54 semester credit hours of graduate work beyond the MA. Students holding only a BA must complete 72 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.

Program requirements, 54 hours

All students must take 9 hours of foundation courses. Once the foundation courses have been taken, the following progression should occur:

- For teaching fellows: ENGL 5550 - Studies in the Teaching of Composition (3 hours)
- For students entering with the BA: Distribution courses, then electives.

- For students entering with the MA: Electives (but including, during the first year, any unmet distribution requirements)

Foundation courses, 6 hours

- ENGL 5760 - Scholarly and Critical Writing (to be taken during the first spring)
- ENGL 5810 - Survey of Critical Theory

Distribution courses, 15 hours

- 3 hours in postcolonial or transatlantic studies
- 3 hours in British studies, pre-1660
- 3 hours in British studies, post-1660
- 3 hours in American studies, pre-1860
- 3 hours in American studies, post-1860

Electives, 30 hours

Non-TFs take an additional 3 hours for a total of 33 hours of electives.

Note: a maximum of 3 hours may be taken from ENGL 5900, ENGL 5910, ENGL 6900 or ENGL 6910.

Directed research, 6 hours

Dissertation research, 12 hours

Concentration in creative writing

The majority of students entering the PhD with a major in English and a concentration in creative writing have previously earned an MFA or MA. Such students must complete at least 57 hours beyond their master's-level work. Students entering the doctoral creative writing concentration without an MFA or MA must complete 18 additional hours: 6 hours in workshops and 12 hours in non-workshop electives.

Creative writing students must select a faculty advisor by the end of their first semester.

Foundation courses, 6 hours

- 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)

For teaching fellows

- ENGL 5550 - Studies in the Teaching of Composition

Distribution courses, 12 hours

- 3 hours in British studies, pre-1660
- 3 hours in British studies, post-1660
- 3 hours in American studies, pre-1860
- 3 hours in American studies, post-1860

Workshops, 12 hours

Three workshops in the genre of focus, one workshop outside the genre of focus.

Note: all workshops must be taken during PhD course work at UNT.

Electives (excluding workshops), 9 hours

A maximum of 3 hours may be taken from ENGL 5900, ENGL 5910, ENGL 6900 or ENGL 6910.

Directed research, 6 hours

Dissertation, 12 hours

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 eight-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 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 hours 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 tgs.unt.edu/new-current-students/graduation-information#grad-deadlines for deadlines.

Department of Geography and the Environment

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

Mailing address:
1155 Union Circle #305279
Denton, TX 76203-5017
940-565-2091
Web site: www.geography.unt.edu

Pinliang Dong, Chair

Faculty

Students in the Department of Geography & the Environment successfully prepare for active careers in diverse employment settings in business, government, research and teaching. The Master of Science (MS) degree with a major in geography allows students to develop their education and training in both physical and human geography, as well as geospatial technology, through a broad curriculum, research and teaching experience. Students may also pursue 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- and upper-level entry positions as well as for pursuit of a doctoral degree in geography or a related discipline. The master's degree is also earned by many students who teach or plan to teach at the primary or secondary level.

Research

Faculty in the Department of Geography & the Environment are engaged in research activities that cover a broad range of topics in physical and human geography and geospatial technology. This diversity of research reflects the composition of our faculty. The department collaborates fully with numerous departments on interdisciplinary projects.

Research areas include medical geography and health care delivery systems; groundwater monitoring and remediation; water resources management; globalization, development and cities; urban/economic geography; geographic information systems (GIS); remote sensing and digital image processing; meteorology and climate; environmental modeling; ecosystems management; coastal and fluvial geomorphology; soils geomorphology; Quaternary geology and paleoenvironments; historical ecology, island biogeography, zooarchaeology, cultural ecology, and natural hazard assessment. Students have participated in our faculty's research activities in numerous countries.

Support for research has included grants from the National Science Foundation, National Institutes of Health, Environmental Protection Agency, U.S. Army Corps of Engineers, Texas Natural Resources Information Service, NASA, USGS, National Geographic Society and Leakey Foundation.

The **Geospatial Analytics Lab** is housed in the Environmental Education, Science and Technology Building (EESAT). This lab 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.

The department also has research labs used by students and faculty in water resources, historical ecology, geomorphology, and ecosystem geography.

Admission requirements

Application for admission to the Toulouse Graduate School is made through the graduate school and the department. Concurrently, a letter of intent and related materials should be sent directly to the Department of Geography and the Environment. This letter should briefly summarize the applicant's background, specific interests in the field of geography and future career plans. Three letters of recommendation are also required.

Applicants normally should have an 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 during the last 60 undergraduate semester hours. The undergraduate degree program should include basic geographic concepts and methods. 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 may be evaluated as part of the admission process. For more information, visit www.geography.unt.edu.

Financial assistance

The Department of Geography and the Environment extends some form of financial assistance to most of its 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

Geography with a Concentration in Data Analytics, MS

The Master of Science degree with a major in 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 problem in lieu of thesis report (GEOG 5920) and an additional 3 semester credit hours from elsewhere in the curriculum. The concentration in Data Analytics enables students to integrate statistics, data management, and data visualization with place-based perspectives of geography, such as geographic information systems, locational analysis, and cartography.

Requirements

Research thesis option, 9 hours

Required courses

- GEOG 5160 - Foundations of Geographic Thought
- GEOG 5800 - Research Design and Geographic Applications

One course from the following

- ANTH 5031 - Ethnographic and Qualitative Methods
- GEOG 5185 - Statistical Research Methods in Geography
- GEOG 5190 - Spatial Statistics and Geographic Data Analysis

Professional non-thesis option, 6 hours

Six hours taken within the first three semesters.

One course from

- GEOG 5160 - Foundations of Geographic Thought
- GEOG 5510 - GIS for Applied Research

One course from

- ANTH 5031 - Ethnographic and Qualitative Methods
- GEOG 5185 - Statistical Research Methods in Geography
- GEOG 5190 - Spatial Statistics and Geographic Data Analysis

Concentration courses, 9 hours

Students take three courses from the list below.

- ADTA 5110 - Fundamentals of Data Collection and Management
- ADTA 5130 - Data Analytics I
- ADTA 5160 - Sport and Entertainment Analytics
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5250 - Large Data Visualization
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5610 - Applied Probability Modeling for Data Analytics

Additional requirements

Generally, students define their degree plan and committee at the beginning of their second semester, in consultation with their major professor.

All non-thesis students are required to take comprehensive exams. See geography.unt.edu for 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.

Thesis students must present (and defend) the results of their 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.

Students who have not graduated 1.5 years after completion of course work must formally apply for an extension to remain in the program (see www.geography.unt.edu for details). If a student does not demonstrate satisfactory progress toward completing the thesis within 1.5 years of defending the proposal, a grade of "no progress" will be assigned to the thesis.

Geography with a Concentration in Technical Communication, MS

The Master of Science degree with a major in 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. The concentration in Technical Communication enables students to integrate proposal writing, editing, digital communication, and other writing practices with place-based perspectives of geography, such as geographic information systems, locational analysis, and cartography.

Requirements

Research thesis option, 9 hours

Required courses

- GEOG 5160 - Foundations of Geographic Thought
- GEOG 5800 - Research Design and Geographic Applications

One course from the following

- ANTH 5031 - Ethnographic and Qualitative Methods
- GEOG 5185 - Statistical Research Methods in Geography
- GEOG 5190 - Spatial Statistics and Geographic Data Analysis

Professional non-thesis option, 6 hours

Six hours taken within the first three semesters.

One course from

- GEOG 5160 - Foundations of Geographic Thought
- GEOG 5510 - GIS for Applied Research

One course from

- ANTH 5031 - Ethnographic and Qualitative Methods
- GEOG 5185 - Statistical Research Methods in Geography
- GEOG 5190 - Spatial Statistics and Geographic Data Analysis

Concentration courses, 9 hours

Students interested in the concentration should meet with the TECM (Technical Communication) graduate advisor to discuss course rotations and availability (TCGRAD@unt.edu).

Students who are interested in the Graduate Academic Certificate in Technical Writing can find more here.

Students take three courses from the list below

- TECM 5170 - Grants and Proposals
- TECM 5175 - Writing in Professional Settings
- TECM 5185 - Principles of Technical Communication
- TECM 5190 - Style and Technical Writing
- TECM 5191 - Digital Literacies for Professional Communicators
- TECM 5195 - Editing Technical Documents
- TECM 5200 - Digital Content Strategies for Communication Professionals
- TECM 5280 - Designing Technical Documents
- TECM 5290 - Design and Development of High-Tech Training Materials
- TECM 5550 - Studies in the Teaching of Technical Communication
- TECM 5740 - Content Analysis in Technical Communication
- TECM 5750 - Measuring Usability and User Experience for Professional and Technical Communication

Additional requirements

Generally, students define their degree plan and committee at the beginning of their second semester, in consultation with their major professor.

All non-thesis students are required to take comprehensive exams. See geography.unt.edu for 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.

Thesis students must present (and defend) the results of their 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.

Students who have not graduated 1.5 years after completion of course work must formally apply for an extension to remain in the program (see www.geography.unt.edu for details). If a student does not demonstrate satisfactory progress toward completing the thesis within 1.5 years of defending the proposal, a grade of “no progress” will be assigned to the thesis.

Geography, MS

The Master of Science degree with a major in 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.

Research thesis option, 9 hours

Required courses

- GEOG 5160 - Foundations of Geographic Thought
- GEOG 5800 - Research Design and Geographic Applications

One course from the following

- ANTH 5031 - Ethnographic and Qualitative Methods
- GEOG 5185 - Statistical Research Methods in Geography
- GEOG 5190 - Spatial Statistics and Geographic Data Analysis

Professional non-thesis option, 6 hours

Six hours taken within the first three semesters.

One course from

- GEOG 5160 - Foundations of Geographic Thought
- GEOG 5510 - GIS for Applied Research

One course from

- ANTH 5031 - Ethnographic and Qualitative Methods
- GEOG 5185 - Statistical Research Methods in Geography
- GEOG 5190 - Spatial Statistics and Geographic Data Analysis

Additional requirements

Students should complete any required preparatory work for GEOG 5190 during their first semester.

Generally, students define their degree plan and committee at the beginning of their second semester, in consultation with their major professor.

All non-thesis students are required to take comprehensive exams. See geography.unt.edu for 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.

Thesis students must present (and defend) the results of their 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.

Students who have not graduated 1.5 years after completion of course work must formally apply for an extension to remain in the program (see www.geography.unt.edu for details). If a student does not demonstrate satisfactory progress toward completing the thesis within 1.5 years of defending the proposal, a grade of “no progress” will be assigned to the thesis.

As an option, students may elect to follow one of the specific degree tracks currently offered: Applied Geomorphology, Environmental Archeology, Urban Environmental Management, Water Resources

Management, Applied Geographic Information Systems, Business Geography, Health and Medical Geography, or Globalization, Development and Cities.

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 Geography enables students to structure their degree plans around conceptual and technical aspects of 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 Archeology

Archeology faculty in the geography department, in cooperation with the graduate program in anthropology, direct graduate students in pursuit of the MS in geography. 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 archeology. Two principal areas of training are geoarchaeology and zooarchaeology, which derive strength from the faculty and fine collections and resources in the Environmental Archeology Lab. In addition to the core requirements in geoarchaeology or zooarchaeology, students complete two areas of specialization selected from the following areas: 1. GIS and Remote Sensing, 2. Spatial and Quantitative Analysis, or 3. Zoology and Ecology.

Urban Environmental Management

This degree track prepares students to assume a vital role within the structure of a city government. Responsibilities in these roles include 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 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.

Business Geography

The objective of this track is to educate students to integrate geographic analysis, reasoning, and technology in support of improved business decisions. The focus on improving the decisions made by business differentiates business geography from the traditional descriptive or explanatory objective of urban/economic geography. Participation in a business internship is a good idea. If appropriate, the results of the internship can form the basis for the student's MS thesis or problems in lieu of thesis.

Health and Medical Geography

This track focuses on theory and techniques that are needed to understand the spatial patterns of health outcomes, environmental risks and exposures and disease spread, as well as the distribution of health care services and lack thereof. Students specializing in this track will learn about the relationships between human activities, place, and health outcomes and how to evaluate those relationships using GIS methods, spatial and statistical analysis, and computational models. In cooperation with the Health Science Center in Fort Worth, the department also offers a dual degree in public health and geography.

Globalization, Development and Cities

The objective of this track is to educate students to understand the complexities of our global society, our cities, and our unequal geographies of life and livelihood. Our global society is more interconnected and interdependent than ever before. Globalization of trade and commerce has increased national wealth and our appetite to consume commodities, technologies, art and culture from around the world. We continue to create spectacular cities to represent our cultural, technological and architectural achievements. But even as we continue to generate extraordinary wealth, we live in a world that is riddled with social and environmental unsustainability, poverty, inequality, discrimination, prejudices, marginalization, terror and conflicts. Upon graduating, students will find themselves well trained to pursue doctoral degrees, or careers in government, think tanks, non-governmental organization, teaching, diplomacy and many others.

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, 12 hours

A four-course sequence fulfills the requirements for the certificate in GIS.

- GEOG 5510 - GIS for Applied Research (Students with prior GIS course work can replace GEOG 5510 with a course in Group 2 below.)
- GEOG 5550 - Advanced Geographic Information Systems
- GEOG 5560 - Application Development with Python Programming

In addition to the three mandatory courses, students choose one course from the following list:

- GEOG 5570 - Special Topics in GIS (when topic approved by advisor)
- GEOG 5525 - LiDAR Data Analysis in GIS
- GEOG 5530 - Remote Sensing and Digital Image Analysis
- GEOG 5540 - Enabling Business Intelligence Using Enterprise GIS
- GEOG 5580 - Advanced GIS Methods in Health
- GEOG 5590 - Advanced GIS Programming

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Department of History

Main Departmental Office
Wooten Hall, Room 225

Mailing address:
1155 Union Circle #310650
Denton, TX 76203-5017
940-565-2288
Email: history@unt.edu
Web site: http://history.unt.edu/

Rachel Moran, Chair

Faculty

The Department of History offers graduate programs leading to the following degrees:

- Master of Arts with a major in history
- Doctor of Philosophy with a major in history (requiring one foreign language)

At the doctoral level, students may choose from one of four concentrations: United States; Europe; Military; and Body, Place and Identity.

Course offerings include a wide variety of classes on the history of the United States; ancient, medieval and modern Europe; Latin America; China; British Empire; South Asia; the Middle East; Africa; modern Russia and Soviet history; women's and gender history; food history; and other topics. The department has special strengths in Texas history, military history, and areas of social and cultural history falling under the Body, Place and Identity concentration.

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, environmental history, food history, Great Britain, early modern and modern France, and the British Empire. History faculty members have published numerous books on such topics as Texas history, the U.S. South, the Civil War, Native Americans, Napoleonic Europe, 20th-century United States, oral history, World War II, England, France, Germany, China, Mexico, the Middle East and the Roman Empire.

Military History Center

The Department of History is home to the Military History Center, which coordinates activities and events at North Texas related to the study of military history, including the annual Hurley Military History Seminar. For more information, please contact Dr. Harold Tanner, Director of the Military History Center at MilHistCenter@unt.edu.

Admission requirements

1. All general admission requirements of the Toulouse Graduate School, as outlined elsewhere in this bulletin, must be fulfilled.
2. **MA degree:** The Department of History employs a holistic review process. Applicants are evaluated on their entire academic history. However, it is recommended that the applicant score at the 50th percentile or higher on the verbal portion of the Graduate Record Examination (GRE) and score 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 (6 hours of US history, 6 hours of world history, and 12 hours of upper level history), have a cumulative grade-point average (GPA) of 3.5 on a four-point scale for all undergraduate work or for the last 60 hours of undergraduate work or in at least 24 undergraduate history credit hours, submit a statement of purpose and interests, provide two letters of recommendation, and have met all other university requirements.

3. **PhD degree:** The Department of History employs a holistic review process. 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 a 4 or higher (on a scale of 1 to 6) on the analytical writing portion of the GRE, have a cumulative grade point average (GPA) of 3.6 on a four-point scale for all graduate work, submit a statement of purpose that explains why the applicant wishes to pursue the doctorate in history, submit a writing sample of scholarly work (other than a thesis) based on original research, that demonstrates preparedness to undertake graduate study in history, provide three letters of recommendation from persons familiar with the applicant›s post-secondary academic record, and have met all other university requirements. Typically, 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:
    a. To enroll for a seventh course, a master's 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.
2. PhD students:
    a. To enroll for a seventh course, a doctoral degree student must have earned a GPA in history courses of 3.6, 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. 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) and online: https://history.unt.edu/graduate/funding-financial-aid/departmental-scholarships. Application deadline is March 15 of each year.

Master's Degree

History, MA

Note: The UNT history department offers two tracks for the MA: a thesis option and a non-thesis option. Students should consult with their graduate committee when considering whether the thesis or non-thesis option best fits their academic and professional goals.

History major (thesis option), 33 hours

1. A graduate major in history with the thesis option consists of 27 hours of graduate work in history (including the required Fundamentals of Historical Scholarship class and at least two research seminars) and 6 hours of thesis credit. The 27 hours may be selected from any courses offered by the department as long as they include two seminars and historical bibliography as noted in the above requirements; the 6 hours of thesis credit may be utilized to write on any topic approved by the student's advisory committee.
2. If a student wishes to have a minor field outside of the Department of History, the student may substitute 6 hours in a related field for 6 hours of graduate course work in history. This must first be approved by the student's major professor and the department's Director of Graduate Studies.
3. A candidate for this degree must successfully complete an oral examination on the course work and the thesis.

History major (non-thesis option), 33 hours

1. A student selecting this option must take two research seminars in history and the required Fundamentals of Historical Scholarship class. 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's Director of Graduate Studies.
2. A candidate for this degree must pass an oral examination based on the submission of a portfolio of written work.

Doctorate

History, PhD

Degree requirements

The Doctor of Philosophy with a major in history is offered in four concentrations: United States; Europe; Military; and Body, Place, and Identity. All students pursuing the PhD in history will be examined in four fields of history, at least two of which must be within their primary concentration, United States; Europe; Military; or Body, Place, Identity. One field must come from one of the three remaining concentrations, or from a selection of fields in world history. All four examination fields must be chosen from a list maintained by the department.

Students entering the program with a BA degree must complete a total of 54 hours of graduate coursework, including 3 credits of HIST 5940; 3 credits of HIST 6000; and 15 credits (5 courses) of research seminars. No more than 9 credit hours can come from independent study courses without approval of the Department's Graduate Studies committee, which can provide exceptions for individual students through a formal process when justified by appropriate circumstances. In addition to course work, students will complete 12 hours of dissertation.

Students entering with the program with a MA or MS degree must complete a total of 30 hours of graduate coursework, including HIST 6000 and a minimum of 12 credits (4 courses) of research seminars. No more than 6 credit hours can come from independent study courses without approval of the Department's Graduate Studies committee which must approve all independent study proposals. In addition to course work, students will complete 12 hours of dissertation.

If disciplinary training outside of history would enhance the student's program or career plans, the student's committee may allow an outside minor field with the permission of the department's Director of Graduate Studies. Completion of a specific number of graduate hours does not automatically make a student eligible for a degree. The student must also show proficiency for the PhD by demonstrating satisfactory performance on written and oral examinations, by the completion of a language requirement, and by the completion and successful defense of a doctoral 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.

Each doctoral student will create a program of study and degree plan in conjunction with their major professor and doctoral committee. The department's Director of Graduate Studies will serve as the

general advisor for all PhD students and will assign incoming students a faculty mentor to guide them until the student selects a major professor. The major professor will serve as the chair of the student's doctoral committee and, in consultation with the student, will select other members of the committee. The student's degree plan and the composition of the doctoral committee must be approved by the department Associate Director or Director of Graduate Studies and by the dean of the Toulouse Graduate School.

The student's doctoral committee will guide the student on program planning, will arrange for all departmental examinations, and will approve the student's dissertation topic. They will also judge the completed dissertation as a piece of original research that justifies the awarding of the PhD degree.

Doctoral committees in the Department of History must include a graduate faculty member whose principal faculty appointment is in a department or at a university other than the UNT Department of History. The student's major professor and the student will work together to select an outside member whose expertise will contribute meaningfully to the dissertation.

Foreign language requirement

The student must demonstrate a reading knowledge of one foreign language. Students usually accomplish this by taking at least 12 undergraduate hours of a foreign language with a 2.7 GPA, or by passing a proficiency exam administered by the UNT Department of World Languages, Literature and Cultures or similar accredited program. The language requirement must be completed prior to taking the qualifying examinations.

Admission to candidacy

The qualifying examination will ordinarily be taken when course work, other than research and dissertation, has been completed. The student's doctoral committee supervises completion of a portfolio, which demonstrates mastery of four fields and is discussed in an oral examination. The successful completion of these examinations is a prerequisite to admission to candidacy for the degree.

The dean of the Toulouse Graduate School grants admission to candidacy upon recommendation of the doctoral committee and the department Director of Graduate Studies, based upon the academic record of the student, approval of a dissertation topic, successful completion of language requirements, and successful completion and defense of the portfolio.

Research and dissertation

A doctoral student is expected to produce a dissertation that provides an original, specific, and significant contribution to historical scholarship. Completion of the dissertation requires original and independent research in the field of specialization. The final oral examination will be a defense of the completed dissertation.

Graduate Academic Certificate

Advanced Humanities Pedagogy certificate

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

The Graduate Certificate in Advanced Humanities Pedagogy trains students in educational methods, practices, course design, culturally-responsive teaching, and other elements of university-level instruction that are vital to student success in undergraduate humanities classrooms. Students who complete the certificate program will present it as evidence of their educational training and experience to potential employers.

Required course, 3 hours

Requirements for the Graduate Certificate in Advanced Humanities Pedagogy include 3 credits of HIST 5555 - History Pedagogy Lab, and 9 credits selected from the options below, for a total of 12 credits.

- HIST 5555 - History Pedagogy Lab

Select three courses, 9 hours

- COMM 5085 - Pedagogy and Communication
- EDHE 6510 - History and Philosophy of Higher Education
- ENGL 5550 - Studies in the Teaching of Composition
- ENGL 5560 - Studies in the Teaching of Literature
- HIST 5444 - Historical Teaching and Scholarship on Race
- HIST 5980 - Teaching of College History
- MRTS 5480 - Practicum in the Teaching of Media Arts
- SPAN 5512 - Ethno-Education and Decolonial Thinking
- TECM 5550 - Studies in the Teaching of Technical Communication
- THEA 5390 - Theatre for Children, Youth and Teachers
- Other courses as approved by the certificate director

Disclosures

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

Department of Media Arts

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.mediaarts.unt.edu

Harry Benshoff, Chair
Tania Khalaf, Associate Chair
Jennifer Gómez Menjívar, Director of MA Program, Jennifer.Gomezmenjivar@unt.edu
Eugene Martin, Director of MFA Program, Eugene.Martin@unt.edu

Faculty

The Master of Arts program is designed for applicants who wish to pursue research in media arts. Establishing a strong foundation for doctoral degree programs or careers in media industries, the degree emphasizes the following areas:

- Media industries: examines national and global media industries, encompassing several areas of scholarly interest, including managerial, technological, economic, political and social dynamics of various media including radio, television, film, and digital media.
- Critical-cultural studies: examines media in relation to topics such as race, class, gender, sexuality, audiences/fandom, digital cultures, cultural history, globalization and production contexts.

The Master of Fine Arts program is designed for persons who wish to pursue a career in documentary production and studies, culminating in the creation of a major thesis production. The Master of Fine Arts degree is a terminal degree, therefore also appropriate for those seeking academic careers. 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 Media Arts faculty include internationally recognized scholars, seasoned media professionals and award-winning documentary filmmakers. Research specialties include media history and criticism, cultural studies, global media, media linguistics, and television and radio broadcast operations. Books written by media arts faculty are used in university courses throughout the world. Faculty-produced films and television programs have been broadcast on television, released theatrically, distributed on major streaming services and selected internationally for film and video festivals. Faculty members also serve on the boards of national and international organizations dealing with media education, media culture, and media production.

Admission requirements

Master of Arts with a major in media industry and critical studies

Prospective students must meet the requirements of both the Toulouse Graduate School and the Department of Media Arts to apply for admission to the MA in media industries and critical cultural studies. The minimum requirements for admission are: completion of a bachelor's degree from an accredited institution with an overall GPA of at least 3.0 and completion of a minimum of 24 hours of undergraduate courses in media arts or a related field.

Applicants who meet the above criteria must take the following steps to apply for admission to the MA in media industries and critical cultural studies:

Step 1: Create an applicant profile

Follow the instructions for the University of North Texas Centralized Application Service (https://unt2025.liaisoncas.com/applicant-ux/#/login)

Step 2: Submit an application

Upon creating a user account, the applicant will be prompted to provide the following information:

1. Personal Information
2. Academic History and Transcripts
3. UNT Supporting Information
4. Program Materials

- Statement of Purpose. In 1-2 pages, explain how pursuing a graduate degree in our department will aid in your professional plans and /or career aspirations. Indicate the names of any faculty members whose research and/or professional experience aligns with your goals.
- Two Letters of Recommendation. These can come from current or former professors. Or, an applicant who has worked professionally in media may submit a letter from a person who has supervised their work.
- A Writing Sample (normally a final paper completed for a course).

The Media Arts MA Admissions Committee may require an interview of certain applicants under consideration. This interview may take place in person, via telephone or video conference.

Assistantships

Several graduate assistantships, including teaching and research assistantships, are awarded each year to new and continuing students. These assistantships can significantly help with the cost of the degree. Email Dr. Jennifer Gómez Menjívar, Director of Master of Arts program, if you are interested in applying for an assistantship.

Application Deadlines

The deadline to apply for admission to the M.A. in Media Industries and Critical Cultural Studies is February 15. The applicant can anticipate a decision notification by early April. Please note, assistantship applications are also due by this deadline.

The MRTS 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 with a major in documentary production and studies

Applicants must meet the requirements of both the Toulouse Graduate School and the Department of Media Arts. If applicants are accepted by the Graduate School, their files are forwarded to the Graduate Committee in the Department of Media Arts for further evaluation. The following may be considered the MRTS department's minimum requirements:

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. A completed graduate application form.
3. Application fee.

In addition, the following items should be submitted **directly** to the director of the media arts MFA program at the department's address above:

1. A statement of purpose of two to three pages, describing both reasons for pursuing the terminal degree in documentary production and studies and the specific areas of academic and professional interest.
2. A portfolio of creative work submitted electronically. Sample creative work should include one complete production and 10 minutes of excerpts from additional work if available. 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 to include length and the applicant's role in the production.

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 Media Arts Graduate Committee may require an interview of applicants under consideration. This interview may take place in person, via videoconference or telephone call.
6. An applicant from outside the United States must demonstrate proficiency in oral and written English prior to admittance. International students must submit TOEFL scores or other evidence of language proficiency as determined by Toulouse Graduate School. See https://www.unt.edu/admissions/international/english-language-requirements for more information.

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 in the broadly defined, but clearly focused, documentary genre.

Primary consideration will be given to applicants who have provided all required information by February 15. A second deadline of March 15 will be utilized to consider a second pool of applicants if positions are available.

Graduate assistantships

A limited number of graduate teaching and research assistantships are available for outstanding applicants.

Scholarships

Each year, the Department of Media Arts distributes scholarships to help graduate students pay the cost of their education. These funds -- from private individual donors, corporations, and foundations -- are for direct student support and do not have to be repaid. Scholarships are awarded to students based on qualifications specified by each award which include things like field of study, career interests, and academic merit. Applications are submitted via the Media Arts website and are reviewed by a committee of Media Arts faculty with awards announced at the end of each academic year. Scholarships are typically for amounts up to $1,500 and the money is applied towards tuition in the Fall semester. . Then number and dollar amount of awards available each year depends on the total dollar amount of funding available

Alan & Beverly Albarran Scholarship is an award established by Dr. Alan Albarran, former professor and department chair in the Department of Media Arts, and his wife Beverly, to provide scholarships for undergraduate or graduate students in the Department of Media Arts who are pursuing an industry studies emphasis in their degree.

The Bill Mercer Endowment for Broadcast Media Scholarship is a scholarship established by UNT alumnus Bill Mercer (M.A., 1966), the original "Voice of the Mean Green" and a member of the Texas Radio Hall of Fame, to support Media Arts students studying broadcast media or journalism.

Cindy Coyle Memorial Scholarship is a scholarship in memory of Cindy Coyle, who spent her career working in marketing and promotions for DFW radio stations, to provide support for students with an expressed career interest in radio.

Department of Media Arts Executive Board Scholarship is a scholarship for undergraduate and graduate students in the Department of Media Arts. Students must be enrolled for at least 12 hours (undergraduate) or at least 9 hours (graduate) of study in both the Spring and Fall semesters. Students must have completed a minimum of 60 hours of coursework towards a degree at the time of application and have a minimum UNT GPA of 3.0.

Edwin L. Glick Scholarship is a scholarship established by former UNT professor and Media Arts Department Chair Dr. Edwin Glick to encourage students to pursue careers in broadcasting, cable, and other related media industries that might develop in the future. Students must have completed at least 12 hours in Media Arts coursework at UNT and be enrolled as a full-time Media Arts student in the semester for which the scholarship was awarded. Students must have a minimum GPA of 3.0 and demonstrate interest in a career in broadcasting/cable such as production, sales, management, operations, or broadcast journalism, through appropriate courses, internships, extracurricular activities (e.g. KNTU or ntTV) or other industry-related employment. It is not the intent of this scholarship to support film production or video production except for news documentary.

The First Broadcasting Radio/Television/Film Scholarship is a scholarship for students who have a demonstrated interest in radio broadcasting as a career through participation with either KNTU or through off-campus internships. Students must have completed at least 60 hours of coursework and have a GPA of at least 2.5.

The Kurt D. Ugland Scholarship is a scholarship in memory of Kurt D. Ugland, a Department of Media Arts alumnus and former executive producer of the City of Plano's Television Network (PTN), to support undergraduate or graduate students in television production in the Department of Media Arts who demonstrate exceptional creativity

The Melanie Goodwin RTVF Scholarship provides support for Media Arts students in memory of former UNT student Melanie Goodwin.

Paramount Pictures Graduate Scholarship is an academic scholarship awarded to recognize demonstrated excellence and promise in the graduate study and production of radio, television, and/or film media at the University of North Texas.

The Staples Graduate Scholarship was created by Dr. Donald Staples, Professor Emeritus of Film and Television at UNT, and his wife Kristen Staples to provide scholarships to full-time graduate students pursuing a Master of Arts or Master of Fine Arts degree in the Department of Media Arts.

Requirements

- Applicants must meet minimum entrance and academic performance standards at the College of Liberal Arts and Social Sciences and the Department of Media Arts.
- Applicants must be enrolled for at least nine (9) hours (graduate) of study in both the Spring and the Fall semesters.
- Applicants must be enrolled as a full-time graduate major in the Department of Media Arts.
- Additional requirements specific to each award are available in the Scholarship section of the Department of Media Arts website.

Application

Applications are accepted via links in the Scholarship section of the Department of Media Arts website (https://mediaarts.unt.edu/scholarships) in the Spring semester after the call for applications is posted. Please refer to that website for the most up to date information, application instructions, and eligibility requirements.

Master's Degree

Documentary Production and Studies, MFA

The primary educational objective of the Master of Fine Arts degree with a major in documentary production and studies is the academic, aesthetic and technical training of documentary 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. While only 6 credit hours of colloquium will count toward the degree, continuous enrollment in MRTS 5804 is required until successful defense of the MFA thesis. A grade below C in any non-elective, prescribed, required course applied to the degree may result in the student's removal from the program. A grade below C in any elective course applied to the degree will result in departmental probation, with one semester allowed for replacement of failing grade with same or different elective course applied to the degree. Failure to do so may result in the student's removal from the program, effective posting of the degree.

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 MRTS department, a student who holds a bachelor's degree and has been admitted to the Toulouse Graduate School and to the Media Arts 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.

Media Industry and Critical Studies, MA

The master's degree requires the completion of at least 33-36 hours of graduate course work. 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.

Course requirements

The master's degree has two pathways: critical/cultural studies and media industry studies. Both pathways require a capstone: either a written thesis or a written comprehensive exam.

Critical/cultural studies pathway:

Required courses:

The following courses are required for all critical/cultural studies students:

- MRTS 5100 - Introduction to Graduate Studies in Media Arts
- MRTS 5120 - Critical-Cultural Media Theory
- MRTS 5121 - Digital Media Studies

Critical/cultural studies courses, 9 hours

Students must take at least 9 hours of MRTS critical/cultural studies courses (course offerings subject to change with approval from faculty advisor).

- MRTS 5240 - Hitchcock Films
- MRTS 5250 - Cinema Beyond the West
- MRTS 5340 - History of Documentary
- MRTS 5400 - Media Studies Seminars
- MRTS 5415 - Teen Media
- MRTS 5420 - African-American Film
- MRTS 5430 - Gender and Sexuality in the Horror Film
- MRTS 5435 - Lesbian, Gay, and Queer Film and Video
- MRTS 5515 - Media Genres and Authors
- MRTS 5665 - Gender, Race and Digital Media
- MRTS 5675 - Media and Power in Latin America
- MRTS 5750 - Cinema and Video Verité
- MRTS 5780 - Seminar in Contemporary Documentary

12 hours of graduate elective courses:

In addition, students must take at least 12 hours of graduate-level elective courses. These can include up to (but not required):

- 6 credit hours from graduate courses in other departments at UNT as approved by the faculty advisor
- 3 hours practicum OR 3 hours Internship
- 3 hours special problems

Capstone:

The Master of Arts degree offers the option of a written thesis or a comprehensive exam.

Thesis option (6 hours of thesis enrollment):

The thesis option requires a minimum of 36 graduate hours, 6 of which must be thesis credits. The student must have departmental approval for this option, including the approval of a Media Arts graduate faculty thesis advisor. The student must successfully complete and orally defend a written thesis.

Comprehensive exam option (3 hours of special problems exam enrollment):

The comprehensive exam option requires a minimum of 33 graduate hours, 3 of which must be exam special problems. The student must have departmental approval for this option, including the approval of a Media Arts graduate faculty examination advisor. The student must successfully pass a written comprehensive exam.

Media industry studies pathway:

Required courses:

The following courses are required for all Media Industry Studies students:

- MRTS 5100 - Introduction to Graduate Studies in Media Arts
- MRTS 5120 - Critical-Cultural Media Theory

OR

- MRTS 5121 - Digital Media Studies
- MRTS 5125 - Media Industry Studies

Industry studies courses, 9 hours

Students must take at least 9 hours of MRTS industry studies courses (course offerings subject to change with approval from faculty advisor).

- MRTS 5260 - Gender and Gaming
- MRTS 5320 - Media Law and Regulations
- MRTS 5410 - History of Electronic Media
- MRTS 5415 - Teen Media
- MRTS 5425 - Audience Research
- MRTS 5428 - Mobile Media
- MRTS 5460 - Global Media
- MRTS 5570 - Game Genre: Adventure Games
- MRTS 5620 - Media Economics
- MRTS 5640 - Media Management
- MRTS 5660 - Industry Studies Topics
- MRTS 5665 - Gender, Race and Digital Media
- MRTS 5675 - Media and Power in Latin America
- MRTS 5680 - Media Entrepreneurship

12 hours of graduate elective courses:

In addition, students must take at least 12 hours of graduate-level elective courses. These can include up to (but not required):

- 6 credit hours from graduate courses in other departments at UNT as approved by the faculty advisor
- 3 hours practicum OR 3 hours internship
- 3 hours special problems

Capstone:

The Master of Arts degree offers the option of a written thesis or a comprehensive exam.

Thesis option (6 hours of thesis enrollment):

The thesis option requires a minimum of 36 graduate hours, 6 of which must be thesis credits. The student must have departmental approval for this option, including the approval of a Media Arts graduate faculty thesis advisor. The student must successfully complete and orally defend a written thesis.

Comprehensive exam option (3 hours of special problems exam enrollment):

The comprehensive exam option requires a minimum of 33 graduate hours, 3 of which must be exam special problems. The student must have departmental approval for this option, including the approval of a Media Arts graduate faculty examination advisor. The student must successfully pass a written comprehensive exam.

Department of Philosophy and Religion

Main Departmental Office
Environmental Science 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

David M. Kaplan, Chair
Adam Briggle, Director of Graduate Studies

Faculty

The Department of Philosophy and Religion is the leading graduate program nationally and internationally in environmental ethics and social 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. It also offers a Doctor of Philosophy with a major in philosophy and a concentration in human geography.

The Department of Philosophy and Religion oversees one of the world's leading doctoral programs in social and environmental ethics and philosophy. Foundational training in the history of Western philosophy and religion provides the basis for specializations such as environmental justice, philosophy of ecology, eco-phenomenology and eco-feminism while fostering interdisciplinary experiences.

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.

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. 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.

Career opportunities for students who successfully complete the UNT PhD in philosophy and religion are diverse. Students interested in specializing in social and environmental ethics and philosophy will be well positioned to find jobs in academe as demand for specialists in this exciting and expanding new subfield of philosophy increases.

Because of its high concentration of specialists in the field of social and environmental philosophy, the department offers humanists, scientists and professionals unique opportunities for postdoctoral work and professional development through independent study and research.

Research

The primary specialization of the department is environmental ethics and social and environmental philosophy. Research in the department also includes philosophy of the social and natural sciences, phenomenology, literature, philosophy of science and technology, aesthetics, feminist philosophy, philosophy of religion, philosophy of water, environmental justice, philosophy of ecology, philosophy of food, and history of philosophy.

Scholarships and financial aid

Graduate teaching assistantships, teaching fellowships, and research assistantships are available from the department for a number of graduate students. All assistantships and fellowships are eligible to enroll on an in-state basis. Centers and projects can also be contacted

independently regarding the possibility of research assistantships. For salary information related to assistantships and fellowships, please contact the department.

The department also provides $1,000 to the recipient(s) of the Gene Hargrove Graduate Fellowship. Depending on the income available from the endowment, one or more graduate students in the Department of Philosophy and Religion at the University of North Texas in the College of Liberal Arts and Social Sciences will be given the fellowship each year. Graduate students in good standing in the department as well as incoming graduate students are eligible to receive the fellowship. The fellowship will be awarded on the basis of academic performance standards and financial need.

A $500 scholarship is provided each semester by the Richardson Environmental Action League, which began in spring 1973 and is the oldest continuously operating volunteer recycling organization in the state of Texas.

There are various other internal and external grants, scholarships, and fellowships. Please consult the department for more information.

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 along with a writing sample, CV/resume, 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.

Master's Degree

Philosophy, MA

Three options exist for completing the Master of Arts with a major in philosophy: a 30-hour thesis option, a 30-hour non-thesis option and a 30-hour pass-through option.

Thesis option

Students take a total of 30 semester credit hours (ten courses), including 6 hours of PHIL 5950. At least 18 hours (six courses) must be taken in the Department of Philosophy and Religion; 6 hours (two courses) may be taken outside of the department. Outside

In consultation with their major professor, students will enroll in 6 hours of PHIL 5950 while preparing a Master's Thesis.

Non-thesis option

Students take a total of 30 semester credit hours (10 courses). At least 24 hours (8 courses) must be taken in the Department of Philosophy and Religion; up to 6 hours (two courses) may be taken outside of the department.

Terminal MA students in this core will take a capstone course instead of a thesis as their required "culminating experience." Students will work with a departmental faculty member to design a PHIL 5900 MA Capstone course. Student and instructor will submit a syllabus and work with the DGS to create the 3-credit-hour section and ensure that the student is enrolled prior to the semester. The capstone course provides an opportunity for the student to synthesize key ideas learned throughout their program, and it allows the student to demonstrate their expertise in a chosen field of study.

As with any Special Problems course, the student and instructor will conduct regular meetings throughout the semester in order to discuss the selected readings and other course materials. The required term paper for the Capstone, however, will be graded by a committee of three departmental faculty members – the instructor of record and two others of their choosing.

In the event of a failing grade on the Capstone term paper, the instructor of record may choose to allow students one re-write opportunity.

Pass-through option

Available only to students pursuing a PhD in Philosophy at UNT. Students take a total of 30 semester credit hours (ten courses). At least 24 hours (eight courses) must be taken in the Department of Philosophy and Religion; up to 6 hours (two courses) may be taken outside of the department. After completing 27 hours of course work, students will enroll in 3 hours of PHIL 5900 Special Problems as a capstone course. The capstone course is open to students taking the pass-through MA option; terminal MA students may also elect for a capstone course instead of a thesis as their required culminating experience.

Doctorate

Philosophy with a concentration in Human Geography, PhD

This concentration is available for three categories of students:

- Category 1: Students accepted into the PhD program with a BA degree or an MA degree in a field other than Philosophy or Geography: 72 credit hours
- Category 2: Students accepted into the PhD concentration program with an MA degree in Philosophy: 42 credit hours
- Category 3: Students accepted into the PhD concentration program with an MA degree in Geography: 42 credit hours

Students entering with a BA or an MA degree in a field other than Philosophy or Geography are required to take 72 credit hours:

- Subject core, 15 hours
    - 9 hours of environmental philosophy (course options shown below)
    - 6 hours of philosophical topics
- Geography concentration core, 15 hours (course options shown below)
- Electives, 30 hours
    - PHIL electives, 15 hours
    - Additional PHIL electives or non-PHIL elective courses, 15 hours
- Dissertation, 12 hours (information below)

Students accepted into the PhD concentration program with an MA degree in Philosophy: 42 credit hours

- Subject core, 15 hours
    - 9 hours of environmental philosophy (course options shown below)
    - 6 hours of philosophical topics
- Geography concentration core, 15 hours (course options shown below)
- Dissertation, 12 hours (information below)

Students accepted into the PhD concentration program with an MA degree in Geography: 42 credit hours

- Subject core, 15 hours
    - 9 hours of environmental philosophy (course options shown below)

    - 6 hours of philosophical topics
- Philosophy and Geography electives, 15 hours
    - Courses in Philosophy and Geography to be determined in consultation with the Director of Graduate Studies
- Dissertation, 12 hours (information below)

Environmental philosophy

Required of all students. Topics courses may be taken more than once for credit. Substitutions may be made with the consent of the department Director of Graduate Studies.

- PHIL 5000 - Environmental Ethics
- PHIL 5010 - Seminar in the Philosophy of Ecology
- PHIL 5700 - Environmental Philosophy
- PHIL 6710 - Gender, Nature and Culture
- 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

Geography concentration courses

- GEOG 5160 - Foundations of Geographic Thought

At least one techniques course

- ANTH 5031 - Ethnographic and Qualitative Methods
- GEOG 5170 - Field Methods
- GEOG 5185 - Statistical Research Methods in Geography
- GEOG 5195 - Advanced Geospatial Data Analytics
- GEOG 5230 - Location Intelligence: Advanced Business GIS Concepts and Applications
- GEOG 5510 - GIS for Applied Research
- GEOG 5550 - Advanced Geographic Information Systems
- GEOG 5560 - Application Development with Python Programming
- GEOG 5580 - Advanced GIS Methods in Health
- GEOG 5590 - Advanced GIS Programming

At least three human geography courses

- GEOG 5210 - Seminar in Urban Geography
- GEOG 5220 - Applied Retail Geography
- GEOG 5245 - International Development
- GEOG 5300 - Globalization, Conflict and Resistance
- GEOG 5420 - Critical Resource Geography

Dissertation

Required of all students. After completing all course requirements, students must enroll in 12 semester credit hours of PHIL 6950. Students may enroll in PHIL 6950 while preparing for the comprehensive exam. Doctoral students must maintain continuous enrollment in this course to remain matriculated

Upon completion of course work and comprehensive exams, students are required to submit a dissertation proposal to the dissertation director and committee members. The student defends the proposal to the director and committee; the proposal must be signed and approved before the student can begin the dissertation.

The dissertation should be a work of original scholarship. The dissertation defense takes place before the director and the committee and is open to the public.

Additional information

Limitation to taking independent study courses

Graduate students in the Department of Philosophy and Religion may take no more than two independent studies throughout their graduate career unless approved by the Director of Graduate Studies.

Comprehensive examinations

Satisfying the Toulouse Graduate School Requirement for Qualifying Examination and Admission to Candidacy.

The purpose of the comprehensive exam is for the PhD student in philosophy to develop a broad background in the major figures and themes in the history of philosophy.

Consistent with the Toulouse Graduate School Requirement for Qualifying Examination and Admission to Candidacy, this comprehensive exam will require the student to demonstrate competency in the basic areas of philosophy.

Students are eligible for the comprehensive exam following the completion of course work. Exams will be administered by the end of the spring semester. Exams can be administered by the end of the fall semester with the consent of the Director of Graduate Studies.

Students are required to take **three PhD comprehensive examinations in the history of philosophy: one in ancient philosophy, one in modern philosophy, and one in contemporary philosophy**. There are separate suggested readings lists for each exam. The questions for the exams will be based on the reading lists and recently offered courses. Sample questions are posted at the department web site.

Each exam will be four hours long, administered in the Department of Philosophy and Religion, written on internet disabled computers. Students take one exam per day over the course of one week.

Evaluation, Grading and Appeals

The Comprehensive Exam Committee will grade the student's examination with a Pass/Fail grade in a timely manner.

Pass

The comprehensive exam satisfactorily meets the Graduate School's Qualifying Exam Requirement. Students must pass all three exams.

Fail

The comprehensive exam does not satisfactorily meet the Graduate School's Qualifying Exam Requirement.

A pass grade on all three exams is required to move the student to ABD status as a doctoral candidate.

One Fail grade per exam is permissible. Students may retake each exam one time. The retake will take place on or near **July 1**. For students taking the exam in the fall, the retake will take place on or near February 1.

Appealing the Fail Grade

In the event of a second Fail grade, the student may appeal the grade. An appeals committee comprised of the Comprehensive Exam Committee, Director of Graduate Studies, and the Department Chair will confer to determine the merits of the appeal. If the appeal is upheld, the examination will be re-graded by the Executive Committee. If any members of the Executive Committee are also on the Comprehensive Exam Committee, the exam will be graded by members of the Tenure and Promotion Committee who are not on the Comprehensive Exam Committee.

A Fail grade after the appeal and second grading will result in dismissal from the program for *unsatisfactory progress*.

Philosophy, PhD

Students accepted into the PhD program with a BA degree (category 1): 72 credit hours

Students entering with a BA are required to take 72 credit hours: 60 hours of required and elective courses and 12 hours of doctoral dissertation courses.

- Required courses: 9 hours of philosophical topics, 9 hours of environmental philosophy
- PHIL elective courses: 27 hours
- Additional PHIL elective or non-PHIL elective courses: 15 hours
- Doctoral Dissertation: 12 hours

Students accepted into the PhD program with an MA degree in a discipline other than philosophy (category 2): 42 credit hours

Students entering with an MA are required to take 42 credit hours: 30 hours of required and elective courses and 12 hours of doctoral dissertation courses.

- Required courses: 9 hours of philosophical topics, 9 hours of environmental philosophy
- Additional PHIL elective: 12 hours
- Doctoral Dissertation: 12 hours

Students accepted into the PhD program with an MA degree in philosophy (category 3): 42 credit hours

- Required courses: 6 hours of philosophical topics, 9 hours of environmental philosophy
- Additional PHIL elective or non-PHIL elective courses: 15 hours
- Doctoral Dissertation: 12 hours

Environmental philosophy, 9 hours

Required of all students. Topics courses may be taken more than once for credit. Substitutions may be made with the consent of the department Director of Graduate Studies.

- PHIL 5000 - Environmental Ethics
- PHIL 5010 - Seminar in the Philosophy of Ecology
- PHIL 5700 - Environmental Philosophy
- PHIL 5800 - Philosophies of Climate Change
- PHIL 6710 - Gender, Nature and Culture
- 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

Interdisciplinary study, 6 or 15 hours

Students entering the PhD program with a BA (in any discipline) and those entering the program with an MA in philosophy may take up to five courses (15 credit hours) in other departments.

Dissertation, 12 hours

Required of all students. After completing all course requirements, students must enroll in 12 semester credit hours of PHIL 6950. Doctoral students must maintain continuous enrollment in this course to remain matriculated

Upon completion of course work and qualifying exams, students are required to submit a dissertation proposal to the dissertation director and committee members. The student defends the proposal to the director and committee; the proposal must be signed and approved before the student can begin the dissertation.

The dissertation should be a work of original scholarship. The dissertation defense takes place before the director and the committee and is open to the public.

Additional information

Limitation to taking independent study courses

Graduate students in the Department of Philosophy and Religion may take no more than two independent studies throughout their graduate career unless approved by the Director of Graduate Studies.

Qualifying Examination

Satisfying the Toulouse Graduate School Requirement for Qualifying Examination and Admission to Candidacy.

The purpose of the Qualifying Exam is for the PhD student in philosophy to develop mastery of the philosophical materials (broadly construed) at the foundations of their research interests. The Qualifying Exam also serves the purpose of providing the student with mentorship and guidance in the development of their dissertation prospectus.

Consistent with the Toulouse Graduate School Requirement for Qualifying Examination and Admission to Candidacy, this Qualifying Exam will require the student to demonstrate competency in the areas of philosophy that they choose in consultation with their Exam Committee.

Students are eligible for the Qualifying Exam following the completion of course work. Their last 3 required credit hours will be used for a PHIL 6900 Special Problems: Qualifying Exam course, which serves as the mechanism through which study for the Exam will occur during that semester. The Exam will be administered at or near the end of the semester during a ten-day window. The Exam is graded independently from the 6900 course, so the Exam can extend past the semester grade deadline without necessitating an "I" (Incomplete) for the course. Keep in mind that funded students are not eligible for a pay raise until they have passed the Exam. Also, students are not eligible for PHIL 6950 Dissertation hours until they have passed the exam.

Students are required to assemble a willing Exam Committee (hereafter 'Committee' in this section). Committees shall consist of three faculty members of the department, all serving equally as co-chairs. Students will enroll in the 6950 course with one of the Committee members – to be determined by the Committee. Students are required to consult frequently with all members of the Committee as they prepare for the exams.

In consultation with the Committee, students will designate a set of texts (and other materials) over which they will be examined. The primary purpose of this list is to ensure mastery of materials deemed essential to situating and grounding their research interests. The set of texts (and other materials) shall be formed by the end of the semester prior to the exam.

The Qualifying Exam consists of three essays based on the designated texts and administered by the Committee. The Exam will be administered as take-home essays to be completed across a ten-day period. Students, working in consultation with the Committee, will submit three to five draft questions for the Committee's consideration at least two weeks prior to the beginning of the examination period. The Committee has the final determination of the wording of the three questions and will send the final questions to the student the morning of the first day of the examination period. The student will answer each of the three exam questions with a 2,500 to 3,500-word essay during the ten-day examination period. Individual Committees will determine the details of the exams and ensure that the student is well-informed about scheduling, content, and process. The Exam should be completed by the end of May (for Spring) and mid-January (for Fall).

The Committee as a whole is responsible for evaluating the exams. All members of the Committee will read the essays, marking them Pass or Fail. Should at least two members judge any of the essays to be failing, the Committee may permit the student to retake those essay(s) once. Such permission is at the discretion of the Committee;

should the Committee not grant it, or should a student fail a second time, the student can utilize the appeals process detailed below. Students have one full long semester to re-write exam essays.

Evaluation, Grading and Appeals

The Committee will grade the student's examination with a Pass/Fail grade in a timely manner.

Pass

The Qualifying Exam satisfactorily meets the Graduate School's Qualifying Exam Requirement. Students must pass all three exams.

Fail

The Qualifying Exam does not satisfactorily meet the Graduate School's Qualifying Exam Requirement.

A pass grade on all three essays is required to move the student to ABD status as a doctoral candidate.

One Fail grade per exam is permissible. Students may retake each essay one time.

Appealing the Fail Grade

In the event of a second Fail grade, the student may appeal the grade. An appeals committee comprised of the Qualifying Exam Committee, Director of Graduate Studies, and the Department Chair will confer to determine the merits of the appeal. If the appeal is upheld, the examination will be re-graded by the Executive Committee. If any members of the Executive Committee are also on the Qualifying Exam Committee, the exam will be graded by members of the Tenure and Promotion Committee who are not on the Qualifying Exam Committee.

A Fail grade after the appeal and second grading will result in dismissal from the program for *unsatisfactory progress*.

Philosophical topics, 6-9 hours

Philosophical Topics: Courses that survey philosophical topics from historical, theoretical, or conceptual approaches.

9 hours required for category 1 and 2 students. 6 hours required for category 3 students.

- PHIL 5100 - Ancient Greek Philosophy
- PHIL 5150 - Feminist Philosophy
- PHIL 5200 - Modern European Philosophy
- PHIL 5250 - Topics in the History of Philosophy
- 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 6150 - Metaphysics
- PHIL 6200 - Existentialism
- PHIL 6250 - Aesthetics
- PHIL 6400 - Philosophy of Technology
- PHIL 6500 - Cultural Criticism
- PHIL 6900 - Special Problems (when taken as Qulifying Exam Preparation)

Graduate Academic Certificate

Environmental Ethics and Science certificate

This Graduate Academic Certificate is primarily intended for two groups of students:

- Graduate students in Environmental Science, Biology, Geography, Anthropology, and related scientific fields who wish to develop a competency in the ethical and philosophical dimensions of environmental issues.
- Graduate students in Philosophy and related humanities fields who wish to develop a competency in the scientific and technical dimensions of environmental issues.

Who Needs this Certificate?

Potential and practicing professionals who are or foresee being in a position to integrate science and ethics in the environmental sector broadly conceived across education, policy, research, and more.

Prerequisites

There are no particular prerequisites for this GAC. However, courses listed under the GAC may have prerequisites that need to be satisfied. Students should consult the instructors prior to taking the individual courses.

Course requirements, 12 hours

Courses listed in each category are examples; other options can be chosen with approval of the student's adviser and the GAC coordinator.

Four courses in total are required: two courses are required from the philosophy category and two courses are required in total from the science category.

Philosophy

Choose two courses (6 hours) from the following.

- PHIL 5000 - Environmental Ethics
- PHIL 5010 - Seminar in the Philosophy of Ecology
- PHIL 5700 - Environmental Philosophy
- PHIL 5800 - Philosophies of Climate Change
- PHIL 6650 - Philosophy of Water Issues
- PHIL 6710 - Gender, Nature and Culture
- PHIL 6720 - Religion and Ecology
- PHIL 6740 - Environmental Ethics, Science and Public Policy
- PHIL 6750 - Environmental Justice

Science

Choose two courses (6 hours) from the following.

- ANTH 5032 - Ethnographic and Qualitative Methods for Non-Majors
- ANTH 5400 - Environmental Anthropology
- BIOL 5005 - Contemporary Topics in Biology
- BIOL 5040 - Contemporary Topics in Environmental Science and Ecology
- BIOL 5050 - Foundations of Ecological Theory
- BIOL 5051 - Community Ecology

  and
- BIOL 5052 - Community Ecology Laboratory
- BIOL 5053 - Subantarctic Biocultural Conservation
- GEOG 5160 - Foundations of Geographic Thought
- GEOG 5210 - Seminar in Urban Geography
- GEOG 5245 - International Development
- GEOG 5300 - Globalization, Conflict and Resistance
- GEOG 5350 - Geomorphology
- GEOG 5420 - Critical Resource Geography
- GEOG 5750 - Surface Water Hydrology
- GEOL 5850 - Introduction to Groundwater Hydrology
- GEOG 5960 - Geography Institute (when taught as "Ecosystems")

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Gender, Feminism and Environmental Justice certificate

This Graduate Academic Certificate is primarily intended for:

- Graduate students in Women's and Gender Studies, Philosophy, and other programs who wish to develop a competency at the intersections of feminism and gender studies and environmental ethics and justice.

Who Needs this Certificate?

Potential and practicing professionals, both within and outside of the academy, who are or foresee working at the intersections of feminism and gender studies and environmental ethics and justice.

Prerequisites

There are no particular prerequisites for this GAC. However, courses listed under the GAC may have prerequisites that need to be satisfied. Students should consult the instructors prior to taking the individual courses.

Course requirements, 12 hours

Courses listed in each category are examples; other options can be chosen with approval of the student's advisor and the GAC coordinator.

Four courses in total are required.

Choose one course from:

- PHIL 5150 - Feminist Philosophy
- PHIL 6710 - Gender, Nature and Culture
- PHIL 6750 - Environmental Justice

Choose one course from:

- PHIL 5000 - Environmental Ethics
- PHIL 5700 - Environmental Philosophy
- PHIL 5800 - Philosophies of Climate Change
- PHIL 6650 - Philosophy of Water Issues
- PHIL 6720 - Religion and Ecology
- PHIL 6730 - Christianity and the Environment

Choose two courses from:

- WGST 5100 - Feminist and Womanist Theories
- WGST 5400 - Human Trafficking and Gender
- WGST 5800 - Seminar in Women's and Gender Studies

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Department of Political Science

Main Departmental Office
Wooten Hall, Room 125

Mailing address:
1155 Union Circle #305340
Denton, TX 76203-5017
940-565-2276
Web site: www.politicalscience.unt.edu

John Ishiyama, Chair

Faculty

Research

The Department of Political Science has a number of research focuses, including the following: American politics (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 and the Doctor of Philosophy, both with a major in political science.

Concentrations at the doctoral level are available in American politics, comparative politics, international relations, and political theory.

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

International Studies, MA

The Master of Arts with a major in international studies (30 semester credit hours) is a professional and interdisciplinary degree drawing upon existing graduate courses which are offered by several

departments in various colleges at the university. The Master's degree prepares students for careers in government, the private sector and non-profit organizations that are focused on international security, sustainability, and humanitarian affairs and development. The degree provides students with the professional skills and substantive knowledge necessary for careers relating to the global agenda, such as development and humanitarian aid and non-profit operations.

Degree requirements

Students wishing to pursue a Master of Arts with a major in international studies must meet the following requirements:

- Must have an academic background in international studies, or in a field of study related to international studies. Such related fields may include anthropology, economics, history, journalism, political science, public administration, sociology, or equivalent training or expertise. Students without this background will be required to take INST 4851 and INST 4853.
- Students are expected to have completed their bachelor's degree with a minimum GPA of 3.0, as evidenced by their transcript.

As part of the application process, students will be asked to provide:

- A statement of purpose of 750–1,000 words in which they address
    - their career goals and the place of the master's degree in working toward those goals
    - their international experience through study abroad, service work abroad, living abroad, etc.
- A writing sample.
- An official transcript.
- A resume or curriculum vitae.

Program structure

Thirty (30) semester credit hours are required for this master's degree. The program is structured around two major components, a professional skills area and a specialization area. Individual course offerings are listed below for these areas. The program will culminate with a graduate practicum seminar, as detailed below. Students will meet with the academic advisor during their first semester in the master's program to establish their degree plan. In consultation with the advisor, students will determine what courses and which tracks will best suit their professional aspirations.

Professional skills area, 9 hours

The professional skills area has two tracks: management skills and assessment and evaluation. Students must take 9 hours in this area. Some of these courses have prerequisites and may require permission of the respective department and/or instructor of the course.

- INST 5600 - Issues and Policies in International Studies

Management skills

** courses are also available through online format*

- MGMT 5140 - Organizational Behavior and Analysis *
- MGMT 5210 - Human Resource Management Seminar *
- MGMT 5240 - Project Management
- MGMT 5300 - Entrepreneurship and Venture Management
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility *
- MGMT 5870 - Leadership Research and Development
- MKTG 5150 - Marketing Management *
- LSCM 5300 - Strategic Supply Chain Management *
- LSCM 5560 - Strategic Logistics Management *

Students with a non-business background

Students who do not have a background in business may be required to take the following course as prerequisite to the above listed courses:

- MGMT 5070 - Management Issues (1.5 hours) *

Assessment and evaluation skills

- ANTH 5032 - Ethnographic and Qualitative Methods for Non-Majors
- ANTH 5700 - Topics in Applied Anthropology (when topic is "Evaluation in Anthropological Practice")
- SOCI 5200 - Research Methods and Design

Specialization area, 18 hours

The specialization area is divided into three separate tracks: international development and sustainability, human security, and national security and diplomacy. These tracks allow the student to design an individualized program to serve their personal career aspirations.

Students should take 18 hours in at least two of the three approved subject areas in consultation with the graduate advisor. Some of these courses have prerequisites and may require permission of the respective department and/or instructor of the course.

International development and sustainability

- ANTH 5400 - Environmental Anthropology
- BIOL 5030 - Foundations of Environmental Science
- BIOL 5040 - Contemporary Topics in Environmental Science and Ecology
- BIOL 5100 - Environmental Impact Assessment
- BIOL 5200 - Environmental Health
- ECON 5440 - Economics of Natural Resources and Environment
- GEOG 5130 - Research in Human Geography
- GEOG 5150 - Water Resources Seminar
- GEOG 5400 - Environmental Modeling
- GEOG 5420 - Critical Resource Geography
- GEOG 5700 - Global Environmental Change
- GEOG 5750 - Surface Water Hydrology
- GEOL 5850 - Introduction to Groundwater Hydrology
- EMDS 5615 - Environmental Planning and Hazards
- INST 5503 - Human Security in the 21st Century
- INST 5515 - Refugees: Histories and Contemporary Issues
- PSCI 6620 - Comparative Political Institutions
- PSCI 6625 - Democracy and Democratization
- PSCI 6630 - Political Development
- Other courses in consultation with advisor

Human security

- AARS 6810 - Global Perspectives on Aging and Disability
- ANTH 5201 - Medical Anthropology
- ANTH 5210 - Anthropology in Public Health
- ANTH 5300 - Migrants and Refugees
- ANTH 5620 - Anthropology of Education
- EMDS 5610 - Disaster Preparedness and Management

- PADM 5700 - Seminar in Public Administration
- EMDS 5010 - Emergency Management Theory and Practice
- EMDS 5620 - Challenges of Disaster Response
- INST 5501 - Middle East Politics and Society through Film
- INST 5503 - Human Security in the 21st Century
- INST 5510 - Asian Youth: Rising and Transforming in the Digital Age!
- INST 5515 - Refugees: Histories and Contemporary Issues
- PSCI 6850 - Human Rights
- SOCI 5260 - Topics in Sociology
- SOCI 5300 - Social Inequalities
- SOCI 5330 - Seminar on Race and Ethnicity
- SOCI 5450 - Population and Society
- WGST 5350 - Globalization and Gender
- WGST 5800 - Seminar in Women's and Gender Studies
- Other courses in consultation with advisor

National security and diplomacy

- CJUS 5100 - Cyber Crime and Victimization
- HIST 5190 - Studies in Near East/African History
- HIST 5220 - Studies in United States Military/ Diplomatic History
- HIST 5230 - Seminar in United States Military/ Diplomatic History
- HIST 5240 - Studies in European Military/Diplomatic History
- HIST 5250 - Seminar in European Military/ Diplomatic History
- HIST 5260 - Seminar in Near East/African History
- INST 5513 - Putin's Russia Seminar
- INST 5515 - Refugees: Histories and Contemporary Issues
- PSCI 6660 - Civil War
- PSCI 6830 - International Conflict
- PSCI 6831 - International Conflict Management
- Other courses in consultation with advisor

Graduate practicum seminar, 3 hours

The practicum seminar will integrate the student's learning and demonstrate the student's professional preparedness. The practicum seminar will also accommodate the possibility of an internship, when possible and relevant to the student's educational objectives.

- INST 5700 - International Studies Practicum

Additional course options

Students may use INST 5900 to enroll in relevant undergraduate 4000-level courses or use it for a relevant internship in the student's area of concentration. Students must consult with the International Studies Advisor for permission to enroll in INST 5900.

Political Science with a concentration in Advocacy, Politics and Policy, MA

The concentration in Advocacy, Politics and Policy offers practical experience and a diverse set of skills for success in careers in the public and private sectors, non-profits and educational institutions, sovereign governments (at all levels), and international organizations. These skills include (for example) effective leadership and persuasion in public-facing environments; training on how the policy process works in theory and in practice; training in legal issues regarding free speech and free press; and advanced quantitative research proficiencies for managing and analyzing small to large-scale datasets and applying advanced methods and statistical techniques using data from multiple substantive policy domains.

Requirements, 30 hours

- PSCI 5300 - Practical Research Methods

  or

- PSCI 5320 - Quantitative Political Research Methods
- PSCI 5340 - Seminar in Political Science Scope and Methods
- PSCI 5370 - Writing, Advocacy and Communication
- PSCI 5380 - Political Leadership and Strategy
- PSCI 5390 - Law and Policy
- PSCI 5500 - Career Preparedness

  Two courses from a minor concentration*

  *Course #1 *Course #2

  *The minor concentration may be any of the other available PSCI minor concentrations - American Politics, Comparative Politics, International Relations, Political Theory, or Political Methodology - or it may come from an outside department, with their permission and permission of the major professor.

6 hours of either:

- PSCI 5940 - Graduate Internship
- PSCI 5950 - Master's Thesis

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 with a major 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
- PSCI 5300 - Practical Research Methods or
- PSCI 5320 - 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.

Thesis or non-thesis option

Students have a choice in completing their degree requirements:

1. 6 of the 30 hours will go toward the successful completion and oral defense of a thesis; or
2. all 30 hours will go toward course work. Students taking the non-thesis option must take and pass a written Field Exam in their major field.

Additional program information is contained under the link "Degree Program Requirements" posted on the department's graduate program web site (politicalscience.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 72 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. With the explicit consent of the Advisory Committee and Graduate Advisor, under very special circumstances, a student may request that the required hours beyond the master's degree be reduced to as little as 42 hours.

The following are required for all doctoral students:

- PSCI 5320 - Quantitative Political Research Methods
- PSCI 5340 - Seminar in Political Science Scope and Methods
- PSCI 5351 - Foundations of Political Science
- Two proseminars in political science
- One advanced tool course to be determined in consultation with the political science graduate advisor and the student's advisory committee
- Completion of a dissertation with a maximum credit of 12 hours

Additional requirements

A student must elect two 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
- comparative government and politics
- international relations

Political methodology may only be taken as an untested third field.

Additional program information is contained under the link "Degree Program Requirements" posted on the department's graduate program web site (www.politicalscience.unt.edu). The student is responsible for knowing the program requirements.

Research practicum

The student must complete a 6-hour research practicum during the semester when the qualifying examinations are taken. The purpose of the research practicum is to develop a dissertation prospectus that will be defended before the start of the following semester.

Qualifying examinations

The qualifying examinations will be taken when all course work 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 8-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

Main Departmental Office
Terrill Hall, Room 316

Mailing address:
1155 Union Circle #311280
Denton, TX 76203-5017
940-565-2671
Web site: www.psyc.unt.edu

Donald Dougherty, Chair

Faculty

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 health 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 expertise includes topics and methods traditional to subdisciplines and theories of psychology (e.g., assessment, mental health, psychotherapy, psychopathology, cognition, physical and psychological health). Some faculty conduct purely theory-based research using a variety of perspectives. Other faculty are expert in applied research, designed to address social problems (e.g., trauma, substance abuse, forensic psychology). 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 Disparities Research.

The mission of the Center for Psychosocial Health Disparities Research is to 1) produce world-class research on psychosocial factors associated with health disparities, 2) provide services to the Dallas/Fort Worth Metroplex community, 3) provide a forum for interdisciplinary UNT scholars to collaborate on health disparities related research and intervention/prevention development, 4) train undergraduate and graduate students to be rigorous health disparities researchers, and 5) attract external financial support for the activities of the Center. The center partners with nonacademic local and state agencies in pursuing its mission. Moreover, it leverages emerging technologies (e.g., telehealth) to find creative ways to address health disparities. Its efforts are transparent and accountable.

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 majors in clinical psychology, counseling psychology and behavioral science.

The doctoral programs in counseling psychology and clinical psychology have been accredited by the American Psychological Association (750 First Street NE; Washington, DC 20002-4242; 202-336-5500).

The counseling psychology doctoral program participates in the Federation of North Texas Area Universities.

The behavioral science 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.

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 file an application for admission to the UNT graduate school. 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 all psychology graduate programs is December 1 preceding the fall term/semester for which the student is applying. All academic prerequisites 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 the application deadline. 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 provided 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 fails to meet personal or academic admission standards.

Academic prerequisites

The minimum criteria for consideration for admission are 24 hours of psychology or other relevant course work (12 advanced hours) 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 department 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 or CV, 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.apply.psychology.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 but is recommended by some of our graduate programs. Applicants should submit a copy of the score report with the departmental application, if available. It is the applicant's responsibility to make sure the department receives a copy of these scores. Official GRE scores should be sent by the testing agency directly to the Toulouse Graduate School.

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 or other relevant course work to be considered as prerequisites. These specific prerequisite courses cannot be waived and must be completed by the end of the spring semester for the application to be considered for the following fall term/semester.

Graduate programs in psychology admit students only to fall terms/semesters.

Applicants must have completed a statistics course.

Additionally, three of the following broadly named courses are *strongly recommended* as prerequisites:

- Experimental Psychology or Research Methods/Design
- Learning
- Perception
- Motivation
- Cognition
- Psychological Measurement
- Physiological Psychology
- Research Thesis

Applicants **must** include either a catalog course description (copy and paste from online catalog is acceptable) or syllabus course description 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 24 semester hours (12 hours upper level) of psychology or other relevant course work 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 these courses must be taken in a psychology or related 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, B=3, 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

Behavioral Science, PhD

Course requirements and use of transfer credit

The qualified and accepted student may enter a degree program holding either a bachelor's or master's degree. 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 school. The psychology department may waive doctoral program requirements if prior graduate course work is evaluated as equivalent to UNT doctoral course requirements. All psychology doctoral degree plans require a minimum of 42 hours of graduate credit beyond the master's degree, or 72 credits beyond the bachelor's degree, taken within the UNT system.

The clinical and counseling psychology programs require a one-year supervised internship. Students should be aware that internship training sites are spread across the country. Internships are competitive, and the student is responsible for securing an internship that meets with departmental approval. Responsibility for an internship training site's compliance with the Americans with Disability Act rests with the internship site.

Behavioral Science

This program requires a minimum of 72 semester hours and includes 58 hours in behavioral science general core psychology, including social psychology, statistics (Quantitative Methods I and II), cognitive and affective bases of behavior, biological bases of behavior, and thesis and dissertation. The remainder of the student's program of study will consist of course work selected in consultation with the major professor, reflecting the student's specialty area of research.

The student is expected to be involved in research throughout the program. Students are encouraged to affiliate with a faculty member sharing their research interests early in the program, i.e., the first year. It is hoped that a publication record can be established before graduation, which is necessary in today's competitive job market.

Additional requirements

Dual degree options

All doctoral programs make provisions to allow the completion of a master's degree in general psychology.

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 qualifying 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

The student completes two dissertation-related examinations: the proposal and the final comprehensive examination. The student first defends the dissertation proposal, which can be done only after successfully completing the 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.

Clinical Psychology, PhD

The following requirements must be satisfied for a Doctor of Philosophy with a major in clinical psychology.

Course requirements and use of transfer credit

The qualified and accepted student may enter a degree program holding either a bachelor's or master's degree. 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 school. The psychology department may waive doctoral program requirements if prior graduate course work is evaluated as equivalent to UNT doctoral course requirements. All psychology doctoral degree plans require a minimum of 42 hours of graduate credit beyond the master's degree, or 72 credits beyond the bachelor's degree, taken within the UNT system.

The clinical and counseling psychology programs require a one-year supervised internship. Students should be aware that internship training sites are spread across the country. Internships are competitive, and the student is responsible for securing an internship that meets with departmental approval. Responsibility for an internship training site's compliance with the Americans with Disability Act rests with the internship site.

Clinical Psychology

This program requires a minimum of 90 semester hours plus a one-year internship. The general core psychology includes the following: social psychology, cognitive and affective bases of behavior, quantitative methods I, quantitative methods II, and biological bases of behavior. The clinical core consists of human development, assessment I, assessment II, ethics in clinical psychology, psychopathology, introduction to psychotherapy, multicultural counseling, an advanced psychotherapy course approved by the program and an advanced assessment course, as well as clinical practicum.

Additional requirements

Dual degree options

All doctoral programs make provisions to allow the completion of a master's degree in general psychology.

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 qualifying 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

The student completes two dissertation-related examinations: the proposal and the final comprehensive examination. The student first defends the dissertation proposal, which can be done only after successfully completing the 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

The following requirements must be satisfied for the Doctor of Philosophy with a major in counseling psychology.

Course requirements and use of transfer credit

The qualified and accepted student may enter a degree program holding either a bachelor's or master's degree. 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 school. The psychology department may waive doctoral program requirements if prior graduate course work is evaluated as equivalent to UNT doctoral course requirements. All psychology doctoral degree plans require a minimum of 42 hours of graduate credit beyond the master's degree, or 72 credits beyond the bachelor's degree, taken within the UNT system.

The clinical and counseling psychology programs require a one-year supervised internship. Students should be aware that internship training sites are spread across the country. Internships are competitive, and the student is responsible for securing an internship that meets with departmental approval. Responsibility for an internship training site's compliance with the Americans with Disability Act rests with the internship site.

Counseling Psychology

This program requires a minimum of 99 semester credit hours and includes 18 hours in general core psychology: social psychology, quantitative methods, theories of cognition and affect, biological bases of behavior and human development.

The counseling core consists of 32 hours that include course work in the following areas: assessment, individual and group techniques, theories of counseling and psychotherapy, legal and ethical issues, psychopathology, vocational psychology, supervision and consultation, and multicultural counseling. It is also required to demonstrate competency in history and systems of psychology (1 hour).

A research core composed of a minimum of 15 hours and practicum training consisting of 19 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. A one-year internship is also required (2 hours).

Additional requirements

Dual degree options

All doctoral programs make provisions to allow the completion of a master's degree in general psychology.

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 qualifying 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

The student completes two dissertation-related examinations: the proposal and the final comprehensive examination. The student first defends the dissertation proposal, which can be done only after successfully completing the 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.

Department of Sociology

Main Office
Sycamore Hall, Room 288

Mailing address:
1155 Union Circle #311157
Denton, TX 76203-5017
940-565-2296
Web site: sociology.unt.edu

Matthew Painter, Chair
William Scarborough, Director of Graduate Studies

Faculty

The department offers graduate programs in sociology.

Areas of concentration include (but are not limited to) social inequality, sociological theory, gender, immigration, race/ethnicity and the sociology of culture.

Research

Our department is home to outstanding faculty and academic programs and serves as a center for innovative research. The department's signature strengths are in sociological theory and social science methodology, as well as in the sociological study of aging, crime, gender, health, race/ethnicity, religion, and social inequality. Faculty publish empirical studies as well as theoretically oriented studies that address fundamental debates within the field of sociology.

Master's Degree

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. Applications are submitted through the UNT CAS (Centralized Application Service) system.
2. 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.
3. 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); and a GPA of 2.8 on all sociology courses. 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.
4. 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.

Once all required materials have been received and approved by the Toulouse GRaduate School, your application will be forwarded to the Department of Sociology's Graduate Studies Committee for review. The Toulouse Graduate School will notify you of the final admission decision, and the department will contact you directly if your are offered funding.

Requirements

Master's candidates in sociology are required to take the following courses or their equivalents.

- SOCI 5050 - Sociological Theory
- SOCI 5200 - 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 before the thesis prospectus defense or 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. 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. Candidates are eligible to complete the exam after they have established an advisory exam committee of three sociology faculty members, an approved degree plan, and have completed 21 semester hours of graduate credit toward the degree. Each faculty committee member will provide a question or series of questions as part of the exam. The content of questions is open to topics covered in prior graduate course work. Upon receiving the exam questions, students have a period of three weeks to complete the take home exam. After receiving exam questions, students may not change members of their exam committee. Faculty committee members may only grade their respective section of the exam as a "pass" or "no pass." A "pass" grade from all three faculty members is required to pass the comprehensive exam. In the case of a "no pass" on any or all sections of the exam, students will have a period of three weeks to revise. If the revised exam continues to receive a "no pass" grade on any section, the student fails their comprehensive exam and is dismissed from the program without a degree.

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 or a sociological practice setting, (2) analyzing social groups and relationships between groups, and (3) evaluating the influence of social and cultural factors on important social outcomes. All doctoral students are required to study core theory, statistics and research methods. The sociology PhD program participates in a consortium with Texas Woman's University and Texas A&M University–Commerce known as the Federation of North Texas Area Universities. Through the federation, doctoral students can take elective 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.

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 may be submitted at the time of the application and a score on the written essay may also be submitted.

The following requirements must be met for admission consideration.

1. Before being admitted to a PhD 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. Applications are submitted through the UNT CAS (Centralized Application Service) system.
2. 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, and have at least a 3.5 (B+) GPA for master's courses.
3. 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 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.

Once all required materials have been received and approved by the Toulouse Graduate School, applications are forwarded to the Department of Sociology's Graduate Studies Committee for review. The Toulouse Graduate School will notify applicants of the final admission decision, and the department will contact applicants directly if offered funding.

Outstanding applicants without a master's degree may be considered for admission into the doctoral program. If admitted, a pass-through master's degree option is available.

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 72 hours beyond the bachelor's degree or 42 hours beyond the master's degree. All students are required to complete the following:
    a. A minimum of 9 semester hours in research methods and statistics. All courses must be at the 6000 level, and a minimum grade of B must be achieved for each.
    b. A minimum of 6 semester hours in sociological theory at the 6000 level. A grade of B or better must be achieved for each course.
    c. A minimum of 9 semester hours in a concentration area approved by the advisory committee, including at least 6 hours at the 6000 level.
    d. A minimum of 9 semester hours of electives.
    e. A minimum of 9 semester hours of dissertation.
    f. A minimum of 24 semester hours must be taken at the 6000 level.
2. Students may earn limited credit in an internship as part of their PhD course work.
3. To fulfill UNT's residency requirement a student must carry a full load of 9 hours each term/semester for two consecutive long terms/semesters at UNT or 6 hours for three consecutive terms.
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. The major professor (chair) must be a full-time UNT sociology faculty member. At least half of the committee must be from the full-time UNT sociology faculty. Other members may be from the Texas Woman's University faculty or 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. The degree plan of the individual student must be completed by the end of the first semester of the second year of graduate work or before completion of 18 semester hours in the program and taking the concentration exams.
5. All doctoral students must choose a concentration area in consultation with their major advisor and advisory committee and submit a doctoral qualifying paper. The purpose of the qualifying paper is to determine the student's grasp of foundational works, the current state of the literature, and how the student's proposal expands on the latter. The committee should have some indication if the proposed study is 1) feasible in the general time frame provided and 2) advances the literature, either theoretically or methodologically, in notable new ways that are not addressed by current studies.

    The qualifying paper committee is the student's advisory committee as indicated on their approved degree plan. A successful defense is a necessary benchmark to move to the prospectus stage and graduate in a timely manner. To receive a "pass" on the qualifying paper, it must be approved by all members of the advisory committee following a shared rubric. The committee can require students to revise their submission and resubmit it.

    Resubmissions have a time frame of one month to address the comments of committee members. The successful completion of the qualifying paper is a prerequisite for admission to candidacy for the degree. Admission to candidacy is granted by the appropriate graduate

dean upon recommendation of the student's advisory committee, and the department chair and graduate director, and also is based upon the student's academic record.

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 grades of C or below in sociological theory, methods, statistics or concentration area 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 Incomplete grades that are more than one year old in sociological theory, methods, statistics, or concentration course work.
3. The student's overall GPA falls below 3.0 or the student is suspended by the graduate school after being put on probation.
4. The student fails to make any progress toward the degree for at least one full calendar year (e.g., does not enroll, does not make progress on thesis or dissertation, etc.).
5. The student engages in an act of academic misconduct.

Graduate Academic Certificate

Applied Sociology certificate

The 12-hour applied sociology graduate certificate combines formal training with experiential learning in order to promote rigorous, multimethod investigation of pressing research questions. This is achieved by incorporating diverse qualitative and quantitative methods and immersion in interdisciplinary environments. The knowledge and skills acquired in this certificate program position students to work in fields that value combinations of applied social science and data science skills. The courses taken for this certificate count toward the sociology MS degree.

Course requirements

- SOCI 5230 - Data Management and Visualization

  and 3 of the following courses:
- INSD 5200 - Digital Social Science
- INSD 5220 - Digital Research Methods
- SOCI 5202 - Qualitative Research Methods
- SOCI 5200 - Research Methods and Design
- SOCI 5210 - Introduction to Social Statistics
- SOCI 5940 - Sociology Internship

Digital Sociology certificate

The 12-hour Digital Sociology graduate certificate provides a cutting-edge combination of social science theory and methods with the foundations of data science. Courses cover topics including text mining, web scraping, online surveys, digital ethnography, social media analytics, human performance analytics, and a variety of sociological topics including social movements, criminology, immigration, and gender. The knowledge and skills acquired in this program position students to work in fields that value combinations of social science and data science skills. The courses taken for this certificate count toward the sociology MS degree.

Required courses, 6 hours

- INSD 5200 - Digital Social Science

- INSD 5210 - Theories of the Information Society

  or
- INSD 5220 - Digital Research Methods

Statistics and Methods requirement, 3 hours

Choose one of the following courses:

- SOCI 5200 - Research Methods and Design
- SOCI 5210 - Introduction to Social Statistics
- SOCI 6201 - Quantitative Research Methods and Design
- SOCI 6202 - Qualitative Research Methods and Design
- SOCI 6203 - Social Science Text Mining
- SOCI 6301 - Intermediate Statistics- Multiple Regression Analysis and Related Methods in Sociology
- SOCI 6302 - Advanced Statistics in Sociology
- INSD 5210 - Theories of the Information Society
- INSD 5220 - Digital Research Methods

Substantive course requirement, 3 hours

3 hours from any graduate sociology elective excluding those courses listed in the Statistics and Methods requirement.

Graduate Minor

Sociology minor

Students in other fields may choose sociology for a minor.

Courses for the minor in sociology are to be chosen in consultation by the student with the minor professor.

Department of Technical Communication

Main Departmental Office
Auditorium Building, Room 317

Mailing address:
1155 Union Circle #305298
Denton, TX 76203-5017
940-565-4458
E-mail: tcoffice@unt.edu
Web site: techcomm.unt.edu

Ryan K. Boettger, Chair

Faculty

The field of technical communication focuses on making technical topics understandable and using technology to make information usable. The Department of Technical Communication emphasizes evidence-based approaches to preparing students with the technical communication skills required in modern workplaces: writing, designing, and coding. We offer graduate and undergraduate degrees and certificates. Courses are taught by an internationally recognized faculty whose research is at the forefront of the field. Students have leadership opportunities through teaching assistant positions, lab tutor positions in our TECM Lab, and involvement in our student organization. We facilitate connections among faculty, students, and practitioners through client-sponsored course projects, internships, regular networking events, and our industry-led Advisory Board.

A degree in technical and professional communication prepares students for entry-level positions as technical writers/editors, content developers, or usability professionals, most commonly working on teams to create user guides, web content, and proposals in companies within the information technology, consulting, and healthcare industries. Texas employs more technical communicators than any other state except California, and the DFW metroplex employs the sixth most technical communicators among metropolitan areas in the United States. The number of employed technical communicators should increase 7% from 2022 to 2032, which is greater than the 3% increase expected for all occupations and the 3% for all media and communication workers (Bureau of Labor Statistics, 2022-2023 edition). Our MA graduates enjoy a 100% placement rate.

Master's Degree

Professional and Technical Communication, MA

The MA program prepares students for positions as technical writers/editors, content developers, or usability professionals, most commonly working on teams to create user guides, web content, and proposals in companies within the information technology, consulting, and healthcare industries. Our MA graduates enjoy a 100 percent placement rate.

Admission requirements and procedures

To be eligible for admission to the MA with a major in professional and technical communication, 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 MA requires no foreign language competency.

Applicants whose native language is not English must also submit a score on the TOEFL examination. Applicants whose undergraduate degree is not in professional and technical communication may be required to take 3–6 hours of graduate leveling courses as approved by the graduate director. These courses would count as electives toward the MA degree.

Applicants for the MA with a major in professional and technical communication submit their materials through the Toulouse Graduate School application portal. The required materials include:

- a current resume or vita;
- a 500–750 word personal statement in response to one of the following prompts:
    - describe a situation where you successfully used technical communication. How do you believe UNT's MA with a major in professional and technical communication will complement what you already know about the field?
    - summarize the most recent article you read about technical communication. Discuss how this article informed your thinking about technical communication and then how UNT's MA with a major in professional and technical communication will enhance your understanding of the field.
- a writing sample or professional portfolio (optional).

All materials should be submitted directly through the Toulouse Graduate School application portal.

Admission into the program is competitive. The graduate director reviews all application materials holistically, but TOEFL scores and percentile results are carefully considered with regard to student success.

Exceptional student admissions policy

Exceptional students are eligible for automatic admission into the MA program. Students who meet the following criteria will receive special consideration for departmental teaching fellow positions, research assistantships and scholarships:

- must be a major in professional and technical communication programs and 9–15 hours away from graduation;
- hold a 3.5 GPA in their major course work and a 3.25 GPA overall;
- submit a resume and a 300–500 word personal statement that describes interests, career plans and purpose in working toward an MA. In the statement, students must mention that they wish to be considered for admissions under the exceptional student policy; and
- submit a strong, comprehensive letter of recommendation from a current member of the technical communication graduate faculty. The letter must address the applicant's maturity, character and integrity, and intellectual curiosity and/or scholarly potential.

The Director of Graduate Studies will verify that students meet the above criteria before formally admitting them into the desired program. Students who do not meet these criteria can apply under the department's standard admissions procedures.

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 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 techcomm.unt.edu.

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.

Degree requirements

MA program, 30 hours

Core courses, 12 hours

A grade of B or better must be achieved for each core course.

- TECM 5185 - Principles of Technical Communication
- TECM 5191 - Digital Literacies for Professional Communicators
- TECM 5195 - Editing Technical Documents
- TECM 5280 - Designing Technical Documents

Topics courses, 9 hours

9 hours selected from the following:

- TECM 5170 - Grants and Proposals
- TECM 5175 - Writing in Professional Settings
- TECM 5180 - Professional Writing
- TECM 5190 - Style and Technical Writing
- TECM 5200 - Digital Content Strategies for Communication Professionals
- TECM 5290 - Design and Development of High-Tech Training Materials
- TECM 5550 - Studies in the Teaching of Technical Communication
- TECM 5740 - Content Analysis in Technical Communication
- TECM 5750 - Measuring Usability and User Experience for Professional and Technical Communication

Practicum or thesis, 6 hours

- TECM 5640 - Practicum in Technical Communication

  or

- TECM 5950 - Master's Thesis (See "Thesis requirement," below)

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.

Electives, 3 hours

- 3 hours of graduate-level courses
- Before registering in these courses, students must seek the approval of the department

Portfolio review and defense

Graduate Academic Certificate

Proposal Writing certificate

The graduate academic certificate in Proposal Writing equips students with the skills needed to work as an entry level proposal writer, editor, or manager within industry settings.

Admission procedures

The admission requirements for a graduate-level certificate differ from an MA degree. GRE scores, letters of reference, a personal statement, and a resume are not required to apply for this certificate program. Applicants, however, must follow these procedures:

- U.S. citizens/permanent residents submit application, application fee, and official transcripts to the Toulouse Graduate School.
- International applicants submit above materials to the International Admission Office. Acceptable TOEFL scores must be submitted. Applicants with an undergraduate degree from a U.S. college/university or having successfully completed an intensive English program may be exempted from the TOEFL.
- The Toulouse Graduate School and the Department of Technical Communication will notify students of their admission status.
- Students who wish to enter the MA program in professional and technical communication will be required to meet department and College of Liberal Arts and Social Sciences entrance requirements before proceeding with courses beyond those needed for the certificate program.

Certificate requirements

Students interested in the graduate certificate in Proposal Writing must take four courses (12 hours) to earn the academic certificate. For more information about earning the certificate online, see unt.edu/academics/programs/proposal-writing-gac.

Requirements, 12 hours

Students must earn a B or better in each course in order to earn the graduate academic certificate in Proposal Writing.

- TECM 5170 - Grants and Proposals
- TECM 5185 - Principles of Technical Communication
- TECM 5190 - Style and Technical Writing
- TECM 5200 - Digital Content Strategies for Communication Professionals

Disclosures

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

Technical Writing certificate

The graduate academic certificate in technical writing equips students with the skills needed to work as an entry-level technical writer in industry or to teach foundational courses in technical writing. Certificate students select course options that meet their career goals with the help of the Director of Graduate Studies.

Admission procedures

The admission requirements for a graduate-level certificate differ from an MA degree. GRE scores, letters of reference, a personal statement, and a resume are not required to apply for this certificate program. Applicants, however, must follow these procedures:

- U.S. citizens/permanent residents submit application, application fee, and official transcripts to the Toulouse Graduate School.
- International applicants submit above materials to the International Admission Office. Acceptable TOEFL scores must be submitted. Applicants with an undergraduate degree from a U.S. college/university or having successfully completed an intensive English program may be exempted from the TOEFL.
- The Toulouse Graduate School and the Department of Technical Communication will notify students of their admission status.
- Students who wish to enter the MA program in professional and technical communication will be required to meet department and College of Liberal Arts and Social Sciences entrance requirements before proceeding with courses beyond those needed for the certificate program.

Certificate requirements

Students interested in the graduate certificate in Technical Writing must take four courses (12 hours) to earn the academic certificate. For more information about earning the certificate online, see unt.edu/academics/programs/technical-writing-certificate.

Requirements

Four courses, 12 hours, chosen from:

- TECM 5170 - Grants and Proposals
- TECM 5191 - Digital Literacies for Professional Communicators
- TECM 5195 - Editing Technical Documents
- TECM 5200 - Digital Content Strategies for Communication Professionals
- TECM 5280 - Designing Technical Documents
- TECM 5550 - Studies in the Teaching of Technical Communication

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

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

Christoph Weber, Chair

Faculty

Research

Research conducted by departmental faculty members includes culture and civilization, linguistics, and literature.

Master's Degree

Spanish, MA

Admission and degree requirements

A student must have completed at least 9 semester hours of advanced undergraduate Spanish classes and earned an overall GPA of 3.0 or higher to be admitted into the graduate program. In certain cases, exceptions may be made. 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, a 250-word statement in Spanish, a one-page curriculum vitae, a 4 to 6 page research paper on any scholarly topic with bibliography following the Modern Language Association Style, a 3 to 5 minute audio file of the applicant's spoken Spanish, and a list of three references from persons acquainted with the candidate's scholarly and/or teaching background. The GRE exam is not required.

The applicant has the choice of the following programs:

1. 36 semester hours, including 6 hours of thesis; at least 30 hours of course work must be completed in the major; or
2. 30 hours of course work, without thesis; at least 30 hours must be earned in the major.

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 or English. Thesis option requires an oral defense.

For further information, see the Department of World Languages, Literatures and Cultures website at Spanish.unt.edu.

Frank W. and Sue Mayborn School of Journalism

Main Office
Sycamore Hall, Room 206

Mailing address:
1155 Union Circle #311460
Denton, TX 76203-5017
940-565-2205
Web site: journalism.unt.edu

Office of Graduate Student Advising
Sycamore Hall, Room 206
940-565-4564

James E. Mueller, Dean

Faculty

Graduate work in the Mayborn Graduate Institute of Journalism prepares students with lifetime communication and intellectual skills for successful careers in all areas of journalism and communication. The institute also prepares students who wish to pursue academic careers in higher education. The nationally accredited program offers state-of-the-art technological training and support as well as research and study opportunities in advertising, broadcast, digital, Internet and multimedia news, photojournalism, public relations and publishing. Some web-based courses are now available.

Journalism MA and MJ 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
- Master of Science with a major in digital communication analytics

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, narrative journalism and public relations.

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; www.acejmc.org/.

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, international communication, pop culture and entertainment, health communication and magazine production.

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 portfolio must also be submitted to the Mayborn Graduate Institute of Journalism. See portfolio submission guidelines at https://journalism.unt.edu/academics/graduate/master-arts-journalism.html for MA or https://journalism.unt.edu/academics/graduate/master-science-digital-communication-analytics.html for MSDCA or contact the student and program coordinator at 940-565-4564.

Non-native speakers of English must submit satisfactory scores on the TOEFL.

Students graduating from the Honors College with a 3.5 or higher GPA are entitled to automatic admission to, and are not required to submit standardized test scores for admission to, the Toulouse Graduate School. However, a portfolio is required for Honors College students with a 3.5 or higher GPA.

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 in print one day a week in the fall and spring terms/semesters and once a month in the summer. The online edition of *NT Daily* is updated more frequently. The *Daily* has been providing news and entertainment to UNT students since 1948. For more information, contact the *Daily's* advisor at 940-565-4265, or visit the *Daily's* web site (www.ntdaily.com).

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

Digital Communication Analytics, MS

Admission requirements

1. Bachelor's degree from an accredited college or university.
2. 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.
3. Resume or curriculum vitae that includes the candidate's previous work or educational experiences.
4. At least three writing samples or examples of the candidate's previous work.
5. A personal statement addressing the candidate's goals and rationale for applying to the digital communication analytics program and a brief description of the candidate's career and research expectations with regard to work and further education.

Degree requirements

General requirements for the Master of Science with a major in digital communication analytics are the same as those listed in the Master's degree requirements section of this catalog. This degree is a comprehensive program with options to prepare individuals for jobs related to data analytics, communication and social media. Theoretical foundations in data analytics and social media communication are expanded through applications in data collection, visualization, analysis and reporting.

This degree is a 30-hour program, which consists of 21 hours of seven required courses and 9 hours of elective courses. The student must have taken and passed 21 hours of core courses with at least a B grade to graduate.

Required courses, 21 hours

DCAS 5000 is an entry course to be taken in the first semester. DCAS 5581 is to be taken during the last 9 hours of course work.

- DCAS 5000 - Introduction to Digital Communication Analytics
- DCAS 5251 - Quantitative Research Fundamentals in Digital Communication
- DCAS 5261 - Qualitative Research Fundamentals in Digital Communication
- DCAS 5331 - Social Media Analytics
- DCAS 5341 - Cutting-Edge Techniques for the Digital Communication Analyst
- DCAS 5361 - Data Visualization for the Digital Communication Analyst
- DCAS 5581 - Capstone Seminar in Digital Communication Analytics

Electives, 9 hours

Students choose 9 hours from the following:

- ADTA 5100 - Fundamentals of Data Analytics
- ADTA 5110 - Fundamentals of Data Collection and Management
- ADTA 5120 - Introduction to Data Analytics
- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5250 - Large Data Visualization
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5560 - Recurrent Neural Networks for Sequence Data
- DCAS 5351 - Seminar in Digital Communication Analytics
- DCAS 5801 - Professional Internship in Digital Communication Analytics
- DCAS 5901 - Advanced Problems in Digital Communication Analytics
- DTSC 5501 - Fundamentals of Data Analytics
- DTSC 5502 - Principles and Techniques for Data Science
- DTSC 5505 - Machine Learning for Data Scientists
- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5709 - Data Visualization and Communication
- INFO 5717 - Networked Data Modeling and Processing
- INFO 5810 - Data Analysis and Knowledge Discovery

Journalism, MA

The following requirements must be satisfied for a Master of Arts with a major in journalism.

Requirements

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 or who has deficiencies in writing may be required to take up to 6 hours of undergraduate courses in journalism as recommended by faculty evaluators.

The MA candidate in journalism must complete a minimum of 36 semester hours. A master's thesis (6 hours) is optional. Students should take 12 hours of core courses within their first year of the program.

The MA student planning to write a thesis should search for and request a professor early in the program to serve as thesis chair. The student should complete 12 hours of core courses before being enrolled in master's thesis hours. The thesis chair will help the student select a committee. Until successfully defending the thesis, thesis-option students must continue to be enrolled in thesis hours.

The student must also register for and pass the comprehensive exam to graduate. In order to register for the comprehensive exam, the student must have taken and passed 12 hours of core courses with at least a grade of B. The student must complete all thesis hours and pass the comprehensive exam to graduate.

Core courses

- JOUR 5040 - Media Studies and Theories
- JOUR 5250 - Quantitative Research
- JOUR 5260 - Qualitative Research
- JOUR 5310 - Media Ethics

Remaining courses

With the approval of the graduate academic advisor, a candidate may select the remaining course work to support career interests such as broadcast journalism; business journalism; health, science and environmental journalism; international communications; Internet, interactive and virtual digital communications; investigative journalism; management and entrepreneurship; mass communication research; narrative journalism; sports journalism; strategic communications; advertising and public relations; and visual communications.

Graduate Academic Certificate

Digital Communication Analytics certificate

Analytics has become an indispensable decision-making tool in public relations, advertising and marketing agencies, corporations, nonprofits, print and broadcast media, and social media. This accelerated online certificate is appropriate for busy communication professionals and graduate students who have limited experience in or knowledge of digital communication analytics. They will learn and practice basic analytic techniques step-by-step in such areas as predictive analytics, social media metrics, data visualization, and coding.

Certificate students with satisfactory work (minimum of a B grade) can choose later to pursue the 30-hour Master of Science in Digital Communication Analytics degree program by submitting an application portfolio. For more information, please contact the graduate student and program coordinator in the Mayborn Graduate Institute of Journalism at MaybornGraduateInstitute@unt.edu or 940-565-4564, or visit Sycamore Hall, Room 206.

Certificate requirements, 15 hours

Required courses, 12 hours

The following four courses are required:

- DCAS 5000 - Introduction to Digital Communication Analytics
- DCAS 5251 - Quantitative Research Fundamentals in Digital Communication
- DCAS 5261 - Qualitative Research Fundamentals in Digital Communication
- DCAS 5331 - Social Media Analytics

Select one course from the following list:

- DCAS 5341 - Cutting-Edge Techniques for the Digital Communication Analyst
- DCAS 5361 - Data Visualization for the Digital Communication Analyst

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.

Certificate requirements, 18 hours

- INFO 5040 - Information Behavior
- INFO 5615 - Electronic Databases and Information Services
- JOUR 5320 - New Technologies of Mass Communication
- JOUR 5330 - Strategic Social Media
- LTEC 5200 - New Technologies of Instruction
- LTEC 5260 - Computer Graphics for Mediated Communications

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

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.

Certificate requirements, 12 hours

The graduate academic certificate in narrative journalism requires completion of 12 hours from the following courses.

Required courses

6 hours from

- JOUR 5710 - Narrative Journalism
- JOUR 5750 - Advanced Multimedia Storytelling for News

Elective courses

Plus 6 hours of elective courses chosen from:

- JOUR 5260 - Qualitative Research
- JOUR 5700 - Advanced Feature Writing
- JOUR 5720 - Magazine Writing and Publishing
- JOUR 5730 - Writing, Editing and Publishing for the Literary Market
- JOUR 5740 - Literary Journalism
- JOUR 5760 - International News and Media Study Abroad

Note

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 https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Public Relations certificate

The Graduate Council approved a change to this program during the academic year. Please refer to the Catalog Addendum for more information.

The graduate academic certificate in public relations is specifically designed for professional journalists, public relations practitioners, educators, authors, writing instructors, editors and researchers currently working in the media, public relations, advertising or business arena with an interest in or responsibility for public relations.

Certificate requirements, 12 hours

Required courses, 6 hours

The following two courses are required:

- JOUR 5100 - Case Problems in Public Relations
- JOUR 5180 - Advanced Public Relations Campaigns

Electives, 6 hours

Select two courses from the following list.

- JOUR 5130 - International Advertising and Public Relations Study Abroad
- JOUR 5140 - Strategic Persuasion and Media Effects
- JOUR 5250 - Quantitative Research
- JOUR 5320 - New Technologies of Mass Communication
- JOUR 5330 - Strategic Social Media

Note

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 https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

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: cmht.unt.edu

Jana Hawley, Dean
Jiyoung Kim, Associate Dean
Xi Leung, Hospitality, Event and Tourism Management Graduate Coordinator
Kiseol Yang, Merchandising and Digital Retailing Graduate Coordinator

Faculty

Programs in the college are designed to meet personnel needs in merchandising, digital business, consumer insight, hospitality, event and tourism. These 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, retailers, wholesalers, manufacturers, 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, event and tourism management department 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 and digital retailing department includes consumer behavior in marketplaces and marketspaces and market segmentation for fashion-oriented products. Specific emphases are on digital retailing, merchandising in domestic and global markets, cross-cultural consumer analysis, evaluative criteria, retail employee professional development, 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.cmht.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, Event and Tourism Management and the Department of Merchandising and Digital Retailing.

Department of Hospitality, Event 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.cmht.unt.edu

Kim Williams, Chair
Xi Leung, Hospitality Management Graduate Coordinator

Faculty

Mission

We educate the next generation of hospitality and tourism leaders who strive for excellence and embrace our diversity in a caring, innovative and empowering community.

Master's Degree

Hospitality and Tourism Data Analytics, MS

- Students may earn a Data Analytics Graduate Academic Certificate if they complete five ADTA courses (ADTA 5130, ADTA 5230, ADTA 5240, ADTA 5250, ADTA 5340).
- Students may earn a Digital Communication Analytics Graduate Academic Certificate if they complete five DCAS courses (DCAS 5000, DCAS 5251, DCAS 5261, DCAS 5331, DCAS 5361).
- With permission, students may transfer up to nine (9) approved accredited graduate hours.
- Students have a total of five years to complete the Masters of Science degree. The five-year rule begins with the earliest date of any transferred graduate hours applied to the UNT degree. 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.
- Specific admission requirements for the graduate certificate program are in the UNT Graduate Catalog.

Admission requirements

- a Bachelor's degree from an accredited university and an expected 3.00 GPA in the undergraduate degree. Contact the HTM Graduate Coordinator if you have questions about a GPA below 3.0.
- A resume.
- A statement of purpose.

Requirements for Resident Option

Required courses, 21 hours

- CMHT 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management

  or
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis

- HTAN 5300 - Hospitality and Tourism Data Analytics

  or
- HTAN 5310 - Business Analytics in Hospitality, Event and Tourism

- ADTA 5130 - Data Analytics I

  or
- CMHT 5400 - Quantitative Data Analysis: Applications in Merchandising & Hospitality Management

- ADTA 5230 - Data Analytics II

  or
- HTAN 5500 - Multivariate Data Analysis Techniques in Hospitality, Event and Tourism

- ADTA 5240 - Harvesting, Storing and Retrieving Data

  or
- CMHT 5500 - Social Media Analytics using SNA

- ADTA 5250 - Large Data Visualization

  or
- DCAS 5361 - Data Visualization for the Digital Communication Analyst

  or
- CMHT 6600 - Network Analysis Visualization (NAV) for Social Media Marketing

- CMHT 5870 - Customer Relationship Management Analytics

  or
- HMGT 5860 - Strategic Management in the Hospitality Industry

Content courses, 9 hours

- ADTA 5340 - Discovery and Learning with Big Data
- CMHT 5200 - Mixed Methods Research For Consumer Markets
- CMHT 5460 - Human Capital Development in Merchandising and Hospitality Management
- CMHT 5500 - Social Media Analytics using SNA
- CMHT 5770 - Digital Strategies & Consumer Insight
- CMHT 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- CMHT 5870 - Customer Relationship Management Analytics
- HMGT 5250 - Restaurant Development
- HMGT 5520 - Global Tourism Systems
- HMGT 5530 - International Sustainable Tourism
- HMGT 5540 - Tourism Services Management and Marketing
- HMGT 5560 - Planning and Policy in Sustainable Tourism
- HMGT 5585 - SMART Destination
- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5640 - Global Healthy Sustainable Foods
- HMGT 5650 - Strategic Marketing of Events
- HMGT 5790 - Field Experience in Hospitality and Tourism
- HMGT 5900 - Special Problems in Hospitality and Tourism
- HMGT 5910 - Special Problems in Sustainability
- HMGT 5920 - Problem in Lieu of Thesis

Requirements for Online Option

Required courses, 21 hours

- CMHT 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management

  or
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis

- HTAN 5310 - Business Analytics in Hospitality, Event and Tourism

  or
- HMGT 5585 - SMART Destination

  or
- HTAN 5300 - Hospitality and Tourism Data Analytics

- ADTA 5130 - Data Analytics I

  or
- DCAS 5000 - Introduction to Digital Communication Analytics

- ADTA 5230 - Data Analytics II

  or
- DCAS 5251 - Quantitative Research Fundamentals in Digital Communication

- ADTA 5240 - Harvesting, Storing and Retrieving Data

  or
- DCAS 5331 - Social Media Analytics

- ADTA 5250 - Large Data Visualization

  or
- DCAS 5361 - Data Visualization for the Digital Communication Analyst

- CMHT 5870 - Customer Relationship Management Analytics

  or
- HMGT 5860 - Strategic Management in the Hospitality Industry

Content courses, 9 hours

- ADTA 5340 - Discovery and Learning with Big Data
- CMHT 5200 - Mixed Methods Research For Consumer Markets
- CMHT 5440 - Consumer Theory
- CMHT 5460 - Human Capital Development in Merchandising and Hospitality Management
- CMHT 5700 - Service Excellence

- CMHT 5770 - Digital Strategies & Consumer Insight
- CMHT 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- CMHT 5870 - Customer Relationship Management Analytics
- EDEM 5600 - Sustainability in the Event Industry *
- HMGT 5250 - Restaurant Development
- HMGT 5500 - Technology and Innovation in Hospitality, Event and Tourism *
- HMGT 5520 - Global Tourism Systems
- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5640 - Global Healthy Sustainable Foods
- HMGT 5650 - Strategic Marketing of Events
- HMGT 5790 - Field Experience in Hospitality and Tourism
- HMGT 5820 - Facilities Planning, Equipment Layout and Design *
- HMGT 5900 - Special Problems in Hospitality and Tourism
- HMGT 5910 - Special Problems in Sustainability
- HMGT 5920 - Problem in Lieu of Thesis

  * Dual-number courses. Student are allowed to take up to two dual number courses. Cannot repeat if taken for undergraduate credit.

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 on all undergraduate work;
- a demonstrated proficiency in oral and written English;
- a resume.

Students graduating from the Honors College with a 3.5 or higher GPA are entitled to automatic admission to, and are not required to submit standardized test scores for admission to, the Toulouse Graduate School and, with required prerequisites, to the graduate programs in the Department of Hospitality, Event and Tourism Management.

Degree requirements

The student must earn a minimum of 30 hours.

Online Research Track

Required courses, 9-12 hours

- EPSY 5050 - Foundations of Educational Research Methodology
- EPSY 5210 - Educational Statistics

  or
- CMHT 5200 - Mixed Methods Research For Consumer Markets

  or
- DCAS 5251 - Quantitative Research Fundamentals in Digital Communication

  or
- JOUR 5260 - Qualitative Research

  or
- other Approved Research Methodology Course

- HMGT 5920 - Problem in Lieu of Thesis

  or
- HMGT 5950 - Master's Thesis

Content courses

- Students take enough content courses to compete the required 30 hours for the degree
- Students may take up to 6 hours of credit from outside Hospitality Management in place of up to 6 hours of content courses, in consultation with their advisor.
- Students may select up to 6 hours of dual-numbered courses; dual numbered courses cannot be repeated if taken for undergraduate degree credit or leveling for graduate degree.
- CMHT 5440 - Consumer Theory
- CMHT 5550 - Promotional Strategies
- CMHT 5700 - Service Excellence
- CMHT 5770 - Digital Strategies & Consumer Insight
- CMHT 5870 - Customer Relationship Management Analytics
- EDEM 5600 - Sustainability in the Event Industry *
- HMGT 5250 - Restaurant Development
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMGT 5500 - Technology and Innovation in Hospitality, Event and Tourism *
- HMGT 5520 - Global Tourism Systems
- HMGT 5585 - SMART Destination
- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5640 - Global Healthy Sustainable Foods
- HMGT 5650 - Strategic Marketing of Events
- HMGT 5790 - Field Experience in Hospitality and Tourism
- HMGT 5820 - Facilities Planning, Equipment Layout and Design *
- HMGT 5860 - Strategic Management in the Hospitality Industry
- HMGT 5900 - Special Problems in Hospitality and Tourism
- HMGT 5910 - Special Problems in Sustainability

  * Dual-number courses. Students are allowed to take up to two dual-number courses. Cannot repeat if taken for undergraduate credit.

Electives, 0–6 hours

Courses must be approved by HTM advisor.

Online Professional Track

Required courses, 9 hours

- CMHT 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management

  or

- CMHT 5460 - Human Capital Development in Merchandising and Hospitality Management

- ADTA 5130 - Data Analytics I

  or

- CMHT 5200 - Mixed Methods Research For Consumer Markets

  or

- DCAS 5261 - Qualitative Research Fundamentals in Digital Communication

  or

- HTAN 5310 - Business Analytics in Hospitality, Event and Tourism

  or

- other Approved Research Methodology Course

- HMGT 5860 - Strategic Management in the Hospitality Industry

Content courses

- Students take enough content courses to complete the required 30 hours for the degree.
- Students may take up to 6 hours of credit from outside Hospitality Management in place of up to 6 hours of content courses, in consultation with their advisor.
- Students may select up to 6 hours of dual numbered courses; dual numbered courses cannot be repeated if taken for undergraduate degree credit or leveling for graduate degree.
- CMHT 5440 - Consumer Theory
- CMHT 5550 - Promotional Strategies
- CMHT 5700 - Service Excellence
- CMHT 5770 - Digital Strategies & Consumer Insight
- CMHT 5870 - Customer Relationship Management Analytics
- EDEM 5600 - Sustainability in the Event Industry *
- HMGT 5250 - Restaurant Development
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMGT 5500 - Technology and Innovation in Hospitality, Event and Tourism *
- HMGT 5520 - Global Tourism Systems
- HMGT 5585 - SMART Destination
- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5640 - Global Healthy Sustainable Foods
- HMGT 5650 - Strategic Marketing of Events
- HMGT 5790 - Field Experience in Hospitality and Tourism
- HMGT 5820 - Facilities Planning, Equipment Layout and Design *
- HMGT 5900 - Special Problems in Hospitality and Tourism
- HMGT 5910 - Special Problems in Sustainability
- HMGT 5920 - Problem in Lieu of Thesis

* Dual-number courses. Students are allowed to take up to two dual-number courses. Cannot repeat if taken for undergraduate credit.

Electives, 0–6 hours

Courses must be approved by HTM 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 all undergraduate work;
- A demonstrated proficiency in oral and written English;
- A resume.

Students graduating from the Honors College with a 3.5 or higher GPA are entitled to automatic admission to, and are not required to submit standardized test scores for admission to, the Toulouse Graduate School and, with required prerequisites, to the graduate programs in the Department of Hospitality, Event and Tourism Management.

Degree requirements

The student must earn a minimum of 30 semester hours.

Research track

Required courses, 9-12 hours

- CMHT 5100 - Introduction to Research in Merchandising and Hospitality

  or

- CMHT 5300 - Research Methods in Merchandising and Hospitality Management

- CMHT 5400 - Quantitative Data Analysis: Applications in Merchandising & Hospitality Management

  or

- CMHT 5200 - Mixed Methods Research For Consumer Markets

  or

- JOUR 5260 - Qualitative Research

  or

- other Approved Research Methodology course - must be approved by Advisor

- HMGT 5920 - Problem in Lieu of Thesis

  or

- HMGT 5950 - Master's Thesis

Content Courses

- Students take enough content courses to complete the required 30 hours for the degree.
- Students may take up to 6 hours of credit from outside Hospitality Management in place of up to 6 hours of content courses, in consultation with their advisor.
- Students may select up to 6 hours of dual numbered courses; dual numbered courses cannot be repeated if taken for undergraduate degree credit or leveling for graduate degree.
- CMHT 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management
- CMHT 5440 - Consumer Theory

- CMHT 5460 - Human Capital Development in Merchandising and Hospitality Management
- CMHT 5550 - Promotional Strategies
- CMHT 5600 - Managing Customer Experiences
- CMHT 5700 - Service Excellence
- CMHT 5770 - Digital Strategies & Consumer Insight
- CMHT 5810 - Teaching Practicum in Merchandising and Hospitality Management
- CMHT 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- CMHT 5870 - Customer Relationship Management Analytics
- CMHT 6500 - Social Media Analytics using SNA
- HMGT 5250 - Restaurant Development
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMGT 5520 - Global Tourism Systems
- HMGT 5530 - International Sustainable Tourism
- HMGT 5540 - Tourism Services Management and Marketing
- HMGT 5560 - Planning and Policy in Sustainable Tourism
- HMGT 5585 - SMART Destination
- HTAN 5300 - Hospitality and Tourism Data Analytics
- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5640 - Global Healthy Sustainable Foods
- HMGT 5650 - Strategic Marketing of Events
- HMGT 5790 - Field Experience in Hospitality and Tourism
- HMGT 5860 - Strategic Management in the Hospitality Industry
- HMGT 5900 - Special Problems in Hospitality and Tourism
- HMGT 5910 - Special Problems in Sustainability

Professional track

Required courses, 9 hours

- CMHT 5460 - Human Capital Development in Merchandising and Hospitality Management

  or
- CMHT 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management

- HTAN 5300 - Hospitality and Tourism Data Analytics

  or
- HTAN 5310 - Business Analytics in Hospitality, Event and Tourism

  or
- CMHT 5400 - Quantitative Data Analysis: Applications in Merchandising & Hospitality Management

  or
- other Approved Data Analytics course - must be approved by Advisor

- HMGT 5860 - Strategic Management in the Hospitality Industry

Content courses

- Students take enough content courses to complete the required 30 hours for the degree.
- Students may take up to 6 hours of credit from outside Hospitality Management in place of up to 6 hours of content courses, in consultation with their advisor.
- Students may select up to 6 hours of dual numbered courses; dual numbered courses cannot be repeated if taken for undergraduate degree credit or leveling for graduate degree.
- CMHT 5100 - Introduction to Research in Merchandising and Hospitality
- CMHT 5200 - Mixed Methods Research For Consumer Markets
- CMHT 5300 - Research Methods in Merchandising and Hospitality Management
- CMHT 5440 - Consumer Theory
- CMHT 5550 - Promotional Strategies
- CMHT 5600 - Managing Customer Experiences
- CMHT 5700 - Service Excellence
- CMHT 5770 - Digital Strategies & Consumer Insight
- CMHT 5810 - Teaching Practicum in Merchandising and Hospitality Management
- CMHT 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- CMHT 5870 - Customer Relationship Management Analytics
- CMHT 6500 - Social Media Analytics using SNA
- HMGT 5250 - Restaurant Development
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMGT 5520 - Global Tourism Systems
- HMGT 5530 - International Sustainable Tourism
- HMGT 5540 - Tourism Services Management and Marketing
- HMGT 5560 - Planning and Policy in Sustainable Tourism
- HMGT 5585 - SMART Destination
- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5640 - Global Healthy Sustainable Foods
- HMGT 5650 - Strategic Marketing of Events
- HMGT 5790 - Field Experience in Hospitality and Tourism
- HMGT 5900 - Special Problems in Hospitality and Tourism
- HMGT 5910 - Special Problems in Sustainability
- HMGT 5920 - Problem in Lieu of Thesis

Dual Numbered Courses, May select up to 6 hours

* A maximum of 6 hours may be included on the degree plan.

- CMHT 5000 - Global Discovery in Merchandising and Hospitality Management
- EDEM 5600 - Sustainability in the Event Industry
- HMGT 5150 - Casino Management
- HMGT 5200 - Survey of Beverages in the Hospitality Industry
- HMGT 5210 - Hospitality Cost Controls

- HMGT 5480 - Hospitality Industry Finance
- HMGT 5500 - Technology and Innovation in Hospitality, Event and Tourism
- HMGT 5820 - Facilities Planning, Equipment Layout and Design

Electives, 0-6 hours

Courses must be approved by HTM advisor.

International Sustainable Tourism, MS

This is a Master of Science degree in international sustainable tourism (MIST) offered at UNT. Students must take 30 credit hours to complete the program.

The following requirements must be satisfied for a Master of Science with a major in international sustainable tourism.

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.
- A demonstrated proficiency in oral and written English according to UNT policy.
- 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 gradschool.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.
- 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.

Students graduating from the Honors College with a 3.5 or higher GPA are entitled to automatic admission to, and are not required to submit standardized test scores for admission to, the Toulouse Graduate School and, with required prerequisites, to the graduate programs in the Department of Hospitality and Tourism Management.

Degree requirements

Students must earn a minimum of 30 semester hours as follows:

Required courses, 18 hours

Students choose one track from the following.

Research track

- CMHT 5300 - Research Methods in Merchandising and Hospitality Management
- CMHT 5400 - Quantitative Data Analysis: Applications in Merchandising & Hospitality Management
- HMGT 5530 - International Sustainable Tourism
- HMGT 5536 - Field/Practical/Professional Experience with Research Applications
- HMGT 5560 - Planning and Policy in Sustainable Tourism
- CMHT 5200 - Mixed Methods Research For Consumer Markets

  or
- JOUR 5260 - Qualitative Research

  or
- ANTH 5032 - Ethnographic and Qualitative Methods for Non-Majors

Professional track

- HMGT 5530 - International Sustainable Tourism
- HMGT 5536 - Field/Practical/Professional Experience with Research Applications
- HMGT 5540 - Tourism Services Management and Marketing
- HMGT 5560 - Planning and Policy in Sustainable Tourism
- HMGT 5640 - Global Healthy Sustainable Foods
- EDEM 5600 - Sustainability in the Event Industry

  or
- MDSE 5560 - Sustainable Strategies in Merchandising

Content courses, 12 hours

Students choose 12 hours from CMHT/HMGT/HTAN/EDEM courses without exceeding more than two dual-number courses. Students may select up to 6 credit hours from outside the department.

Graduate Academic Certificate

Event Management certificate

The Department of Hospitality, Event and Tourism Management offers the graduate academic certificate in event management. Delve into the art of planning, designing, and executing events of all scales, master communication and marketing strategies, and explore the operational impacts of event management. Stay ahead of the curve by learning about major trends and best practices shaping the dynamic field of event management.

See the Admission section of this catalog for admission requirements. Upon advisement of the HETM graduate coordinator, 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 MS in hospitality management are required to meet all the requirements of students seeking a degree in the program. Satisfactory work (minimum of a B grade) on graduate courses for the certificate may be applied to a master of science degree program upon advisement of the graduate coordinator.

Certificate requirements

The event management graduate academic certificate program includes:

- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5650 - Strategic Marketing of Events

Choose 2 courses from the following:

- EDEM 5600 - Sustainability in the Event Industry
- HMGT 5500 - Technology and Innovation in Hospitality, Event and Tourism
- HMGT 5585 - SMART Destination
- HMGT 5820 - Facilities Planning, Equipment Layout and Design
- HTAN 5310 - Business Analytics in Hospitality, Event and Tourism

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Hospitality Management certificate

Designed for hospitality professionals, the 12-credit Graduate Certificate in Hospitality Management strengthens critical analysis and decision-making skills. Coursework delves into restaurant and hotel operations, emerging industry trends, and legal frameworks to prepare graduates for leadership roles.

See the Admission section of this catalog for admission requirements. Upon advisement of the HETM graduate coordinator, 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 MS in Hospitality Management are required to meet all the requirements of students seeking a degree in the program. Satisfactory work (minimum of a B grade) on graduate courses for the certificate may be applied to the Master of Science degree program upon advisement of the graduate coordinator.

Graduate academic certificates

The Department of Hospitality, Event and Tourism offers graduate academic certificates in hospitality management and event management. The purpose of these 12-hour graduate certificates is to offer professionals in hospitality industry 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 HTM graduate advisor and the chair of hospitality management, 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

- HMGT 5250 - Restaurant Development
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis

Content courses, 6 hours selected from

- CMHT 5350 - Contemporary Issues and Trends in Merchandising and Hospitality Management
- CMHT 5460 - Human Capital Development in Merchandising and Hospitality Management
- CMHT 5800 - Seminar in Various Areas of Concentration
- CMHT 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- CMHT 5870 - Customer Relationship Management Analytics
- HMGT 5580 - Digital Strategies in Hospitality, Event and Tourism

Note

CMHT 5800 may be substituted for any course with the approval of the HTM graduate advisor.

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Department of Merchandising and Digital Retailing

Main Office
Chilton Hall, Room 331

Mailing address:
1155 Union Circle #311100
Denton, TX 76203-5017
940-565-2436
Web site: www.cmht.unt.edu

Sanjukta Pookulangara, Chair
Kiseol Yang, Merchandising and Digital Retailing Graduate Coordinator

Faculty

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 and Consumer Analytics, MS

The Master of Science with a major in Merchandising and Consumer Analytics is a 30-hour degree.

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;
- a demonstrated proficiency in oral and written English; and

In addition, to be considered for admission into the merchandising program, students need to submit the following to the CMHT graduate coordinator:

- Names of three references: You will need the email addresses of three individuals who are not related to you and who are willing to provide a reference for you. Current or former employers or faculty are preferred
- a resume; and
- an essay that provides:
  - an overview of the student's undergraduate degree, any specializations, minors or certificates earned;
  - prior and/or current work experience; specifically work experience related to retail merchandising or other similar positions, including paid or unpaid internships;
  - professional goals and how the graduate degree will help achieve these goals; and
  - primary career objective for degree.

Program Core

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II

  or
- CMHT 5400 - Quantitative Data Analysis: Applications in Merchandising & Hospitality Management

- CMHT 5200 - Mixed Methods Research For Consumer Markets

  or
- CMHT 5300 - Research Methods in Merchandising and Hospitality Management

- MDSE 5330 - Consumer Analytics and Data Visualization
- MDSE 5570 - Merchandising Analytics For Retail Buying Strategies

- MDSE 5800 - Social Media Analytics: Data Visualization and Insights

  or
- CMHT 5500 - Social Media Analytics using SNA

- MDSE 5960 - Consumer Insights Using Data Analytics

Prescribed Elective courses

- CMHT 5440 - Consumer Theory
- CMHT 5550 - Promotional Strategies
- CMHT 5770 - Digital Strategies & Consumer Insight
- MDSE 5090 - Digital Merchandising
- MDSE 5240 - Global Retailing
- MDSE 5500 - Merchandising Strategies
- MDSE 5660 - Advanced Merchandising Applications
- MDSE 5710 - Digital Optimization

Merchandising and Digital Retailing, 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;
- 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 CMHT graduate coordinator:

- three letters of recommendation from employers or teachers;
- a resume; and

- an essay that provides:
    - an overview of the student's undergraduate degree, any specializations, minors or certificates earned;
    - prior and/or current work experience; specifically work experience related to retail merchandising or other similar positions, including paid or unpaid internships;
    - professional goals and how the graduate degree will help achieve these goals; and
    - primary career objective for degree.

Students graduating from the Honors College with a 3.5 or higher GPA are entitled to automatic admission to, and are not required to submit standardized test scores for admission to, the Toulouse Graduate School and, with required prerequisites, to the graduate programs in the Department of Merchandising and Digital Retailing.

Degree requirements

The Master of Science in merchandising offers two concentrations, Professional and Research. The Master of Science in merchandising with 30 hours, is a professional concentration is targeted toward industry professionals of today and tomorrow. The program prepares global leaders who are competent in industry specific processes, ethics and sustainability, business strategy, technology applications, and data analytics. The Master of Science in merchandising with 33 hours, is a research concentration prepares students for careers in research and teaching. Through independent study and faculty mentorship, student apply critical thinking and problem-solving skills to solve industry problems. The program culminates in the preparation of a thesis.

Merchandising core, 3 hours

- MDSE 5500 - Merchandising Strategies (is required for all merchandising majors)

Research tools, 9-12 hours

Students in the professional concentration will take 9 hours of research tools. Students in the research concentration will take 12 hours of research tools.

Professional concentration, 9 hours

- MDSE 5920 - Problem in Lieu of Thesis

- CMHT 5300 - Research Methods in Merchandising and Hospitality Management

  or

- CMHT 5200 - Mixed Methods Research For Consumer Markets

One course from the following

- ADTA 5130 - Data Analytics I
- ANTH 5032 - Ethnographic and Qualitative Methods for Non-Majors
- CMHT 5400 - Quantitative Data Analysis: Applications in Merchandising & Hospitality Management
- CMHT 5610 - Network Analysis Visualization (NAV) for Social Media Marketing
- JOUR 5260 - Qualitative Research
- MDSE 5330 - Consumer Analytics and Data Visualization
- MDSE 5800 - Social Media Analytics: Data Visualization and Insights
- or the consent of the advisor

Research concentration, 12 hours

If Resident students, please select two face-to-face courses. If online students, please select two 100% online courses. In addition to course work, each student will complete a thesis, MDSE 5950 (6 hours).

- MDSE 5950 - Master's Thesis

Resident student

- CMHT 5300 - Research Methods in Merchandising and Hospitality Management

One course from the following

- CMHT 5400 - Quantitative Data Analysis: Applications in Merchandising & Hospitality Management
- CMHT 5610 - Network Analysis Visualization (NAV) for Social Media Marketing
- JOUR 5260 - Qualitative Research
- MDSE 5800 - Social Media Analytics: Data Visualization and Insights
- or the consent of the advisor

Online student

- CMHT 5200 - Mixed Methods Research For Consumer Markets

One course from the following

- ADTA 5130 - Data Analytics I
- ANTH 5032 - Ethnographic and Qualitative Methods for Non-Majors
- MDSE 5800 - Social Media Analytics: Data Visualization and Insights
- or the consent of the advisor

Courses in major, 18 hours

Please select courses based on your concentration.

Professional concentration, 21 hours

- CMHT 5000 - Global Discovery in Merchandising and Hospitality Management
- CMHT 5440 - Consumer Theory
- CMHT 5460 - Human Capital Development in Merchandising and Hospitality Management
- CMHT 5550 - Promotional Strategies
- CMHT 5600 - Managing Customer Experiences
- CMHT 5700 - Service Excellence
- CMHT 5800 - Seminar in Various Areas of Concentration (may be repeated for credit as topics vary)
- CMHT 5810 - Teaching Practicum in Merchandising and Hospitality Management
- CMHT 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- MDSE 5090 - Digital Merchandising
- MDSE 5230 - Home Furnishings Industry
- MDSE 5240 - Global Retailing
- MDSE 5370 - Digital Retailing Analytics Tools and Insights
- MDSE 5560 - Sustainable Strategies in Merchandising
- MDSE 5620 - Socio-Cultural Analysis of Dress
- MDSE 5650 - International Sourcing
- MDSE 5660 - Advanced Merchandising Applications

- MDSE 5750 - Digital Retailing
- CMHT 5770 - Digital Strategies & Consumer Insight
- MDSE 5790 - Field Experience in Merchandising
- MDSE 5900 - Special Problems in Merchandising

Research concentration, 18 hours

- CMHT 5000 - Global Discovery in Merchandising and Hospitality Management
- CMHT 5440 - Consumer Theory
- CMHT 5460 - Human Capital Development in Merchandising and Hospitality Management
- CMHT 5550 - Promotional Strategies
- CMHT 5600 - Managing Customer Experiences
- CMHT 5700 - Service Excellence
- CMHT 5800 - Seminar in Various Areas of Concentration (may be repeated for credit as topics vary)
- CMHT 5810 - Teaching Practicum in Merchandising and Hospitality Management
- CMHT 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- MDSE 5090 - Digital Merchandising
- MDSE 5230 - Home Furnishings Industry
- MDSE 5240 - Global Retailing
- MDSE 5330 - Consumer Analytics and Data Visualization
- MDSE 5370 - Digital Retailing Analytics Tools and Insights
- MDSE 5560 - Sustainable Strategies in Merchandising
- MDSE 5620 - Socio-Cultural Analysis of Dress
- MDSE 5650 - International Sourcing
- MDSE 5660 - Advanced Merchandising Applications
- MDSE 5750 - Digital Retailing
- CMHT 5770 - Digital Strategies & Consumer Insight
- MDSE 5790 - Field Experience in Merchandising
- MDSE 5900 - Special Problems in Merchandising

Graduate Academic Certificate

Digital Retail Merchandising certificate

Graduate academic certificates

The Department of Merchandising and Digital Retailing offers a graduate academic certificate in digital retail merchandising. The purpose of this graduate certificate is to offer professionals in 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 advice of the graduate program coordinator and the chair of the Department of Merchandising and Digital Retailing, 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 of students seeking a degree in the program. Satisfactory work (minimum of a B grade) on graduate courses for the certificate may be applied to a Master of Science degree program in the Department of Merchandising and Digital Retailing upon advisement of the graduate program coordinator and the department chair.

Requirements

The digital retail merchandising graduate academic certificate program includes:

Core courses, 9 hours

- MDSE 5710 - Digital Optimization
- MDSE 5750 - Digital Retailing
- CMHT 5770 - Digital Strategies & Consumer Insight

Electives, 3 hours

Three hours selected from the following.

- CMHT 5600 - Managing Customer Experiences
- CMHT 5440 - Consumer Theory
- MDSE 5240 - Global Retailing
- MDSE 5500 - Merchandising Strategies

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

College of Music

Main Office
Music Building, Room 247

Mailing address:
1155 Union Circle #311367
Denton, TX 76203-5017
940-565-2791

Office of Graduate Studies
Chilton Hall, Room 211
940-565-3721
Web site: music.unt.edu

John W. Richmond, Dean

Warren Henry, Senior Associate Dean for Academic Affairs
Kirsten Soriano, Associate Dean for Operations
Emilita Marin, Assistant Dean for Business and Finance
Raymond Rowell, Assistant Dean for Enrollment Management and External Affairs
Steven Harlos, Chair, Division of Keyboard Studies
David Heetderks, Chair, Division of Music History, Theory and Ethnomusicology
Kimberly Cole Luevano, Chair, Division of Instrumental Studies
Joseph Klein, Chair, Division of Composition Studies
Robert Parton, Chair, Division of Jazz Studies
Sean Powell, Chair, Division of Music Education
Molly Fillmore, Chair, Division of Vocal Studies
Andrew Trachsel, Chair, Division of Conducting and Ensembles

Mark Montemayor, Director of Undergraduate Studies
Office of Undergraduate Studies in Music
Music Building, Room 306
940-369-7973

Jaymee Haefner, Director of Graduate Studies
Office of Graduate Studies in Music
Music Building, Room 274
940-565-3739

Joel D. Wiley, Director of Admissions
Chilton Hall, Room 211
940-565-4349

Faculty

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 majors in performance, conducting and jazz studies
- Doctor of Philosophy with a major in music and concentrations in composition, music theory, musicology, ethnomusicology and performing arts health
- 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 Oppel Memorial Collection encompassing approximately 10,000 pages of musical manuscripts, rare musical editions and books on music; sets of Hofmeister's *Handbuch der Musikalischen Literatur*, Pazdirek's *Universal-Handbuch der 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, performing arts health, ethnomusicology, 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.

At the Texas Center for Performing Arts Health, 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 can find more information about the application process on the Graduate Admissions web site at https://tgs.unt.edu/future-students/graduate-admissions.

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 leveling course, including both transcript leveling courses and Graduate Placement Examination (GPE) leveling 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) review 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 includes pre-1750 music history, post-1750 music history, and music theory part-writing and analysis. The examination is given each long semester during the week prior the first class day. If review 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 grading center in Canvas.

New graduate students in voice also must take placement examinations in vocal literature, vocal pedagogy, and vocal diction.

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.

Degree Progress and Academic Dismissal Policy

Students must maintain satisfactory progress towards their degree and are subject to university policies regarding academic probation and suspension. In addition, they will be subject to dismissal from the program if one or more of the following conditions apply:

1. If the student receives one grade of a C or lower in two consecutive semesters.
2. If the student receives two grades of a C or lower in a single semester.
3. If the student receives a grade of NPR for thesis or dissertation hours in two consecutive semesters.

In cases where one or more of these conditions apply, students will typically be removed from their program upon the recommendation of the Director of Graduate Studies in consultation with the division chair and major professor. Students may appeal this decision by contacting the Associate Dean for Academic Affairs.

Professional Expectation Policy

Students entering graduate study in music are encouraged to build a strong working relationship with faculty in their specific music discipline. In some areas of study, there is only one faculty member with the expertise to provide graduate applied lessons or guide theses or dissertations. Creating and maintaining a collaborative working relationship is important for ongoing student success.

The UNT College of Music expects graduate students in music to be committed to their degree and to follow the UNT Code of Student Conduct (University Policy Manual, section 07.012). Success in a graduate program requires students not only to meet minimum academic standards but also to be active contributors to the artistic and scholarly community of the College of Music. Hence, students must exhibit professional behavior, which includes (but is not limited to): 1) attending classes and meetings (including seminars, masterclasses, and departmentals); 2) meeting area, division, college, and university deadlines; and 3) maintaining respectful interactions with all members of the UNT community. Students are also expected to adhere to professional standards as outlined in division/area handbooks. In cases where there is substantial evidence of unprofessional behavior, students will be removed from their program upon the recommendation of the Director of Graduate Studies in consultation with the division chair and major professor. Students may appeal this decision by contacting the Associate Dean for Academic Affairs.

Tuition and fees

See the Financial Information section of this catalog or visit www.unt.edu/admissions/tuition-costs-aid.html.

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. All students must have a degree plan on file before they can enter the final degree milestones for their degree, including qualifying exams and topic proposals (DMA), registration for final recital (MA and MM), and dissertation proposals (PhD). 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 College of Music Graduate Studies office via email (music.grad@unt.edu). Forms for this purpose are available in the student handbooks found at graduate.music.unt.edu/handbooks-and-degree-plans.

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

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.

Requirements for each degree program are outlined below. The Office of Graduate Studies in Music provides complete information concerning procedures, administrative details and requirements for individual programs. Details are available in the Office of Graduate Studies.

Before the degree is granted, the candidate must pass a final comprehensive examination — either oral, written or both — covering the field of concentration and, if applicable, the thesis or research problem. 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.

Some degree programs require participation in a performance laboratory and/or ensemble. Music Laboratories are choir, orchestra, band, jazz lab band, and accompanying. Ensembles available for graduate student participation are: opera theater, early music ensembles, NOVA ensemble, intermedia performance arts, brass ensembles, chamber wind ensembles, jazz ensembles, chamber orchestra, percussion ensembles, string ensembles, vocal ensembles, harp ensemble, and Mariachi Aguilas.

- 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

Jazz Studies major

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 leveling course work must be passed with a grade of B or better. All review courses must be passed with a grade of C or better.

Required courses, 20 hours

The following courses are required for all jazz studies majors:

- MUJS 5440 - Introduction to Research in Jazz Studies
- MUJS 5470 - Conducting College Jazz Ensembles
- MUJS 5480 - Pedagogy of Jazz
- MUJS 5780 - Jazz Styles and Analysis
- MULB 5174 - Large Ensemble: Jazz Lab Band (2 hours)
- Electives in music and outside the field of Jazz Studies, 3 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

- MUCM 5550 - Jazz Chamber Music (4 hours)
- MUJS 5490 - Advanced Jazz Improvisation
- MUJS 5535 - Jazz Recital

Applied jazz, 6 hours chosen from

- MUJS 5504 - Jazz Strings
- MUJS 5530 - Jazz Guitar
- 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

Jazz composition

- MUCM 5550 - Jazz Chamber Music
- MUJS 5534 - Jazz Composition (6 hours)
- MUJS 5535 - Jazz Recital
- MUJS 5540 - Composition for the Media
- MUJS 5760 - Jazz Arranging

Additional requirements

Students in all tracks must pass a comprehensive examination.

Music Education, MMEd

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.

Some degree programs require participation in a performance laboratory and/or ensemble. Music Laboratories are choir, orchestra, band, jazz lab band, and accompanying. Ensembles available for graduate student participation are: opera theater, early music ensembles, NOVA ensemble, intermedia performance arts, brass ensembles, chamber wind ensembles, jazz ensembles, chamber orchestra, percussion ensembles, string ensembles, vocal ensembles, harp ensemble, and Mariachi Aguilas.

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.

Teaching emphasis (summers only)

A student enrolled in the teaching emphasis (summers only) program will choose one of four tracks: band, choral, orchestral, elementary.

Degree Requirements

The following courses are required for the 34-hour teaching emphasis (summers only) 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, 9 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. MUED courses and MUGC courses can both fulfill the elective requirement.

Comprehensive project, 4 hours

During the final (typically third) summer term, students must enroll in MUED 5890 - Project Practicum for 4 credit hours. This is a guided project in the student's respective track of elementary, band, orchestral or choral. The planning of the project will take place in the second summer, and the project itself will take place within the student's teaching context between the second and third summers.

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

- EPSY 5210 - Educational Statistics (or an alternate 3 hour research course chosen in consultation with the Master's coordinator.)
- MUED 5120 - Applied Research in Music Education

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 information

The final defense given at the end of the degree work will include but not be limited to questions related to the thesis.

Additional requirements

Students must receive a grade of B or better in all leveling and review courses and in all courses counting toward the degree.

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

- MUGC 5930 - Research Problem in Lieu of Thesis

  (ethnomusicology and theory concentrations only) (6 hours)

  OR
- MUGC 5950 - Master's Thesis (6 hours)

- MUMH 5010 - Introduction to Research in Music

3 hours selected from:

- MUET 5230 - World Music Analysis
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5360 - Analytical Techniques II (1700–1900)

- MUTH 5370 - Analytical Techniques III (Post 1900)
- MUTH 5375 - Analytical Techniques for Popular Music

3 hours selected from:

(selected in consultation with the major advisor)

- MUCP 5080 - Composition Seminar
- MUET 5030 - Music Cultures of the World
- MUET 5230 - World Music Analysis
- MUMH 5711 - Proseminar in Musicology
- MUTH 5680 - Proseminar in Music Theory

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 and ensembles

Some degree programs require participation in a performance laboratory and/or ensemble. Music laboratories are choir, orchestra, band, jazz lab band, and accompanying. Ensembles available for graduate student participation are: opera theater, early music ensembles, NOVA ensemble, intermedia performance arts, brass ensembles, chamber wind ensembles, jazz ensembles, chamber orchestra, percussion ensembles, string ensembles, vocal ensembles, harp ensemble, and Mariachi Aguilas.

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, letters of recommendation, writing sample and a personal statement; details are included in the *Composition Student Handbook* on the composition division web site (composition.music.unt.edu/composition-handbook).

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. 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* on the division web site (composition.music.unt.edu/composition-handbook).

Degree requirements

The Master of Arts with a major in music and a concentration in composition is a 33-hour degree with thesis and includes the common core (15 hours, listed above), plus three possible options for the remaining 18 required hours. Course substitutions may be considered with advisor's consent.

- MUCP 5080 - Composition Seminar
- MUCP 5190 - Master's Composition
- Guided electives in music, related field or minor field outside of music (9 hours).
    - Interdisciplinary track requires a minor field outside of music.

General program, 9 hours

6 hours selected from:

- MUCP 5320 - Orchestration
- MUCP 5685 - Topics in Composition
- MUCP 5690 - Topics in Computer Music
- MUCP 5695 - Topics in Contemporary Music
- MUCP 5590 - Intermedia Performance Arts

  or
- MUEN 5595 - Intermedia Performance Arts

3 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 5000/6000-level MUCP courses approved by advisor

Specialization in Computer Music, 9 hours

6 hours selected from:

- MUCP 5690 - Topics in Computer Music

3 hours selected from:

- MUCP 5320 - Orchestration
- MUCP 5590 - Intermedia Performance Arts
- MUCP 5685 - Topics in Composition
- MUCP 5695 - Topics in Contemporary Music
- Or other 5000/6000-level MUCP courses approved by advisor

Interdisciplinary track, 9 hours

3 hours selected from:

- MUCP 5590 - Intermedia Performance Arts or
- MUEN 5595 - Intermedia Performance Arts

6 hours selected from:

- MUCP 5190 - Master's Composition
- MUCP 5685 - Topics in Composition
- MUCP 5690 - Topics in Computer Music
- MUCP 5695 - Topics in Contemporary Music
- MUCP 5320 - Orchestration
- Or other 5000/6000-level MUCP courses approved by advisor

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, 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.
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 leveling and review 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.

Additional information, including a complete listing of all composition program policies and procedures, is included in the *Composition Student Handbook* (http://composition.music.unt.edu/composition-handbook).

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 student's transcripts will determine the assignment of leveling courses);
2. attend all orientation sessions scheduled by the Director of Graduate Studies in Music;
3. take the Graduate Placement Examination (GPE) given by the College of Music; and
4. complete the appropriate leveling and review 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. 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, 15 hours*

- MUMH 5020 - Introduction to Musicology

6 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
- MUMH 5450 - Topics in Popular Music
- MUMH 5711 - Proseminar in Musicology
- and others with the permission of the coordinator for the music history area

6 hours of graduate electives in music (non-MUMH)

Additional requirements

Students must pass an examination testing reading knowledge of one major Western European language other than English.

*Master's thesis

Graduate students with a concentration in musicology, (with or without an emphasis in early music performance) must write a thesis proposal and thesis according to the guidelines in the Graduate Student Handbook available at mhte.music.unt.edu.

Before the degree is granted, the student must pass a final oral examination 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 in Music with a concentration in ethnomusicology is a 37-hour degree with thesis and non-thesis options. Students complete a Common Core (15 hours, listed above) plus the following requirements for the remaining 22 hours.

Concentration in Ethnomusicology, 22 hours

- MUET 5210 - Seminar in Ethnomusicology (6 hours)
- MUET 5220 - Ethnomusicology Field and Research Methods (3 hours)
- MUET 5230 - World Music Analysis

6 hours selected from

- MUET 5020 - Anthropology of Sound
- MUET 5050 - Music of Africa
- MUET 5070 - Studies in Asian Music
- MUET 5080 - Studies in Latin American Music
- MUET 5090 - Music of India and Pakistan

3 hours selected from

- MUJS 5430 - Graduate Review of Jazz History
- MUMH 5020 - Introduction to Musicology
- MUMH 5430 - Music in Latin America
- MUMH 5711 - Proseminar in Musicology

Ensembles

MUEN 56xx, Music Ensembles (1 hour)

Language requirement

Students must demonstrate reading knowledge of one foreign language approved by the major professor prior to applying for graduation.

Master's thesis

Graduate students with a concentration in ethnomusicology must either write a thesis proposal and thesis or write two research essays. In either case, they must adhere to the guidelines in the Graduate Student Handbook available at mhte.music.unt.edu.

Before the degree is granted, the student must pass a final oral examination covering the field of concentration and, if applicable, the thesis or two essays. 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 and non-thesis options. Students complete a Common Core (15 hours, listed above) plus the following requirements for the remaining 21 hours:

Concentration in Music Theory, 21 hours

- MUET 5230 - World Music Analysis
- MUTH 5020 - Readings and Professional Writing in Music Theory
- MUTH 5080 - Pedagogy of Theory
- MUTH 5375 - Analytical Techniques for Popular Music
- MUTH 5380 - Schenkerian Analysis

Electives, 6 hours

Six hours of non-MUTH electives.

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 leveling and review 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 portfolio

During the last semester of study, students seeking the concentration in music theory must submit a portfolio to a committee consisting of three faculty from the music theory area. The portfolio will comprise two papers written for MUTH courses required of the MA degree. The student must pass an oral examination, administered by the committee, that covers the field of concentration and the two papers in particular. 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.

Some degree programs require participation in a performance laboratory and/or ensemble. Music Laboratories are choir, orchestra, band, jazz lab band, and accompanying. Ensembles available for graduate student participation are: opera theater, early music ensembles, NOVA ensemble, intermedia performance arts, brass ensembles, chamber wind ensembles, jazz ensembles, chamber orchestra, percussion ensembles, string ensembles, vocal ensembles, harp ensemble, and Mariachi Aguilas.

Degree requirements

Requirements for each degree program are outlined below. The Office of Graduate Studies in Music provides complete information concerning procedures and administrative details for individual programs.

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.

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 in (1) all leveling and review courses and (2) for all courses counting toward the degree.

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, 10 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 - Masterɔs Recital (1 hour)
- MUAG 5702 - Master's Recital (1 hour)

3 hours selected from

Students who anticipate pursuing a doctorate in music should take MUMH 5010.

- MUMH 5010 - Introduction to Research in Music
- 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

Additional requirements

Related field, 9 hours

Select an area from those listed below. In lieu of a related field, students may select 9 graduate hours of electives in music with the exception of MUAM, MUCM, MUEN and MULB.

Electives, 4 hours

Four 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 collaborative piano. For more information on the admissions and audition process and for specific repertoire requirements go to music.unt.edu/admissions/graduate-repertoire. Consult with the coordinator of collaborative piano in order to arrange for this audition.

Required courses

- MUAG 5701 - Master's Recital (1 hour)
- MUAG 5702 - Master's Recital (1 hour)
- MUAM 5534 - Collaborative Piano (2 terms/semesters) (4 hours)
- Secondary Instrument, 2 hours

Collaborative Piano

Twelve hours from the following courses:

- MUAG 5260 - Collaborative Piano Techniques
- MUAG 5261 - Vocal Repertoire Master Class
- MUAG 5270 - Topics in Collaborative Piano
- MUAG 5271 - Instrumental Repertoire Master Class

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

3 hours selected from

Students who anticipate pursuing a doctorate in music should take MUMH 5010.

- MUMH 5010 - Introduction to Research in Music
- 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

Additional requirements

Related field, 9 hours

Select an area from those listed below. In lieu of a related field, students may select 9 graduate hours of electives in music with the exception of MUAM, MUCM, MUEN and MULB.

Electives, 3 hours

Suggested courses for electives:

- MUAG 5210-Vocal Literature;
- MUAG 5275-Survey of Instrumental Collaborative Literature with Piano;
- advanced language or diction study;
- or additional performance study.

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, 10 hours
- Secondary applied music, 2 hours
- MUAG 5701 - Master's Recital (1 hour)
- MUAG 5702 - Master's Recital (1 hour)
- MUMH 5010 - Introduction to Research in Music

2 hours selected from

- MUCM 5500 level

  or

  MUEN 5600 level

  or
- MUEN 5530 - Early Music Ensembles

3 hours selected from

(This requirement is waived for those electing musicology as a related field.)

- MUMH 5010 - Introduction to Research in Music
- 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

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. In lieu of a related field, students may select 9 graduate hours of electives in music with the exception of MUAM, MUCM, MUEN and MULB.

Electives, 1-4 hours

One to four 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.

Harpsichord 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.

Required courses

The following courses are required for the 32-hour program.

- Harpsichord, 9 hours
- Secondary applied music, 2 hours
- MUAG 5701 - Master's Recital
- MUAS 5531 - Keyboard Continuo Playing (2 hours) (may be fulfilled by participation in MUEN 5530)
- MUEN 5530 - Early Music Ensembles
- 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)

3 hours selected from

Students who anticipate pursuing a doctorate in music should take MUMH 5010.

- MUMH 5010 - Introduction to Research in Music
- 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

Additional requirements

Related field, 9 hours

Select an area from those listed below. In lieu of a related field, students may select 9 graduate hours of electives in music with the exception of MUAM, MUCM, MUEN and MULB.

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 demonstrate proficiency in lyric diction at the undergraduate level before being allowed to register for MUAG 5215.

Required courses

The following courses are required for the 35-hour program.

- Voice, 11 hours
- MUAG 5210 - Vocal Literature
- MUAG 5215 - Advanced Vocal Diction
- MUAG 5701 - Master's Recital (1 hour)
- MUEN 5040 - Graduate Opera Theater (2 hours)
- MULB 5100 level, music laboratory, 1 hour

3 hours selected from

Students who anticipate pursuing a doctorate in music should take MUMH 5010.

- MUMH 5010 - Introduction to Research in Music
- 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

3 hours selected from

- MUAG 5225 - Oratorio Repertoire and Practicum
- MUAG 5261 - Vocal Repertoire Master Class
- MUAG 5300 - Science and Pedagogy of Singing (if pedagogy is not the related field)
- MUAG 5660 - Studies in Opera Repertoire

Additional requirements

Related field, 9 hours

Select an area from those listed below. In lieu of a related field, students may select 9 graduate hours of electives in music with the exception of MUAM, MUEN and MULB.

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. A committee of three College of Music faculty will attend and grade the recital. The committee must consist of the major professor, at least one additional member of the Division of Vocal Studies faculty, and either a third faculty member from the Division of Vocal Studies or a College of Music faculty member from the student's related field.

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.

Required courses

The following courses are required for the 32-hour program.

- Major instrument, 11 hours
- MULB 5000 level, 2 hours
- MUCM 5500 level, chamber music, or MUEN 5600 level, ensemble, (2 hours)

  and/or
- MUEN 5530 - Early Music Ensembles (2 hours)
- MUAG 5701 - Master›s Recital (1 hour)

Additional requirements

Related field, 9 hours

Select an area from those listed below. In lieu of a related field, students may select 9 graduate hours of electives in music with the exception of MUAM, MUCM, MUEN and MULB.

Electives, 4 hours

Four 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.

3 hours selected from

Students who anticipate pursuing a doctorate in music should take MUMH 5010.

- MUMH 5010 - Introduction to Research in Music
- 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

Woodwinds specialization

To be admitted to the program the applicant must pass auditions on the principal and two other woodwind instruments.

Required courses

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
- MULB 5000 level, 2 hours
- MUCM 5500 level, chamber music (2 hours)

  or
- MUEN 5625 - Wind Ensembles (2 hours)

  and/or
- MUEN 5530 - Early Music Ensembles (2 hours)
- MUAG 5701 - Master›s Recital (1 hour)

3 hours selected from

Students who anticipate pursuing a doctorate in music should take MUMH 5010.

- MUMH 5010 - Introduction to Research in Music
- 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

Additional requirements

Related field, 9 hours

Select an area from those listed below. In lieu of a related field, students may select 9 graduate hours of electives in music with the exception of MUAM, MUCM, MUEN and MULB.

Electives, 2 hours

Two 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) 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.

- MUAG 5701 - Master's Recital (1 hour)

11 hours selected from

- 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)
- MUAM 5533 - Conducting

6 hours selected from

- MUAG 5810 - Choral Literature I
- MUAG 5811 - Choral Literature II
- MUAG 5812 - Choral Literature III
- MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical
- MUAG 5861 - Symphonic Literature of the Wind Band II—French Revolution through Present
- MUMH 5110 - History of Opera

6 hours selected from

- MUAG 5520 - Performance Practice: Medieval/ Renaissance
- MUAG 5530 - Performance Practice: Baroque
- MUAG 5540 - 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)
- MUTH 5375 - Analytical Techniques for Popular Music

3 hours selected from

- MUMH 5010 - Introduction to Research in Music
- 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

Additional requirements

Related field, 9 hours

Select an area from those listed below. In lieu of a related field, students may select 9 graduate hours of electives in music with the exception of MUAM, MUCM, MUEN and MULB.

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 applied music, collaborative piano, composition, computer music, conducting, contemporary music, early music, ethnomusicology, jazz studies, music and medicine, music education, music entrepreneurship, musicology, opera, piano pedagogy, scared music, theory, or vocal pedagogy.

Self-Designed related field:

Students wishing to create a self-designed related field must submit the "Request for Self- Designed Related Field" form to the Graduate Studies Office along with a justification of ca. 300 words explaining how the proposed related field will further their professional, artistic, and academic goals. The form needs to include the course numbers and catalogue descriptions of each proposed course. It is the students' responsibility to find a related field professor to serve on the oral comprehensive exam committee. The Graduate Performance Degree Committee must approve the related field before the student files the Degree Plan and Committee Designation Form.

Related field outside the college of music:

Students wishing to pursue a related field outside the College of Music must submit the "Request for Related Field Outside the College of Music" form to the Graduate Studies Office along with a justification of ca. 300 words explaining how the proposed related field will further their professional, artistic, and academic goals. The form needs to include the course numbers and catalogue descriptions of each proposed course. It is the students' responsibility to find a related field professor to serve on the oral comprehensive exam committee. The Graduate Performance Degree Committee must approve the related field before the student files the Degree Plan and Committee Designation Form.

Music electives option

In lieu of a related field, students may select 9 graduate hours of electives in music with the exception of MUAM, MUCM, MUEN and MULB.

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 5617 - Percussion Ensembles
- MUEN 5621 - String Ensembles
- MUEN 5624 - Vocal Ensembles
- MUEN 5625 - Wind Ensembles
- MUCM 5500 level
- MULB 5170 level

Collaborative piano

Required: audition (audition procedures may be found in the Piano Area Handbook online); 6 hours selected from

- MUAG 5260 - Collaborative Piano Techniques
- MUAG 5261 - Vocal Repertoire Master Class
- MUAG 5270 - Topics in Collaborative Piano
- 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 5690 - Topics in Computer Music

Conducting

(Not open as a related field to those with a specialization in conducting.)

Choral conducting

Admission upon satisfactory interview and audition with the Choral Conducting faculty.

9 hours selected from:

A minimum of 3 hours from the following:

- MUAG 5000 - Choral Techniques
- MUAG 5800 - Advanced Choral Conducting
- MUAM 5533 - Conducting

A minimum of 3 hours from the following:

- MUAG 5810 - Choral Literature I
- MUAG 5811 - Choral Literature II
- MUAG 5812 - Choral Literature III

A minimum of 2 credit hours from the following (1 hour per semester):

- MUEN 5530 - Early Music Ensembles
- MULB 5171 - Large Ensemble: Choir

Orchestral conducting

9 hours selected from:

- MUAG 5815 - Symphonic Literature I
- MUAG 5820 - Symphonic Literature II
- MUAG 5850 - Advanced Instrumental Conducting (may be repeated)

Wind conducting

Prerequisite: MUAG 5850 Advanced Instrumental Conducting (3 hours) or equivalent experience, as determined by the related field director.

*Candidates must be concurrently enrolled in MULB 5173 – Wind Studies ensemble while pursuing the related field. Students may be eligible for zero credit.

- MUAG 5890 - Topics in Music Performance and Pedagogy (required in summer session)
- MUGC 5890 - Studies in Music (required in summer session)

Required (selection should be by advisement):

- MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical

OR

- MUAG 5861 - Symphonic Literature of the Wind Band II—French Revolution through Present

General conducting

9 hours selected from the following:

- MUAG 5000 - Choral Techniques
- MUAG 5800 - Advanced Choral Conducting
- MUAG 5810 - Choral Literature I
- MUAG 5811 - Choral Literature II
- MUAG 5812 - Choral Literature III
- MUAG 5815 - Symphonic Literature I
- MUAG 5820 - Symphonic Literature II
- MUAG 5850 - Advanced Instrumental Conducting
- MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical
- MUAG 5861 - Symphonic Literature of the Wind Band II—French Revolution through Present
- MUAG 5890 - Topics in Music Performance and Pedagogy
- MUGC 5890 - Studies in Music (when taught as "Wind Conductor's Collegium")
- MULB 5173 - Large Ensemble: Band

Contemporary music

Application procedures and prerequisites are included in the Composition Student Handbook, which may be downloaded from the composition division web site: composition.music.unt.edu.

Required:

- MUCP 5580 - Contemporary Notation and Performance Practices
- MUEN 5590 - NOVA Ensemble Specialization (3 hours)

3 hours selected from

- MUCP 5460 - Contemporary Music
- MUCP 5590 - Intermedia Performance Arts
- MUCP 5690 - Topics in Computer Music
- MUCP 5695 - Topics in Contemporary Music
- MUEN 5595 - Intermedia Performance Arts

Early music

Required: A total of 9 hours must be completed.

- MUAG 5520 - Performance Practice: Medieval/ Renaissance

or

- MUAG 5530 - Performance Practice: Baroque

- 4 hours of applied instruction in period instrument or voice

- MUEN 5530 - Early Music Ensembles (2 hours)

Ensemble Singing

An audition for the Related Field Coordinator is required, and the related field must be approved by the major professor and the Related Field Coordinator.

Choose two courses (6 hours) from:

- MUAG 5225 - Oratorio Repertoire and Practicum
- MUAG 5226 - Vocal Concert Repertoire and Practicum
- MUAG 5810 - Choral Literature I
- MUAG 5811 - Choral Literature II
- MUAG 5812 - Choral Literature III

Ensemble requirements: Enroll two semesters (2 hours) in Vox Aquilae

- MUEN 5530 - Early Music Ensembles

and one semester (1 hour) of A Cappella

- MULB 5171 - Large Ensemble: Choir

With approval from the Related Field Coordinator, one semester (1 hour) of a vocal jazz ensemble may be substituted for either A Cappella or Vox Aquilae.

- MULB 5174 - Large Ensemble: Jazz Lab Band

Ethnomusicology

Students must submit a formal application to the Ethnomusicology Area (see mhte.music.unt.edu for more information).

Required:

- MUET 5030 - Music Cultures of the World
- 3-6 hours of MUET 5000-level courses
- 0-3 hours of World Music Ensembles (5000-level MUEN)

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 5760 - Jazz Arranging
- MUJS 5780 - Jazz Styles and Analysis

Music and medicine

Required:

- MUGC 5910 - Special Problems (with medical school faculty)
- MUPH 5000 - Introduction to Performing Arts Health
- 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.

Music entrepreneurship

Pursuing a related field in music entrepreneurship requires that the candidate submit a successful application. Requisite qualifications and application procedures are available at career.music.unt.edu/related-field.

- MUCE 5000 - Music Business and Entrepreneurship
- MUCE 5030 - Music Entrepreneurship Practicum/ Internship (3 hours)

3 hours chosen from:

- MUCE 5010 - Marketing for Musicians
- MUCE 5020 - Music Leadership and Performing Arts Management
- other courses in consultation with area coordinator in music entrepreneurship

Musicology

Required: 9 hours selected from

- MUET 5210 - Seminar in Ethnomusicology
- 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 5450 - Topics in Popular Music
- MUMH 5711 - Proseminar in Musicology
- or additional courses with approval of the division chair.

Opera

Required: 9 hours selected from

- MUAG 5640 - Operatic Acting (a maximum 3 credits may be applied to related field)
- MUAG 5650 - Opera Stage Direction (a maximum 3 credits may be applied to related field)
- MUAG 5070 - Operatic Literature I
- MUAG 5072 - Operatic Literature II
- MUEN 5040 - Graduate Opera Theater (repeatable; up to 3 credits may be applied to the related field)

Piano pedagogy

Leveling and review courses may not be counted toward the related field or as electives.

3 hours selected from:

- MUAG 5160 - Elementary Piano Pedagogy
- MUAG 5170 - Intermediate Piano Pedagogy
- MUAG 5560 - Advanced Piano Pedagogy and Musicianship
- MUAG 5570 - Comparative Piano Pedagogy and Repertoire

6 hours selected from

- MUAG 5001 - Student Teaching in Studio Piano
- MUAG 5002 - Student Teaching in Group Piano
- MUED 5120 - Applied Research in Music Education
- MUED 5150 - Pedagogy in Practice
- MUED 5520 - Psychology of Music
- MUED 6430 - Principles of Music Learning
- MUPH 5000 - Introduction to Performing Arts Health

Sacred music

Required: audition. Audition procedures may be obtained from the chair of the division of keyboard studies.

Student must select 9 hours from:

- MUSM 5284 - Foundations and History of Sacred Music
- MUSM 5285 - Introduction to Congregational Song
- MUSM 5286 - Music Ministry in the Postmodern Context
- MUSM 5287 - Materials and Methods: Church Music Administration and Practicum

Theory

Required: 9 hours selected from

- MUET 5230 - World Music Analysis
- MUTH 5020 - Readings and Professional Writing in Music Theory
- MUTH 5080 - 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 5375 - Analytical Techniques for Popular Music
- MUTH 5380 - Schenkerian Analysis

Vocal pedagogy

Required:

- MUAG 5600 - Advanced Science and Pedagogy of Singing
- MUAG 5610 - Comparative Pedagogy of Singing

One additional course from

- ASLP 5810 - Voice Disorders
- MUAG 5300 - Science and Pedagogy of Singing
- MUAG 5900 - Special Problems
- MUPH 5000 - Introduction to Performing Arts Health

Doctorate

Music Education, PhD

The Doctor of Philosophy with a major 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, leveling courses, 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.

Some degree programs require participation in a performance laboratory and/or ensemble. Music Laboratories are choir, orchestra, band, jazz lab band, and accompanying. Ensembles available for graduate student participation are: opera theater, early music ensembles, NOVA ensemble, intermedia performance arts, brass ensembles, chamber wind ensembles, jazz ensembles, chamber orchestra, percussion ensembles, string ensembles, vocal ensembles, harp ensemble, and Mariachi Aguilas.

Course requirements

Beyond the fulfillment of leveling and review course requirements 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 6450 - Qualitative Research in Music

Selected courses, 12 hours

Select 12 hours from the following:

- MUED 5010 - Music in Special Education
- MUED 5100 - Music Supervision
- MUED 5150 - Pedagogy in Practice
- 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 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, 24 hours

Three hours must be a dissertation advancing tool course; 9 hours must be in an academic cognate area; 12 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 leveling course requirements);
2. contact the College of Music or the Toulouse Graduate School for standardized admission test requirements; pass an in-house writing exam administered by the Division of Music Education;
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; and
2. 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.

There are two portions to the Qualifying Examination in Music Education:

Portion 1: Students will submit a portfolio that includes the following materials: (a) a vita, (b) a 15-minute unedited music teaching video demonstrating the student's best pedagogical skills, (c) an original syllabus suitable for teaching a university course for music education majors, and (d) an empirical research study suitable for publication (either as the sole author or as first author), (e) a research conference proposal based on the research article, and (f) a 25-minute research presentation (20 minutes for author presentation, 5 minutes for audience questions) based on the research article with accompanying handouts and appropriate visual aids (e. g., PowerPoint, Prezi, etc.).

Portion 2: Students will submit an annotated bibliography with a minimum of 100 references on a proposed dissertation topic. Each annotated entry should include a succinct description of the author's work in the student's own words. (Merely copying abstracts from published works is not acceptable.) The student may use complete sentences or sentence fragments as long as details of the study are provided.

Public Presentation and Private Defense

Approximately two weeks after all materials described in Portions 1 and 2 above have been submitted to all committee members, students will present their empirical research article in a 25-minute public forum, followed by an hour-long private defense of their materials with a three-member committee of Music Education faculty, chosen by the PhD Coordinator.

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.

Some degree programs require participation in a performance laboratory and/or ensemble. Music Laboratories are choir, orchestra, band, jazz lab band, and accompanying. Ensembles available for graduate student participation are: opera theater, early music ensembles, NOVA ensemble, intermedia performance arts, brass ensembles, chamber wind ensembles, jazz ensembles, chamber orchestra, percussion ensembles, string ensembles, vocal ensembles, harp ensemble, and Mariachi Aguilas.

Degree requirements

Must have completed master's core requirement (15 hours).

All concentrations require the completion of a common core:

Common core in Musicology, Music Theory, Ethnomusicology, and Performing Arts Health concentrations, 36 hours

- MUGC 6950 - Doctoral Dissertation (12 hours)
- 3 hours of MUMH 6XXX
- 3 hours of MUET 6XXX
- Related/Minor field, 12 hours
- Elective, 3 hours (selected in consultation with the appropriate advisor)

  Note: 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
- MUET 6000 - Proseminar in Ethnomusicology
- MUMH 5711 - Proseminar in Musicology
- MUPH 6010 - Advanced Seminar in Performing Arts Health
- MUTH 6680 - Proseminar in Music Theory

Common core in Composition concentration tracks, 36 hours

12 hours selected from:

- 3 hours of MUMH XXXX
- 3 hours of MUTH XXXX
- 3 hours of MUET XXXX
- 3 hours of MUTH XXXX or MUET XXXX or MUMH XXXX

Related/Minor field, 12 hours

Option A: select from the list of related fields below
Option B: create self-designed related field
Option C: create related field from outside the College of Music

Self-Designed related field:

Students wishing to create a self-designed related field must submit the "Request for Self-Designed Related Field" form to the Graduate Studies Office along with a justification of ca. 300 words explaining how the proposed related field will further their professional, artistic, and academic goals. The form needs to include the course numbers and catalogue descriptions of each proposed course. It is the students' responsibility to find a related field professor to serve on the Doctoral Advisory Committee and administer the written and oral portions of the qualifying exam. The chair of the composition division must approve the related field before the student files the Degree Plan and Committee Designation Form.

Related field outside the college of music:

Students wishing to pursue a related field outside the College of Music must submit the "Request for Related Field Outside the College of Music" form to the Graduate Studies Office along with a justification of ca. 300 words explaining how the proposed related field will further their professional, artistic and academic goals. The form needs to include the course numbers and catalogue descriptions of each proposed course. It is the students' responsibility to find a related field professor to serve on the Doctoral Advisory Committee and administer the written and oral portions of the qualifying exam. The chair of the composition division must approve the related field before the student files the Degree Plan and Committee Designation Form.

Additional requirements

- MUCP 5080 - Composition Seminar (3 hours)
- MUGC 6950 - Doctoral Dissertation (9 hours)

  Note: Must also have completed Master's core requirement (15 hours)

Additional degree requirements

Placement examinations

Following the graduate placement examinations administered during orientation week, the student will be counseled by the major professor or major area designate. In conjunction with the faculties administering the examination, the major advisor will develop a plan, if needed, to satisfy review course requirements (not to exceed 6 credits of musicology and 3 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 or graduate course assigned as a review course.

Introduction to research

It is assumed that an entering PhD student will have had an introduction to research course at the master's level (please see the Graduate Catalog Course Descriptions). If not, the student will be required to take MUMH 5010, no later than the second semester of graduate work to facilitate research. Hours earned do not count toward the degree.

Grades

A grade of B or better is required in all leveling and review courses and in all courses counting 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. the major professor;
2. the minor professor (related field representative); and
3. a committee member.

The advisory committee should be selected and approved by the time the student has completed 12 hours of course work.

Qualifying examinations

Each student is required to pass qualifying examinations in his or her major field and is also required to pass qualifying examinations in a related field. Detailed information about the prerequisites, content and structure of the qualifying examinations may be found in each area handbook located at music.unt.edu.

Additional concentration 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, 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/composition/composition-handbook).

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. 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 60-hour degree with dissertation, including the Common Core (36 hours, listed above), plus two possible options for the remaining 24 hours:

Concentration in Composition, General Track, 24 hours

- MUCP 6190 - Doctoral Composition (12 hours)

3 hours selected from

- MUCP 5690 - Topics in Computer Music
- MUCP 6200 - Advanced Research in Computer Music

9 hours selected from

- MUCP 5580 - Contemporary Notation and Performance Practices
- MUCP 5685 - Topics in Composition
- MUCP 5695 - Topics in Contemporary Music
- MUCP 5590 - Intermedia Performance Arts

  and
- MUEN 5595 - Intermedia Performance Arts

  (up to six hours of MUTH 6680 or MUMH 6770X may be applied here)

Concentration in Composition, Computer Music Media track, 24 hours

- MUCP 5690 - Topics in Computer Music (9 hours)
- MUCP 6190 - Doctoral Composition (6 hours)
- MUCP 6200 - Advanced Research in Computer Music (6 hours)

3 hours selected from

- MUCP 5580 - Contemporary Notation and Performance Practices
- MUCP 5685 - Topics in Composition
- MUCP 5695 - Topics in Contemporary Music
- MUCP 5590 - Intermedia Performance Arts

  and
- MUEN 5595 - Intermedia Performance Arts

  (3 hours of MUTH 6680 may be applied here)

Additional degree requirements

Language requirement

Students must demonstrate proficiency in at least one language other than English or tool subject, as approved by the composition faculty. The language requirements must be satisfied before the student takes the qualifying examinations. Hours earned do not count toward the degree.

Dissertation

Upon completion of the qualifying examinations, doctoral students will be expected to enroll in dissertation (MUGC 6950) for three 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 (http://composition.music.unt.edu/composition-handbook).

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.

Concentration in Musicology

Concentration in Musicology, 24 hours

Students with a previous master's degree may earn a PhD in Music with a Concentration in Musicology by completing a minimum of 60 hours of graduate credit including the Common Core.

- MUMH 5711 - Proseminar in Musicology
- MUMH 6020 - Music History Pedagogy
- MUMH 6030 - Professional Development in Musicology

18 hours selected from

- MUMH 6000 - Seminar in Musicology (may be taken more than once)
- MUTH 6660 - History of Music Theory I
- MUTH 6670 - History of Music Theory II

Additional degree requirements

In addition to course requirements, each applicant for the Doctor of Philosophy degree with a major in music and a concentration in musicology must meet the following requirements.

Music history, theory and ethnomusicology 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, theory and musicology lecture series during each long term/semester of full-time enrollment (9 hours).

Language requirement

Students must demonstrate proficiency in two languages other than English. One of these languages must be German. The language requirements must be satisfied before the submission of the proposal. Hours earned do not count toward the degree.

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 two weeks 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 Musicology, 36 hours

Students without a previous bachelor's degree may earn a PhD in Music with a concentration in musicology by completing a minimum of 72 hours of graduate credit including the Common Core.

- MUMH 5010 - Introduction to Research in Music
- MUMH 5020 - Introduction to Musicology
- MUMH 5711 - Proseminar in Musicology (6 hours)

6 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

3 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)
- MUTH 5375 - Analytical Techniques for Popular Music

15 hours selected from

- MUMH 6000 - Seminar in Musicology (may be taken more than once)
- MUMH 6010 - Seminar in Historical Performance Practices
- MUTH 6660 - History of Music Theory I
- MUTH 6670 - History of Music Theory II

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

- MUET 5230 - World Music Analysis (if not taken at the master's level)
- MUTH 5020 - Readings and Professional Writing in Music Theory (if not taken at the master's level)
- MUTH 5375 - Analytical Techniques for Popular Music (if not taken at the master's level)
- MUTH 6660 - History of Music Theory I
- MUTH 6670 - History of Music Theory II
- MUTH 6680 - Proseminar in Music Theory
- Electives, 6 hours (unrestricted)
- Electives in music theory, 0-9 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 in all leveling and review courses and in all courses counting toward the degree. Students not meeting this standard will be placed on probation. Students not fulfilling the conditions of probation may be dismissed from the program.

Language requirement

Students must demonstrate proficiency in two languages other than English. One of these languages must be German. The language requirements must be satisfied before the student takes the qualifying examinations. Hours earned do not count toward the degree.

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 two weeks 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 Ethnomusicology

The ethnomusicology concentration requires 24 hours of course work.

- MUET 5020-Anthropology of Sound
- 3 hours of world music ensembles from MUEN 5XXX
- 6 hours selected from MUET 5XXX in consultation with area coordinator
- 12 hours of MUET 6010-Current Issues in Ethnomusicology

Additional Degree Requirements

In addition to course requirements, each applicant for the Doctor of Philosophy degree with a major in music and a concentration in ethnomusicology must meet the following requirements.

Music history, theory and ethnomusicology lecture attendance

Each graduate student with a declared concentration in ethnomusicology 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).

Language requirement

The student must demonstrate through a written examination competency in a foreign language other than English relevant to literature related to the dissertation research.

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 school. 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 two weeks prior to the Toulouse Graduate School submission deadline.

Concentration in Performing Arts Health (this concentration is not currently accepting applications)

The Doctor of Philosophy degree with a major in music and a concentration in performing arts health is a 60-hour degree with dissertation, including the Common Core (36 hours, listed above).

Concentration in Performing Arts Health, 24 hours

- MUPH 5000 - Introduction to Performing Arts Health
- MUPH 5012 - Musculoskeletal Health in Performing Arts Health
- MUPH 5014 - Hearing Conservation in Performing Arts Health
- MUPH 5016 - Psychology in Performing Arts Health
- MUPH 5018 - Voice in Performing Arts Health
- MUPH 6000 - Proseminar in Performing Arts Health
- MUPH 6100 - Performing Arts Health Research Methods
- MUPH 6200 - Performing Arts Health Practicum

Additional degree requirements

In addition to course requirements, each applicant for the Doctor of Philosophy degree in music with a concentration in performing arts health must meet the following requirements.

Evidence of satisfactory progress

Students must receive a grade of B or better for all courses counting toward the degree, including leveling and review courses. Students not meeting this standard will be placed on probation. Students not fulfilling the conditions of probation may be dismissed from the program.

Tool subject

Each student must demonstrate proficiency in at least one tool subject tailored to the student's research interests and approved by the advisory committee. Students must fulfill the tool-subject requirement before taking the qualifying examinations. Hours earned do not count toward the degree.

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. 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 two weeks prior to the Toulouse Graduate School submission deadline.

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 - Collaborative Piano Techniques
- MUAG 5270 - Topics in Collaborative Piano

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 5690 - Topics in Computer 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

- 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)
- MUGC 5890 - Studies in Music (3 hours)

Contemporary music

Required

- MUCP 5580 - Contemporary Notation and Performance Practices
- MUEN 5590 - NOVA Ensemble Specialization (3 hours)

6 hours selected from

- MUCP 5460 - Contemporary Music
- MUCP 5590 - Intermedia Performance Arts
- MUCP 5690 - Topics in Computer Music
- MUCP 5695 - Topics in Contemporary Music
- MUEN 5590 - NOVA Ensemble Specialization
- 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
- 2 semester hours participation in Early Music Ensembles, MUEN 5530

Or, 3 hours from

- MUAG 5520 - Performance Practice: Medieval/ Renaissance
- MUAG 5530 - Performance Practice: Baroque
- MUAG 5540 - Performance Practice: Classic/ Romantic

6 hours selected from

- MUAG 5520 - Performance Practice: Medieval/ Renaissance
- MUAG 5530 - Performance Practice: Baroque
- MUAG 5540 - Performance Practice: Classic/ Romantic

and 3 hours from

- MUMH 5610 - Ornamentation and Improvisation 1500–1800

Ensemble Singing

An audition for the Related Field Coordinator is required, and the related field must be approved by the major professor and the Related Field Coordinator.

Choose two courses (6 hours) from:

- MUAG 5225 - Oratorio Repertoire and Practicum
- MUAG 5226 - Vocal Concert Repertoire and Practicum
- MUAG 5810 - Choral Literature I
- MUAG 5811 - Choral Literature II
- MUAG 5812 - Choral Literature III

Ensemble requirements: Enroll in a minimum of two semesters (2 hours) in A Cappella

- MULB 5171 - Large Ensemble: Choir (A Cappella)

Plus four semesters (4 hours) in Vox Aquilae

- MUEN 5530 - Early Music Ensembles (Vox Aquilae)

With approval from the Related Field Coordinator, one semester (1 hour) of a vocal jazz ensemble may be substituted for either A Cappella or Vox Aquilae.

- MULB 5174 - Large Ensemble: Jazz Lab Band (vocal jazz)

Ethnomusicology

Required

- A formal application to the Ethnomusicology Area (see mhte.music.unt.edu for more information).
- MUET 5030 - Music Cultures of the World
- MUET 5220 - Ethnomusicology Field and Research Methods
- 3-6 hours selected from MUET 5000-level courses.
- 0-3 hours of World Music Ensembles (MUEN 5000-level courses).

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 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:

- MUPH 5000 - Introduction to Performing Arts Health
- MUPH 6010 - Advanced Seminar in Performing Arts Health
- 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

Course work in music theory used to fulfill the requirements of the major field may not be counted toward the related field.

Required: A formal application to the Music Theory Area (see mhte.music.unt.edu for more information).

- MUTH 5020 - Readings and Professional Writing in Music Theory

9 hours selected from:

- MUET 5230 - World Music Analysis
- MUTH 5080 - 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 5375 - Analytical Techniques for Popular Music
- MUTH 5380 - Schenkerian Analysis
- MUTH 6660 - History of Music Theory I
- MUTH 6670 - History of Music Theory II
- MUTH 6680 - Proseminar in Music Theory

Musicology

Course work in music history used to fulfill requirements of the major field may not be counted toward the related field.

Required: A formal application to the Music History Area (see mhte.music.unt.edu for more information).

- 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 6000 - Seminar in Musicology (may be taken more than once)

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 6000 - Seminar in Musicology (may be taken more than once)

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.)

Piano pedagogy

Leveling and review courses may not be counted toward the related field or as electives.

6 hours selected from

- MUAG 5002 - Student Teaching in Group Piano
- MUAG 5160 - Elementary Piano Pedagogy
- MUAG 5170 - Intermediate Piano Pedagogy
- MUAG 5560 - Advanced Piano Pedagogy and Musicianship
- MUAG 5570 - Comparative Piano Pedagogy and Repertoire

6 hours selected from

- MUAG 5001 - Student Teaching in Studio Piano
- MUED 5120 - Applied Research in Music Education
- MUED 5150 - Pedagogy in Practice
- MUED 5520 - Psychology of Music
- MUED 6430 - Principles of Music Learning
- MUPH 5000 - Introduction to Performing Arts Health

Sacred music

Required: audition. Audition procedures may be obtained from the chair of the division of keyboard studies.

Students must select 12 hours from:

- MUSM 5284 - Foundations and History of Sacred Music
- MUSM 5285 - Introduction to Congregational Song
- MUSM 5286 - Music Ministry in the Postmodern Context
- MUSM 5287 - Materials and Methods: Church Music Administration and Practicum

Vocal pedagogy

Required:

- MUAG 5600 - Advanced Science and Pedagogy of Singing
- MUAG 5610 - Comparative Pedagogy of Singing

Two additional courses selected from:

- ASLP 5810 - Voice Disorders
- MUAG 5300 - Science and Pedagogy of Singing
- MUAG 6900 - Special Problems
- MUPH 5000 - Introduction to Performing Arts Health
- MUPH 6010 - Advanced Seminar in Performing Arts Health

- or other courses which might be appropriate for the specific research interests of the student with approval of the student's graduate committee

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 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.

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.

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 84 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 54 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.

Some degree programs require participation in a performance laboratory and/or ensemble. Music Laboratories are choir, orchestra, band, jazz lab band, and accompanying. Ensembles available for graduate student participation are: opera theater, early music ensembles, NOVA ensemble, intermedia performance arts, brass ensembles, chamber wind ensembles, jazz ensembles, chamber orchestra, percussion ensembles, string ensembles, vocal ensembles, harp ensemble, and Mariachi Aguilas.

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 leveling course requirements). While leveling courses may be taken for graduate credit, these credits cannot be applied to the degree plan.
2. Be accepted by the College of Music to do doctoral level work.
3. Attend all orientation sessions scheduled by the director of graduate studies in music.
4. 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).
5. 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, 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. 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. Attend all orientation sessions scheduled by the director of graduate studies in music.
8. 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) 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) 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 candidate's 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 gradschool.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. Attend all orientation sessions by the director of graduate studies in music.
6. Take the Graduate Placement Examination (GPE) given by the College of Music.

Placement examinations

Following the graduate placement examinations (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 review course requirements (not to exceed 6 credits of musicology and 2 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.

Degree requirements

In addition to course requirements (listed below), each applicant for the Doctor of Musical Arts degree must meet the following requirements.

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 all leveling and review courses and in all courses used to satisfy DMA degree requirements.

Performance major field

Last 54 hours of study (or last 58 hours for study in woodwinds)

1. Major performance, 18 hours.
2. Six hours selected from literature in major field, MUCE 5XXX, MUPH 5000 or pedagogy in major field. Students with a specialization in woodwinds or percussion must take at least three hours of literature in the major field. Students with a specialization in piano, organ or harpsichord must take six hours of literature in the major field. Students with a specialization in piano pedagogy take three or six credits of literature in the major field.
3. **Dissertation**: 6 hours, the written documentation should be at a level acceptable for juried publication. Choose one of the following:

   Option I: 3 recitals (1-3 credits each); 1 lecture/recital (50–60 minutes) with performance and critical essay (a minimum of 6,250 words excluding front matter, footnotes, bibliography and appendices) for a total of 3 credits; or

   Option II: 3 recitals (1-3 credits each); 1 lecture (50–60 minutes) with critical essay (a minimum of 10,000 words excluding front matter, footnotes, bibliography and appendices) for a total of 3 credits; or

   Option III: 3 recitals (1-3 credits each); 1 thesis (a minimum of 25,000 words excluding front matter, footnotes, bibliography and appendices) for a total of 3 credits.

Related field, 12 hours

DMA students must include on their degree plan a related field of not fewer than 12 hours selected from the options listed below. DMA students with a specialization in piano pedagogy are not required to include a related field on their degree plan.

Self-Designed related field:

Students wishing to create a self-designed related field must submit the "Request for Self-Designed Related Field" form to the Graduate Studies Office along with a justification of ca. 300 words explaining how the proposed related field will further their professional, artistic, and academic goals. The form needs to include the course numbers and catalogue descriptions of each proposed course. It is the students' responsibility to find a related field professor to serve on the Doctoral Advisory Committee and administer the written and oral portions of the qualifying exam. The Graduate Performance Degree Committee must approve the related field before the student files the Degree Plan and Committee Designation Form.

Related field outside the college of music:

Students wishing to pursue a related field outside the College of Music must submit the "Request for Related Field Outside the College of Music" form to the Graduate Studies Office along with a justification of ca. 300 words explaining how the proposed related field will further their professional, artistic, and academic goals. The form needs to include the course numbers and catalogue descriptions of each proposed course. It is the students' responsibility to find a related field professor to serve on the Doctoral Advisory Committee and administer the written and oral portions of the qualifying exam. The Graduate Performance Degree Committee must approve the related field before the student files the Degree Plan and Committee Designation Form.

*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.

*Additional requirements for specialization in voice

Students who specialize in voice must demonstrate proficiency in voice pedagogy, lyric diction and vocal literature by passing the graduate entrance exam administered by the division of vocal studies during new student orientation or taking MUAG 5300, MUAG 5215, and/or MUAG 5210. For details, please see the Voice Handbook.

*Additional requirements for specialization in collaborative piano

Collaborative piano cannot be a related field for this specialization. Please consult the area handbook.

***Additional requirements for specialization in collaborative piano**

In place of the 12 credits of related field and the electives component, students take 18 credits from the following list of courses:

MUAG 5560 - Advanced Piano Pedagogy and Musicianship

MUAG 5570 - Comparative Piano Pedagogy and Repertoire

MUAG 6000 - Seminar in Piano Pedagogy

MUAG 6260 - Piano Literature

MUAG 6270 - Piano Literature

MUMH 5030 - Advanced Issues in Music Research

Musicology/music theory component (9-12 hours)*

Students who take MUMH 5010 may take an additional 3 hours of MUMH credit. Up to 6 hours of MUTH 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.

*If 9 credits are from Musicology/Music Theory/Ethnomusicology, students must take 3 credits of electives in music with the exception of MUAM, MUCM, MUEN, and MULB.

3-6 hours selected from

- MUMH 5010 - Introduction to Research in Music (if not taken at the master's level)
- MUMH 5030 - Advanced Issues in Music Research
- MUMH 6XXX

Substitutions

3 hours of the MUMH requirement may be substituted by one of the following.

- MUET 5030 - Music Cultures of the World
- MUET 5500 - Introduction to Ethnomusicology

3-6 hours selected from

- MUTH 5350 - Music Analysis and Performance
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5360 - Analytical Techniques II (1700–1900)
- MUTH 5370 - Analytical Techniques III (Post 1900)
- MUTH 5375 - Analytical Techniques for Popular Music

Substitutions

3 hours of the MUTH requirement may be substituted by the following.

- MUET 5230 - World Music Analysis

Performance major field (Conducting)

Last 54 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 (12 hours)
- MUAG 58XX--Advanced Conducting (3 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, 6 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

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, a self-designed related field of not fewer than 12 hours, or a related field of not fewer than 12 hours outside the College of Music.

Self-Designed related field:

Students wishing to create a self-designed related field must submit the "Request for Self-Designed Related Field" form to the Graduate Studies Office along with a justification of ca. 300 words explaining how the proposed related field will further their professional, artistic, and academic goals. The form needs to include the course numbers and catalogue descriptions of each proposed course. It is the students' responsibility to find a related field professor to serve on the Doctoral Advisory Committee and administer the written and oral portions of the qualifying exam. The Graduate Performance Degree Committee must approve the related field before the student files the Degree Plan and Committee Designation Form.

Related field outside the college of music:

Students wishing to pursue a related field outside the College of Music must submit the "Request for Related Field Outside the College of Music" form to the Graduate Studies Office along with a justification of ca. 300 words explaining how the proposed related field will further their professional, artistic, and academic goals. The form needs to include the course numbers and catalogue descriptions of each proposed course. It is the students' responsibility to find a related field professor to serve on the Doctoral Advisory Committee and administer the written and oral portions of the qualifying exam. The Graduate Performance Degree Committee must approve the related field before the student files the Degree Plan and Committee Designation Form.

Musicology/music theory component (9-12 hours)*

Students who take MUMH 5010 may take an additional 3 hours of MUMH credit. Up to 6 hours of MUTH 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.

*If 9 credits are from Musicology/Music Theory/Ethnomusicology, students must take 3 credits of electives in music with the exception of MUAM, MUCM, MUEN, and MULB.

3-6 hours selected from

- MUMH 5010 - Introduction to Research in Music (if not taken at the master's level)
- MUMH 5030 - Advanced Issues in Music Research
- MUMH 6XXX

Substitutions

3 hours of the MUMH requirement may be substituted by one of the following.

- MUET 5030 - Music Cultures of the World
- MUET 5500 - Introduction to Ethnomusicology

3-6 hours selected from

- MUTH 5350 - Music Analysis and Performance
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5360 - Analytical Techniques II (1700–1900)
- MUTH 5370 - Analytical Techniques III (Post 1900)
- MUTH 5375 - Analytical Techniques for Popular Music

Substitutions

3 hours of the MUTH requirement may be substituted by the following.

- MUET 5230 - World Music Analysis

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.

Jazz Studies major field

Last 54 hours of study

- Applied instruction in performance, 12 hours (MUJS 6xxx)
- MUCM 5550 - Jazz Chamber Music (2 hours)
- MUJS 6010 - Seminar in Jazz History and Analysis
- MUJS 6020 - Seminar in Jazz Pedagogy
- MULB 5174 - Large Ensemble: Jazz Lab Band (2 hours)
- Dissertation, 12 hours. Choose one of the following:

  Option I: 3 recitals (1-3 credits each); 1 lecture/recital (50–60 minutes) with performance and critical essay (a minimum of 6,250 words excluding front matter, footnotes, bibliography and appendices) for a total of 3 credits; or

  Option II: 3 recitals (1-3 credits each); 1 lecture (50–60 minutes) with critical essay (a minimum of 10,000 words excluding front matter, footnotes, bibliography and appendices) for a total of 3 credits; or

  Option III: 3 recitals 1-(3 credits each); 1 thesis (a minimum of 25,000 words excluding front matter, footnotes, bibliography and appendices) for a total of 3 credits.

Introduction to research in jazz studies

It is assumed that an entering DMA student in jazz studies 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 MUJS 5440 no later than the second term/semester of graduate work to facilitate research. Hours do not count toward the degree.

Musicology/music theory component, 9 hours

1. **Musicology:** 3 hours 5000- or 6000-level MUMH course to be chosen in consultation with the advisor.

2. **Music theory:** 3 hours 5000- or 6000-level MUTH course to be chosen in consultation with the advisor.

3. **Ethnomusicology:** 3 hours selected from MUET 5030, MUET 5230 or MUET 5500.

Related field in music, 12 hours

All DMA students must include on their degree plan a related field of not fewer than 12 hours selected from the options listed below.

Electives, 5 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, a self-designed related field of not fewer than 12 hours, or a related field of not fewer than 12 hours outside the College of Music.

Self-Designed related field:

Students wishing to create a self-designed related field must submit the "Request for Self-Designed Related Field" form to the Graduate Studies Office along with a justification of ca. 300 words explaining how the proposed related field will further their professional, artistic, and academic goals. The form needs to include the course numbers and catalog descriptions of each proposed course. It is the students' responsibility to find a related field professor to serve on the Doctoral Advisory Committee and administer the written and oral portions of the qualifying exam. The Graduate Performance Degree Committee must approve the related field before the student files the Degree Plan and Committee Designation Form.

Related field outside the college of music:

Students wishing to pursue a related field outside the College of Music must submit the "Request for Related Field Outside the College of Music" form to the Graduate Studies Office along with a justification of ca. 300 words explaining how the proposed related field will further their professional, artistic, and academic goals. The form needs to include the course numbers and catalog descriptions of each proposed course. It is the student's responsibility to find a related field professor to serve on the Doctoral Advisory Committee and administer the written and oral portions of the qualifying exam. The Graduate Performance Degree Committee must approve the related field before the student files the Degree Plan and Committee Designation Form.

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 5250 - Collaborative Piano Pedagogy
- MUAG 5260 - Collaborative Piano Techniques
- MUAG 5261 - Vocal Repertoire Master Class
- MUAG 5270 - Topics in Collaborative Piano
- MUAG 5271 - Instrumental Repertoire Master Class
- MUAG 5295 - Techniques of Vocal Coaching

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

Application procedures and prerequisites are included in the Composition Student Handbook, which may be downloaded from the composition division web site: composition.music.unt.edu.

12 hours

- MUCP 5690 - Topics in Computer Music (6-9 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

Admission upon satisfactory interview and audition with the Choral Conducting faculty.

Requirements: 12 hours selected from a combination of the following:

Minimum of 3 credit hours from the following:

- MUAG 5000 - Choral Techniques
- MUAG 5800 - Advanced Choral Conducting
- MUAM 5533 - Conducting

Minimum of 3 credit hours from the following:

- MUAG 5810 - Choral Literature I
- MUAG 5811 - Choral Literature II
- MUAG 5812 - Choral Literature III

Minimum of 2 credit hours from the following (1 hour per semester for two semesters):

- MUEN 5530 - Early Music Ensembles
- MULB 5171 - Large Ensemble: Choir

Orchestral conducting

- MUAG 5815 - Symphonic Literature I
- MUAG 5850 - Advanced Instrumental Conducting

Wind conducting

Prerequisite: MUAG 5850 Advanced Instrumental Conducting (3 hours) or equivalent experience, as determined by the related field director.

*Candidates must be concurrently enrolled in MULB 5173 – Wind Studies ensemble while pursuing the related field. Students may be eligible for zero credit

- MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical
- MUAG 5861 - Symphonic Literature of the Wind Band II—French Revolution through Present
- MUAG 5890 - Topics in Music Performance and Pedagogy (to be taken during summer session)
- MUGC 5890 - Studies in Music (to be taken during summer session)

Contemporary music

Application procedures and prerequisites are included in the Composition Student Handbook, which may be downloaded from the composition division web site: composition.music.unt.edu.

Required:

- MUCP 5580 - Contemporary Notation and Performance Practices
- MUEN 5590 - NOVA Ensemble Specialization (3 hours)

6 hours selected from

- MUCP 5460 - Contemporary Music
- MUCP 5590 - Intermedia Performance Arts
- MUCP 5690 - Topics in Computer Music
- MUCP 5695 - Topics in Contemporary Music
- MUEN 5590 - NOVA Ensemble Specialization
- 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

- MUAG 5520 - Performance Practice: Medieval/ Renaissance
- MUAG 5530 - Performance Practice: Baroque
- MUAG 5540 - Performance Practice: Classic/ Romantic

or 3 hours selected from

- MUAG 5520 - Performance Practice: Medieval/ Renaissance
- MUAG 5530 - Performance Practice: Baroque
- MUAG 5540 - Performance Practice: Classic/ Romantic

and 3 hours selected from

- MUMH 5610 - Ornamentation and Improvisation 1500–1800

Ensemble Singing

An audition for the Related Field Coordinator is required, and the related field must be approved by the major professor and the Related Field Coordinator.

Choose two courses (6 hours) from:

- MUAG 5225 - Oratorio Repertoire and Practicum
- MUAG 5226 - Vocal Concert Repertoire and Practicum
- MUAG 5810 - Choral Literature I
- MUAG 5811 - Choral Literature II
- MUAG 5812 - Choral Literature III

Ensemble

Enroll in a minimum of two semesters (2 hours) in A Cappella

- MULB 5171 - Large Ensemble: Choir

Plus four semesters (4 hours) in Vox Aquilae

- MUEN 5530 - Early Music Ensembles

With approval from the Related Field Coordinator, one semester (1 hour) of a vocal jazz ensemble may be substituted for either A Cappella or Vox Aquilae.

- MULB 5174 - Large Ensemble: Jazz Lab Band

Ethnomusicology

Students must submit a formal application to the Ethnomusicology Area (see mhte.music.unt.edu for more information).

Required:

- MUET 5030 - Music Cultures of the World
- MUET 5220 - Ethnomusicology Field and Research Methods
- 3-6 hours of 5000-level MUET
- 0-3 hours of 5000-level MUEN (World Music Ensembles)

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 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:

- MUPH 5000 - Introduction to Performing Arts Health
- MUPH 6010 - Advanced Seminar in Performing Arts Health
- 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 entrepreneurship

Pursuing a related field in music entrepreneurship requires that the candidate submit a successful application. Requisite qualifications and application procedures are available at career.music.unt.edu/related-field.

- MUCE 5000 - Music Business and Entrepreneurship
- MUCE 5030 - Music Entrepreneurship Practicum/Internship (3 hours)

6 hours chosen from:

- MUCE 5010 - Marketing for Musicians
- MUCE 5020 - Music Leadership and Performing Arts Management
- other courses in consultation with area coordinator in music entrepreneurship

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 5020 - Readings and Professional Writing in Music Theory

And

9 hours selected from:

- MUET 5230 - World Music Analysis
- MUTH 5080 - 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 5375 - Analytical Techniques for Popular Music
- MUTH 5380 - Schenkerian Analysis
- MUTH 6660 - History of Music Theory I
- MUTH 6670 - History of Music Theory II
- 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 6000 - Seminar in Musicology

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 5450 - Topics in Popular Music
- MUMH 6000 - Seminar in Musicology

Opera

Required: 12 hours selected from the following:

- MUAG 5640 - Operatic Acting (a maximum 3 credits may be applied to related field)
- MUAG 5650 - Opera Stage Direction (a maximum 3 credits may be applied to related field)
- MUAG 5070 - Operatic Literature I
- MUAG 5072 - Operatic Literature II
- MUEN 5040 - Graduate Opera Theater (repeatable; up to 3 credits may be applied to related field)

Performance

Required: audition and 12 hours selected of appropriate courses from MUAC (6500 level), and other courses in literature and pedagogy. See area handbooks for additional requirements. (Open only to those with a major in conducting or composition.)

Piano pedagogy

Leveling and review courses may not be counted toward the related field or as electives.

6 hours selected from

- MUAG 5002 - Student Teaching in Group Piano
- MUAG 5160 - Elementary Piano Pedagogy
- MUAG 5170 - Intermediate Piano Pedagogy
- MUAG 5560 - Advanced Piano Pedagogy and Musicianship
- MUAG 5570 - Comparative Piano Pedagogy and Repertoire

6 hours selected from

- MUAG 5001 - Student Teaching in Studio Piano
- MUCE 5000 - Music Business and Entrepreneurship
- MUED 5120 - Applied Research in Music Education
- MUED 5150 - Pedagogy in Practice
- MUED 5520 - Psychology of Music
- MUED 6430 - Principles of Music Learning
- MUPH 5000 - Introduction to Performing Arts Health

Sacred music

Required: audition. Audition procedures may be obtained from the chair of the division of keyboard studies.

Student must select 12 hours from:

- MUSM 5284 - Foundations and History of Sacred Music
- MUSM 5285 - Introduction to Congregational Song
- MUSM 5286 - Music Ministry in the Postmodern Context
- MUSM 5287 - Materials and Methods: Church Music Administration and Practicum

Vocal pedagogy

Required:

- MUAG 5600 - Advanced Science and Pedagogy of Singing
- MUAG 5610 - Comparative Pedagogy of Singing

Two additional courses selected from

- ASLP 5810 - Voice Disorders
- MUAG 5300 - Science and Pedagogy of Singing
- MUAG 6900 - Special Problems
- MUPH 5000 - Introduction to Performing Arts Health
- MUPH 6010 - Advanced Seminar in Performing Arts Health
- or other courses which might be appropriate for the specific research interests of the student with approval of the student's graduate committee

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 leveling and review course requirements have been fulfilled, (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), and (d) 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: graduate.music.unt.edu/music-performance.

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 Science

Main Office:
Hickory Hall, Room 254

Mailing address:
1155 Union Circle #311365
Denton, TX 76203-5017
Phone: 940-369-8072
Web site: cos.unt.edu

John Quintanilla, Dean (term ends August 31, 2025)
Ed Dzialowski, Interim Dean (term begins Septembet 1, 2025)

Ed Dzialowski, Associate Dean

Faculty

Programs of study

The College of Science offers course work leading to the following degrees:

- Master of Arts,
- Master of Science, and
- Doctor of Philosophy.

Doctoral programs in the college typically reflect the areas of academic specialization or focus of the various departments (see individual program 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 the following academic departments and programs.

- Biological Sciences
- Chemistry
- Mathematics
- Physics

Research

Members of the COS conduct innovative research in the fields of biology, chemistry, physics and mathematics. Research initiatives within these fields include biochemistry and biotechnology, plant sciences, genetics, developmental integrative biology, bioinformatics, environmental toxicology, computational chemistry, organometallic chemistry, forensics, chemical catalysis, computational physics, semiconductor physics, laser and accelerator-based physics, materials characterization, statistics, theoretical mathematics, and applications of geographic information systems. Graduate student training integrates research with technical writing and communication skills.

Advising

For general information, contact the Toulouse Graduate School at https://tgs.unt.edu/future-students/graduate-advisors-future-students. For specific requirements for graduate degrees, contact the appropriate department chair or graduate advisor.

Department of Biological Sciences

Main Departmental Office
Life Sciences Building, Room A210

Mailing address:
1155 Union Circle #305220
Denton, TX 76203-5017
940-565-3591
Fax: 940-565-3821
Website: www.biology.unt.edu

Jyoti Shah, Chair

Faculty

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 thoroughly 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.environmentalscience.unt.edu and www.professionalsciencemasters.org.

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.
    d. **application data sheet**.
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	January 15
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 a B or better in 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 up to but not necessarily 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 approximately $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.

Advanced Environmental Research Institute

Advanced Environmental Research Institute

1155 Union Circle #310559

Denton, TX 76203-5017

940-369-5555

Website: https://aeri.unt.edu/

E-mail: aeri@unt.edu

The Advanced Environmental Research Institute (AERI) at the University of North Texas has been established as an Institute of Research Excellence. This is in recognition of the university's strong and growing environmental and water research program. The institute will support the university on its path toward national prominence. The institute touts a multidisciplinary team of researchers committed to collaborating on large research projects with an emphasis on application of research findings to the solutions of our most pressing environmental issues. AERI is founded on UNT's strong legacy of addressing environmental issues, which began with the eminent scientist, Dr. J.K.G. "Doc" Silvey who began water research at UNT. For nearly 80 years, a team of researchers has been investigating the complex nature of the natural world and how people's actions influence it.

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

Website: www.ias.unt.edu

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 multiple program areas, including aquatic and terrestrial ecology, toxicology, science education, remote sensing, computational epidemiology, environmental chemistry, biocultural conservation, wildlife 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.

Water Research Field Station

UNT has experimental infrastructure at the Water Research Field Station to enable mechanistic research in aquatic ecology and toxicology. The Water Research Field Station consists of 24 aquatic testing ponds of 0.1 acre each, 52 1,000- and 10,000-liter microcosms, a greenhouse, and a research and teaching building. Experimental facilities are supported on campus by various analytical capabilities across multiple laboratories with state-of-the-art equipment.

BioDiscovery Institute

Life Sciences Building

Mailing address:

1155 Union Circle #305220

Denton, TX 76203-5017

940-565-2491

E-mail: bdi@unt.edu

The BioDiscovery Institute (BDI) at the University of North Texas delivers biosystems for production of food/feed, polymers, construction materials, bioactive molecules and biofuels. The institute operates through a pipeline linking sustainable plant production platforms, metabolic engineering and the development of new materials. The institute touts a multidisciplinary team of researchers committed to collaborating on large research projects with an emphasis on application of findings and solutions to meet market issues and needs.

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.

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 courses may be in biology or other departments or programs at UNT or partner institutions (e.g., UNT, HSC or TWU). 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.

Degrees in Biochemistry and Molecular Biology

Option 1, Master of Science (thesis) requirements and procedures

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.

1. During the first 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 coordinator before the student's second long term/semester.
2. The student, major professor, and advisory committee must meet at least annually to monitor student progress, formulate the degree plan, and administer exams and the final thesis defense. The annual committee meeting will consist of a student-led progress presentation followed by time for discussion of progress and future directions. The student is responsible for organizing the annual committee meetings and the major professor is the chair of the meetings.
3. Before registering for the second 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 second 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 which meet with graduate courses, are considered to be for the correction of deficiencies and cannot be included in the graduate degree plan hours.
4. 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. The research proposal format must be agreed upon in advance by the student, major professor, and advisory committee during annual committee meetings. An oral defense of the proposal will be conducted within one month of its submission and will consist of an oral presentation of the project followed by an oral defense and may also include an examination of the student's comprehension of general, graduate-level subject matter at the discretion of the advisory committee. The student is responsible for scheduling rooms for proposal defense.

5. After the approved research proposal is filed with the graduate advising coordinator, the student may register for thesis hours (5950). Once registered for thesis hours, 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.
6. 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.
7. 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.
8. The student is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.
9. A final copy of the thesis must be submitted to the Toulouse Graduate School through the VIREO system.

Option 2, Professional Science Master degree requirements and procedures

Master of Science with a major in biochemistry and molecular biology is a non-thesis Professional Science Master (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.

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 (excluding special problems and research hours) selected in consultation with the committee. One BIOL prefix course each must be selected from the following topic areas:

1) science teaching or communication

2) cell structure and processes

3) heredity and evolution of life

4) diversity of life

5) physiology

Secondary education, 18 hours

- EDCI 5010 - Applying Theory to Teaching Practice
- EDSE 5004 - Literacy Curriculum for Secondary Teaching
- EDCI 5020 - Curriculum Development for the EC-12 Classroom
- EDCI 5105 - Internship I
- EDCI 5115 - Internship II
- EDCI 5030 - Maintaining Classroom Discipline

Additional information

Students must meet all qualifications for and be accepted to the Teacher Education Certification Program through the UNT College of Education. This requires a separate application process. 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 are 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 which meet with 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 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 - Bioinformatics Algorithms

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 are 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 which meet with 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 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 are 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 which meet with 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 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, 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 are 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 which meet with 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 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, 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 are 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 which meet with 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 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.environmentalscience.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, wildlife conservation, 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 are 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 which meet with 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 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.

Professional Science Master's degree option (biology), MS

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

Additional information about these degrees can be found at www.environmentalscience.unt.edu and www.professionalsciencemasters.org.

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 72 hours of graduate credit at the 5000 and 6000 course level beyond the bachelor's degree or 42 hours beyond the master's degree, including a 9 to 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 six BMB courses across the disciplines of biochemistry, molecular genetics, cell biology and BMB tools (a minimum of one course in each discipline, and two additional courses) in consultation with the student's advisory committee. Supporting elective courses may be in biology or other departments or programs at UNT or partner institutions (e.g., UNT HSC or TWU). Contact the department for further details on qualifying courses. Students must enroll in BIOL 5860 at least once per year for the duration of their degree.

Doctoral degree requirements and procedures

1. 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 approved by 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 coordinator before the student's third long term/semester.
2. The student, major professor, and advisory committee must meet at least annually to monitor student progress, formulate the degree plan and candidacy exam structure, and administer candidacy exams and the final defense. The annual committee meeting will consist of a student-led progress presentation followed by time for discussion of progress and future directions. The student is responsible for organizing the annual committee meetings and the major professor is the chair of the meetings.
3. 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 72 hours of graduate credit at the 5000- and 6000-course level beyond the bachelor's degree or 42 hours beyond the master's degree, including a minimum of 12 hours of foundation and 6 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 coordinator 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 which meet with graduate courses, are considered to be for the correction of deficiencies and are not included in the graduate degree plan hours.
4. Doctoral students may take written and oral candidacy examinations only after completing a minimum of four (equivalent to 12 hours) foundation courses and two

(equivalent to 6 hours) advanced courses. The written candidacy exam will (typically) consist of a formal research proposal, prepared in the style of a major federal research grant, outlining current progress and objectives to complete the dissertation. The oral candidacy exam will (typically) consist of an oral presentation of the project followed by an oral defense of the written proposal. The oral candidacy exam may also include an examination of the student's comprehension of general, graduate-level subject matter at the discretion of the advisory committee. Submission of the written exam and completion of the oral defense (oral exam) must occur within one month. Written and oral exams should occur during the fifth long semester and by the end of the sixth semester at the latest. 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 advisory committee members. The examining professor sets guidelines for the administration of the examinations. The manner and form of the written and oral candidacy exams must be agreed upon by the student, major professor, and advisory committee well in advance of the exams during annual committee meetings. The student is responsible for scheduling rooms for the examinations. Students are advised that a research proposal in the style of a major federal research grant requires substantial time for contemplation, writing, and editing. To meet the fifth long semester timeline for submission and defense, students should engage in proposal preparation throughout their third and fourth semesters. In (atypical) situations where candidacy exams do not consist of a written proposal and oral defense, a written proposal and oral defense are required in addition to the candidacy exam arrangements. All candidacy exams, the proposal submission, and the oral proposal defense should occur during the fifth long semester and by the end of the sixth semester at the latest.

5. Before registering for the fifth 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.
6. 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.
7. Dissertation research is expected to be of a quantity and quality to contribute to the professional, peer-reviewed scientific literature.
8. Following approval by the major professor, a draft of the dissertation must be submitted to the committee at least two weeks prior to the defense of the dissertation and final examination.
9. A formal seminar based on the dissertation must be presented by the student during the student's final term/semester. The candidate must schedule a room for and publicly advertise the seminar and defense. 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 thesis must be submitted to the Toulouse Graduate School through the VIREO system.

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 72 hours at the 5000 and 6000 levels beyond the bachelor's degree or 42 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 6190 - Neuromuscular Physiology of Exercise
- KINE 6200 - 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 42 hours for students with an approved master's degree, or 72 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 which meet with 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 72 hours at the 5000 and 6000 levels beyond the bachelor's degree or 42 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. The degree plan consists of 42 hours for students with an approved master's degree, or 72 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 which meet with graduate courses, are considered to be deficiencies and are not included in the graduate degree plan hours.
3. 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.

4. 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.
5. 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.**
6. 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.
7. 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.
8. Directly following the seminar, the candidate defends the dissertation in a final oral examination conducted by the major professor and advisory committee.
9. The candidate is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.
10. 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 with a concentration in Ecology and Conservation Biology, 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.environmentalscience.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, wildlife conservation, 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 scholarly research program of 72 hours at the 5000 and 6000 levels beyond the bachelor's degree or 42 hours beyond the master's degree. The environmental science PhD is organized into a foundation core and four thematic core groups.

The PhD with a major in environmental science requires:

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

Organized electives do not include special problems credit hours or research credit hours and may be selected from the core groups as electives or from non-core options as agreed upon by the student's advising committee. The remaining hours are selected from a list of electives, the number of hours depending on whether the student is in the 42-hour or 72-hour program.

Ecology and conservation biology concentration

Students in the environmental science PhD program desiring an ecology and conservation biology concentration must complete all stated requirements for the PhD and select five electives from the following courses to complete the concentration.

- BIOL 5005 - Contemporary Topics in Biology (when taught as "Wildlife Ecology and Conservation")
- BIOL 5040 - Contemporary Topics in Environmental Science and Ecology
- BIOL 5050 - Foundations of Ecological Theory
- BIOL 5051 - Community Ecology and
- BIOL 5052 - Community Ecology Laboratory
- BIOL 5260 - Principles of Evolution
- GEOG 5960 - Geography Institute (when topic is "Ecosystem Science")
- PHIL 5010 - Seminar in the Philosophy of Ecology
- BIOL 5053 - Subantarctic Biocultural Conservation

  or
- PHIL 6780 - Subantarctic Biocultural Conservation
- Other courses may be used to fulfill the concentration with approval from the Environmental Science Graduate Program Coordinator and the major professor.

Additional information

Graduate doctoral committees are required to have at least three members from Biological Sciences or the Institute of Applied Sciences.

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 42 hours for students with an approved master's degree, or 72 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 which meet with 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 with a concentration in Geoscience, 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.environmentalscience.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, wildlife conservation, 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 scholarly research program of 72 hours at the 5000 and 6000 levels beyond the bachelor's degree or 42 hours beyond the master's degree. The environmental science PhD is organized into a foundation core and four thematic core groups.

The PhD with a major in environmental science requires:

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

- 12 hours of dissertation research

Organized electives do not include special problems credit hours or research credit hours and may be selected from the core groups as electives or from non-core options as agreed upon by the student's advising committee. The remaining hours are selected from a list of electives, the number of hours depending on whether the student is in the 42-hour or 72-hour program.

Geoscience concentration

Students in the environmental science PhD program desiring a geoscience concentration must complete all stated requirements for the PhD and select five electives from the following courses to complete the concentration.

- GEOG 5400 - Environmental Modeling
- GEOL 5630 - Soils Geomorphology
- GEOG 5700 - Global Environmental Change
- GEOG 5750 - Surface Water Hydrology
- GEOL 5850 - Introduction to Groundwater Hydrology
- GEOG 5960 - Geography Institute (when topic is "Introduction to Remote Sensing")
- BIOL 6320 - Remote Sensing
- Other courses may be used to fulfill the concentration with approval from the Environmental Science Graduate Program Coordinator and the major professor.

Additional information

Graduate doctoral committees are required to have at least three members from Biological Sciences or the Institute of Applied Science.

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 42 hours for students with an approved master's degree, or 72 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 which meet with 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 with a concentration in Human Ecology, 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.environmentalscience.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, wildlife conservation, 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 scholarly research program of 72 hours at the 5000 and 6000 levels beyond the bachelor's degree or 42 hours beyond the master's degree. The environmental science PhD is organized into a foundation core and four thematic core groups.

The PhD with a major in environmental science requires:

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

Organized electives do not include special problems credit hours or research credit hours and may be selected from the core groups as electives or from non-core options as agreed upon by the student's advising committee. The remaining hours are selected from a list of electives, the number of hours depending on whether the student is in the 42-hour or 72-hour program.

Human ecology concentration

Students in the environmental science PhD program desiring a human ecology concentration must complete all stated requirements for the PhD and select five electives from the following courses to complete the concentration.

- ANTH 5031 - Ethnographic and Qualitative Methods
- ANTH 5400 - Environmental Anthropology
- ANTH 5700 - Topics in Applied Anthropology (when topic is "Ethnoecology")
- ARCH 5620 - Topics in Archaeology (when topic is "Ethnobiology")
- BIOL 5100 - Environmental Impact Assessment
- GEOG 5160 - Foundations of Geographic Thought
- GEOG 5960 - Geography Institute (when topic is "Ecosystem Science")
- PHIL 5000 - Environmental Ethics
- PHIL 5010 - Seminar in the Philosophy of Ecology
- BIOL 5053 - Subantarctic Biocultural Conservation

  or
- PHIL 6780 - Subantarctic Biocultural Conservation
- Other courses may be used to fulfill the concentration with approval from the Environmental Science Graduate Program Coordinator and the major professor.

Additional information

Graduate doctoral committees are required to have at least three members from Biological Sciences or the Institute of Applied Science; at least one committee member must be a faculty member in the Department of Biological Sciences.

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 42 hours for students with an approved master's degree, or 72 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 which meet with 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 with a concentration in Science Education Research, PhD

PhD with a major in Environmental Science

Doctor of Philosophy with a major in environmental science is a scholarly research program of 72 hours at the 5000 and 6000 levels beyond the bachelor's degree or 42 hours beyond the master's degree. The environmental science PhD is organized into a foundation core and four thematic core groups.

The PhD with a major in environmental science requires:

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

Organized electives do not include special problems credit hours or research credit hours and may be selected from the core groups as electives or from non-core options as agreed upon by the student's advising committee. The remaining hours are selected from a list of electives, the number of hours depending on whether the student is in the 42-hour or 72-hour program.

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.environmentalscience.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, wildlife conservation, and environmental modeling. Information on degree requirements follows the program descriptions.

Science education research concentration

Students in the environmental science PhD program desiring a science education research concentration must complete all stated requirements for the PhD and select five electives from the following courses.

- BIOL 5005 - Contemporary Topics in Biology (when taught as "Teaching Life Science")
- EDCI 5320 - Curriculum Development
- EDCI 6230 - Implementation and Evaluation of Curriculum
- EDCI 6340 - Conceptual Models of Learning and Instruction
- EDHE 5100 - Introduction to Effective College Teaching
- EPSY 5550 - Learning Theories
- PADM 5040 - Nonprofit Management
- TECM 5170 - Grants and Proposals
- Other courses may be used to fulfill the concentration with approval from the Environmental Science Graduate Program Coordinator and the major professor.

Additional information

Graduate doctoral committees are required to have at least three members from Biological Sciences or the Institute of Applied Science.

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 42 hours for students with an approved master's degree, or 72 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 which meet with 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 with a concentration in Toxicology, 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.environmentalscience.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, wildlife conservation, 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 scholarly research program of 72 hours at the 5000 and 6000 levels beyond the bachelor's degree or 42 hours beyond the master's degree. The environmental science PhD is organized into a foundation core and four thematic core groups.

The PhD with a major in environmental science requires:

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

Organized electives do not include special problems credit hours or research credit hours and may be selected from the core groups as electives or from non-core options as agreed upon by the student's advising committee. The remaining hours are selected from a list of electives, the number of hours depending on whether the student is in the 42-hour or 72-hour program.

Toxicology concentration

Students in the environmental science PhD program desiring a toxicology concentration must complete all stated requirements for the PhD and select five electives from the following courses to complete the concentration.

- BIOL 5005 - Contemporary Topics in Biology (when taught as "Molecular Toxicology")
- BIOL 5120 - Environmental Chemistry
- BIOL 5340 - Biochemistry and Molecular Biology of the Gene
- BIOL 5370 - General Toxicology
- BIOL 5380 - Fundamentals of Aquatic Toxicology
- BIOL 5505 - Comparative Animal Physiology

- BIOL 5720 - Sediment Toxicology
- BIOL 6400 - Ecological Risk Assessment
- Other courses may be used to fulfill the concentration with approval from the Environmental Science Graduate Program Coordinator and the major professor.

Note

Two of the five courses must be toxicology classes: BIOL 5005 (when taught as "Molecular Toxicology"), BIOL 5370, BIOL 5380, BIOL 5720.

Additional information

Graduate doctoral committees are required to have at least three members from Biological Sciences or the Institute of Applied Sciences.

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 42 hours for students with an approved master's degree, or 72 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 which meet with 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.environmentalscience.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, wildlife conservation, 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 scholarly research program of 72 hours at the 5000 and 6000 levels beyond the bachelor's degree or 42 hours beyond the master's degree. The environmental science PhD is organized into a foundation core and four thematic core groups.

The PhD with a major in environmental science requires:

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

Organized electives do not include special problems credit hours or research credit hours and may be selected from the core groups as electives or from non-core options as agreed upon by the student's advising committee. The remaining hours are selected from a list of electives, the number of hours depending on whether the student is in the 42-hour or 72-hour program.

Concentrations under the major

Students pursuing the PhD with a major in environmental science may elect to complete a concentration in one of the following areas:

- Ecology and conservation biology
- Geoscience
- Human ecology
- Toxicology

Doctoral degree requirements and procedures

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 42 hours for students with an approved master's degree, or 72 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 which meet with 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
940-565-3525
Web site: chemistry.unt.edu
E-mail: chemistry@unt.edu

LeGrande M. Slaughter, Chair

Faculty

Research

Research programs include analytical, computational, inorganic, organic, physical and forensic chemistry, as well as chemical biology and chemistry education. Specific areas of study include synthesis, properties and kinetic investigations of transition metal and organometallic compounds; synthesis and properties of porphyrins and macrocycles; porous organic and inorganic materials; gas phase kinetics; spectroelectrochemistry; ultrafast spectroscopy; materials analysis and synthesis; interfacial processes; fungal natural products chemistry; molecular optics and electronics; sensor technology; computational chemistry method development; computer-aided catalyst design; computational chemical biology; atomic layer deposition of materials; and reactivities of metal and oxide surfaces.

The department manages a state-of-the-art suite of scientific equipment, including 400 MHz and 500 MHz multinuclear Fourier transform NMR spectrometers with CP/MAS solids capability; FT-IR and Raman spectrometers multiple HPLC, GC, and GCMS systems; both powder and single crystal X-ray diffractometers, atomic absorption spectrometers; electrochemical analyzers; and several other types of instruments for chemical analysis. Within the chemistry department, there is a recently upgraded high-performance computing facility, which houses multiple HPC clusters available for the department's computational chemistry research investigations by students and faculty.

Full-time PhD-level staff manage the X-ray diffraction laboratory, the NMR facilities, the high-performance computing facilities and the shared instrumentation laboratory. Other technical personnel include an instrument technician and a glassblower.

Financial support for research is provided by a diverse range of federal funding agencies and private foundations. For current and recent research projects, this has included the National Science Foundation, the National Institutes of Health, the Department of Energy, the Robert A. Welch Foundation, the Keck Foundation, the Sloan Foundation, Microsoft, Intel, and Exxon Mobil. In addition, graduate students have successfully competed for independent support through fellowships from the National Science Foundation, the National Institutes of Justice, and other private and federal sources.

Degree programs

Advanced degrees in chemistry are 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 chemistry, inorganic chemistry, organic chemistry, physical chemistry, chemical biology, and chemistry education.

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

Additional information regarding degree requirements is contained in the *Department of Chemistry Graduate Policies*. A copy can be obtained by visiting the Chemistry Department website (https://chemistry.unt.edu/graduate-program/current-students/graduate-policy-bulletin) or by emailing a request to the chair of the Graduate Affairs Committee at chemistry@unt.edu.

Admission requirements

Departmental forms for applying for the M.S. and Ph.D. programs may be obtained from the Student Services Office in room 207 of the Chemistry Building or from the department web site. Complete college transcripts, three letters of recommendation with at least two coming from faculty in chemistry or closely related fields, a statement of purpose, and a C.V. are required for admission.

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 (see Degree Programs, above).

Students must take placement examinations covering analytical chemistry, inorganic chemistry, organic chemistry, physical chemistry, and chemical biology at the advanced undergraduate level. These examinations are given during registration week of each long term/semester. The results of these examinations are used for counseling purposes and course placement. The chemistry department employs a core course system that requires its students to take a specified number of graduate courses in traditional core areas of study, while also allowing students to pursue elective "Special Topics" courses that cover more specialized subjects.

Advisory program

The chair of the chemistry Graduate Affairs Committee serves as advisor to beginning graduate students. When a field of specialization and a major professor/research advisor have been selected, a Graduate Advisory Committee is then selected in consultation with the research advisor. The minimum number of committee members is three for the master's and four for the doctoral advisory committee. The student interacts regularly with this committee for purposes of monitoring research progress reports and advising on future goals. PhD committees will also choose an individual from outside the university who is knowledgeable in the student's area of research to serve as an external advisor for 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. In contrast to a traditional master's degree, a thesis is not required but a 3 or 6 semester credit hour internship is included within the degree requirements. 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 Graduate Advisory 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 industrial chemistry.

Additional information about this degree can be found at www.sciencemasters.com.

Master's Degree

Chemistry, MS

Analytical, Inorganic, Organic or Physical Chemistry; or Chemical Biology

Applicants seeking a master's degree in one of these areas will plan a course of study with the assistance of their research advisor and Graduate Advisory Committee. A graduate major must present

credit for at least 30 semester hours. A minimum of 12 hours of formal (lecture) courses are required above the proficiency level. The student must maintain a B average in all formal chemistry coursework. The student must write a thesis describing their research and must defend the thesis at an oral examination administered by the Graduate Advisory Committee.

The Department of Chemistry requires completion of two of the five core courses (one of which must be in the student's area of concentration) with an average grade of B or above. A thesis is required. Each student's degree plan is determined by consultation with their Thesis Committee, the faculty members of the home division for their concentration, and the departmental Graduate Affairs Committee.

The core courses in each area are as follows: CHEM 5570 (Analytical Chemistry); CHEM 5710 (Inorganic Chemistry); CHEM 5500 (Organic Chemistry); CHEM 5210 (Physical Chemistry); and CHEM 6540 (Chemical Biology). Other courses may be substituted for these only with approval of the divisional faculty and the Chemistry Graduate Affairs Committee.

Chemistry Education

Applicants seeking a master's degree in Chemistry with a concentration in Chemistry Education will plan a course of study with the assistance of their research advisor, the Chemistry Education Division faculty members, and the Graduate Affairs Committee. A graduate major must present credit for at least 30 semester hours, including Research (CHEM 6940) and Seminar (CHEM 5940); this must also include six credit hours of CHEM 5950, Master's Thesis, to be completed at the end of the student's graduate studies and before the Thesis Defense. A minimum of 12 hours beyond Proficiencies must be formal graduate courses, not including seminar courses. The student must maintain a B average in all formal course work. The student must write a thesis describing their research and must defend the thesis at an oral examination administered by the Graduate Advisory Committee. The Department of Chemistry requires completion of two core courses with an average grade of B or above; one of the core courses must be CHEM 5880, and the other core course must be in the student's *Area of Specialization* in one of the other chemistry formal divisions (Analytical, Inorganic, Organic, or Physical Chemistry). Students pursuing this degree are also required to complete two advanced/special topics courses, one specifically related to Chemistry Education, and the other in Chemistry in the student's *Area of Specialization*. The degree requirements are determined by consultation with the Graduate Affairs Committee.

For those seeking a non-thesis master's degree in Chemistry with a concentration in Chemistry Education, the student must present credit for at least 36 semester hours of formal graduate courses, which may include seminar courses, but which cannot include CHEM 6940 (Individual Research) or CHEM 5950 (Thesis) if no thesis is to be written. For the non-thesis degree, a minimum of 18 hours beyond Proficiencies must be formal graduate courses, not including seminar courses.

Professional Science Master's degree option (chemistry), MS

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. In contrast to a traditional master's degree, a thesis is not required but a 3 or 6 semester credit hour internship is included within the degree requirements. 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 Graduate Advisory 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 and concentration in industrial chemistry.

Additional information about this degree can be found at www.sciencemasters.com.

Doctorate

Chemistry, PhD

Candidates for the PhD with a major in chemistry entering with only a bachelor's degree must complete a minimum of 72 hours of course work.

A minimum of 18 hours of formal (lecture) courses are required above the proficiency level. The course requirements for the PhD degree require that a student complete core courses in two of the six traditional areas of chemistry, including the core course in their primary area of research. Students must complete four 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. No more than 9 semester credit hours of dissertation are applied to the degree, even though more dissertation hours may be accumulated. It is required that at least one paper on a topic related to the dissertation will have been accepted in or submitted to a peer-reviewed journal by the time of the oral defense.

Up to two of the six advanced courses may be in another department if the student's PhD advisor and advisory committee approve.

After completion of the formal course work and the cumulative examination/qualifying examination sequence (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.

Analytical, Inorganic, Organic or Physical Chemistry; or Chemical Biology

Ph.D. students may complete a concentration in one of these areas by completing the core course in that area, taken from the list below, and by completing the Qualifying Examination (CHEM 6010) sequence in the departmental division corresponding to the area of concentration. The Qualifying Examination sequence requires enrollment in CHEM 6010 for two consecutive long semesters and completion of both written (cumulative) and oral examinations. Specific requirements for written and oral CHEM 6010 exams vary by area of concentration and will be communicated to students via written guidelines approved by the Chemistry Graduate Affairs Committee and the departmental divisions.

The core courses in each area are as follows: CHEM 5570 (Analytical Chemistry); CHEM 5710 (Inorganic Chemistry); CHEM 5500 (Organic Chemistry); CHEM 5210 (Physical Chemistry); and CHEM 6540 (Chemical Biology). Other courses may be substituted for these only with approval of the divisional faculty and the Chemistry Graduate Affairs Committee.

Chemistry Education

Applicants seeking a Ph.D. in Chemistry with a concentration in Chemistry Education must complete core courses in two of the six traditional areas of chemistry (including CHEM 5880 - Learning Theories and the core course in the student's Area of Specialization). Additionally, a minimum of two Advanced/Special Topics courses must be taken, and both should be related to Chemistry Education and approved by the student's research advisor. The remaining two required courses may come from either Advanced/Special Topics courses (such as an advanced course in a student's Area of Specialization) and/or additional Core Courses. The student must maintain a B average or better in these six courses. As for other

concentrations shown above, students proceed to doctoral candidacy after completing the Qualifying Examination sequence according to guidelines for the Chemistry Education division, including enrollment in CHEM 6010 for two semesters. Research must culminate in the writing of a dissertation of demonstrable scientific merit. No more than 9 semester credit hours of dissertation are applied to the degree, even though more dissertation hours may be accumulated. It is required that at least one paper on a topic related to the dissertation will have been accepted in or submitted to a peer-reviewed journal by the time of the oral defense.

Department of Data Analytics and Statistics

Main Office
General Academic Building (GAB), Room 102

Mailing address:
Advanced Data Analytics
1155 Union Circle #310830
Denton, TX 76203-5017

Main: 940-369-8204
ADTA Advising: 940-565-3112 or 940-369-5179
E-mail: analytics@unt.edu
Web site: dataanalytics.unt.edu

Michael Monticino, Chair

Faculty

Master's Degree

Advanced Data Analytics with a concentration in Analytics Project Management, MS

The MS in Advanced Data Analytics provides students with the foundational academic and practical preparation necessary to meet the growing demand for analytics professionals in business and industry. The concentration in analytics project management provides the competencies and experiences to successfully manage analytics projects across the data analytics lifecycle, focusing on those specialized project management skills needed in the high-demand analytics field.

Admission requirements

Students seeking a Master of Science with a major in advanced data analytics must satisfy the admission requirements of the Toulouse Graduate School. In addition to the Toulouse Graduate School requirements, applicants must submit the following:

1. minimum 3.0 GPA (cumulative or last 60 hours);
2. a resume or curriculum vitae;
3. a written statement of purpose (500-700 words); and
4. 2 letters of recommendation.

Degree requirements

The student earning the MS with a major in advanced data analytics must meet the following requirements:

1. completion of background courses in statistics, analytics or decision science as necessary;
2. completion of at least 30 semester hours of graduate work beyond assigned background courses;
3. a GPA of at least a 3.0 on all core program courses taken at UNT after admission to graduate school;
4. a GPA of at least a 3.0 on all courses taken for graduate credit applied toward the degree plan; and
5. a grade of at least a B in the capstone experience.

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 adequate academic preparation through their undergraduate program, through their professional experience, or a combination of the two. Students are required to have a working knowledge of undergraduate-level statistics and basic programming skills before beginning the required courses.

Required courses, 18 hours

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5410 - Applications and Deployment of Advanced Analytics
- ADTA 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

- ADTA 5810 - Managing Analytics Projects
- ADTA 5820 - Analytics Leadership and Communication
- ADTA 5830 - Risk Management and Value Creation for Analytics
- ADTA 5840 - Agile Frameworks for Analytics

Advanced Data Analytics with a concentration in Applied Artificial Intelligence, MS

The MS in Advanced Data Analytics provides students with the foundational academic and practical preparation necessary to meet the growing demand for analytics professionals in business and industry. The concentration in applied artificial intelligence provides additional in-depth knowledge and experience applying AI methods and tools in a business context, giving students important skills to stand out in the high-demand data analytics job market.

Admission requirements

Students seeking a Master of Science with a major in advanced data analytics must satisfy the admission requirements of the Toulouse Graduate School. In addition to the Toulouse Graduate School requirements, applicants must submit the following:

1. minimum 3.0 GPA (cumulative or last 60 hours);
2. a resume or curriculum vitae;
3. a written statement of purpose (500-700 words); and
4. 2 letters of recommendation.

Degree requirements

The student earning the MS with a major in advanced data analytics must meet the following requirements:

1. completion of background courses in statistics, analytics or decision science as necessary;
2. completion of at least 30 semester hours of graduate work beyond assigned background courses;
3. a GPA of at least a 3.0 on all core program courses taken at UNT after admission to graduate school;
4. a GPA of at least a 3.0 on all courses taken for graduate credit applied toward the degree plan; and
5. a grade of at least a B in the capstone experience.

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 adequate academic preparation through their undergraduate program, through their professional experience, or a combination of the two. Students are required to have a working knowledge of undergraduate-level statistics and basic programming skills before beginning the required courses.

Required courses, 18 hours

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5410 - Applications and Deployment of Advanced Analytics
- ADTA 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

- ADTA 5550 - Deep Learning with Big Data
- ADTA 5560 - Recurrent Neural Networks for Sequence Data
- ADTA 5750 - Applied Natural Language Processing
- ADTA 5760 - Natural Language Processing with Artificial Neural Networks

Advanced Data Analytics with a concentration in Digital Retailing, MS

The Master of Science with a major in advanced data analytics is designed to provide students with an advanced quantitative foundation for advancement in decision science or applied analytics fields. The program is intended for those students who desire a strong, quantitative degree in data science that develops an in-depth understanding of analytical methods, data management, technology tools and applications.

Admission requirements

Students seeking a Master of Science with a major in advanced data analytics must satisfy the admission requirements of the Toulouse Graduate School. In addition to the Toulouse Graduate School requirements, applicants must submit the following:

1. minimum 3.0 GPA (cumulative or last 60 hours);
2. a resume or curriculum vitae;
3. a written statement of purpose (500-700 words); and
4. 2 letters of recommendation.

Degree requirements

The student earning the MS with a major in advanced data analytics must meet the following requirements:

1. completion of background courses in statistics, analytics or decision science as necessary;
2. completion of at least 30 semester hours of graduate work beyond assigned background courses;
3. a GPA of at least a 3.0 on all core program courses taken at UNT after admission to graduate school;
4. a GPA of at least a 3.0 on all courses taken for graduate credit applied toward the degree plan; and
5. a grade of at least a B in the capstone experience.

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 adequate academic preparation through their undergraduate program, through their professional experience or a combination of the two. Students are required to have working knowledge of undergraduate-level statistics and basic programming skills before beginning required courses.

Required courses, 18 hours

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5410 - Applications and Deployment of Advanced Analytics
- ADTA 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

- MDSE 5240 - Global Retailing
- MDSE 5710 - Digital Optimization
- MDSE 5750 - Digital Retailing

Plus one course from the following

- CMHT 5440 - Consumer Theory
- CMHT 5600 - Managing Customer Experiences

Advanced Data Analytics with a concentration in Geographic Information Systems (GIS), MS

The MS in Advanced Data Analytics provides students with the foundational academic and practical preparation necessary to meet the growing demand for analytics professionals in business, industry, and government. The concentration in geographic information systems (GIS) provides a sound understanding and experience in geospatial data management, analysis, research, visualization, and mapping. The concentration is ideal for those wishing to pursue careers utilizing geospatial analytics in government and business.

Admission requirements

Students seeking a Master of Science with a major in advanced data analytics must satisfy the admission requirements of the Toulouse Graduate School. In addition to the Toulouse Graduate School requirements, applicants must submit the following:

1. minimum 3.0 GPA (cumulative or last 60 hours);
2. a resume or curriculum vitae;
3. a written statement of purpose (500-700 words); and
4. 2 letters of recommendation.

Degree requirements

The student earning the MS with a major in advanced data analytics must meet the following requirements:

1. completion of background courses in statistics, analytics or decision science as necessary;
2. completion of at least 30 semester hours of graduate work beyond assigned background courses;
3. a GPA of at least a 3.0 on all core program courses taken at UNT after admission to graduate school;
4. a GPA of at least a 3.0 on all courses taken for graduate credit applied toward the degree plan; and
5. a grade of at least a B in the capstone experience.

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 adequate academic preparation through their undergraduate program, through their professional experience or a combination of the two. Students are required to have working knowledge of undergraduate-level statistics and basic programming skills before beginning required courses.

Required courses, 18 hours

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5410 - Applications and Deployment of Advanced Analytics
- ADTA 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

Students take four courses from the list below.

- GEOG 5510 - GIS for Applied Research
- GEOG 5525 - LiDAR Data Analysis in GIS
- GEOG 5530 - Remote Sensing and Digital Image Analysis
- GEOG 5540 - Enabling Business Intelligence Using Enterprise GIS
- GEOG 5560 - Application Development with Python Programming
- GEOG 5590 - Advanced GIS Programming

Advanced Data Analytics with a concentration in Geospatial Intelligence, MS

The MS in Advanced Data Analytics provides students with the foundational academic and practical preparation necessary to meet the growing demand for analytics professionals in business, industry, and government. The concentration in geospatial intelligence provides domain knowledge and experience applying geospatial data analytics to strategic decision making and location intelligence. The concentration is ideally suited for students who wish to apply geospatial intelligence techniques in business and government careers.

Admission requirements

Students seeking a Master of Science with a major in advanced data analytics must satisfy the admission requirements of the Toulouse Graduate School. In addition to the Toulouse Graduate School requirements, applicants must submit the following:

1. minimum 3.0 GPA (cumulative or last 60 hours);
2. a resume or curriculum vitae;
3. a written statement of purpose (500-700 words); and
4. 2 letters of recommendation.

Degree requirements

The student earning the MS with a major in advanced data analytics must meet the following requirements:

1. completion of background courses in statistics, analytics or decision science as necessary;
2. completion of at least 30 semester hours of graduate work beyond assigned background courses;
3. a GPA of at least a 3.0 on all core program courses taken at UNT after admission to graduate school;
4. a GPA of at least a 3.0 on all courses taken for graduate credit applied toward the degree plan; and
5. a grade of at least a B in the capstone experience.

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 adequate academic preparation through their undergraduate program, through their professional experience or a combination of the two. Students are required to have working knowledge of undergraduate-level statistics and basic programming skills before beginning required courses.

Required courses, 18 hours

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5410 - Applications and Deployment of Advanced Analytics
- ADTA 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

Students take four courses from the list below.

- GEOG 5190 - Spatial Statistics and Geographic Data Analysis
- GEOG 5195 - Advanced Geospatial Data Analytics
- GEOG 5220 - Applied Retail Geography
- GEOG 5230 - Location Intelligence: Advanced Business GIS Concepts and Applications
- GEOG 5510 - GIS for Applied Research
- GEOG 5540 - Enabling Business Intelligence Using Enterprise GIS
- GEOG 5580 - Advanced GIS Methods in Health

Advanced Data Analytics with a concentration in Health Data Analytics, MS

The Master of Science with a major in advanced data analytics is designed to provide students with an advanced quantitative foundation for advancement in decision science or applied analytics fields. The program is intended for those students who desire a strong, quantitative degree in data science that develops an in-depth understanding of analytical methods, data management, technology tools and applications.

Driven by federal requirements and the demand to improve the quality of health care delivery in the United States, the health care industry generates and stores massive amounts of electronic data related to patient care, compliance, regulatory and billing requirements, and medical research. The health data analytics concentration helps those who want to obtain a data analytics degree, but with a focus in health care. This degree has two options: hybrid or completely online as an accelerated online program (AOP).

Admission requirements

Students seeking a Master of Science with a major in advanced data analytics must satisfy the admission requirements of the Toulouse Graduate School. In addition to the Toulouse Graduate School requirements, applicants must submit the following:

1. minimum 3.0 GPA (cumulative or last 60 hours);
2. a resume or curriculum vitae;
3. a written statement of purpose (500-700 words); and
4. 2 letters of recommendation.

Degree requirements

The student earning the MS with a major in advanced data analytics must meet the following requirements:

1. completion of background courses in statistics, analytics or decision science as necessary;
2. completion of at least 30 semester hours of graduate work beyond assigned background courses;
3. a GPA of at least a 3.0 on all core program courses taken at UNT after admission to graduate school;
4. a GPA of at least a 3.0 on all courses taken for graduate credit applied toward the degree plan; and
5. a grade of at least a B in the capstone experience.

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 adequate academic preparation through their undergraduate program, through their professional experience or a combination of the two. Students are required to have working knowledge of undergraduate-level statistics and basic programming skills before beginning required courses.

Required courses, 18 hours

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5410 - Applications and Deployment of Advanced Analytics
- ADTA 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

Students take four courses from the list below.

- HLSV 5300 - Information Systems for Healthcare Management
- HLSV 5450 - Health Services Administration
- HLSV 5500 - Healthcare Quality Management
- HLSV 5740 - Financial Issues in Health Services Administration
- HLSV 5820 - Marketing Health Services
- HLSV 5880 - Healthcare Law and Ethics

Advanced Data Analytics with a concentration in Management, MS

While the MS in advanced data analytics provides students with the academic and practical preparation necessary to meet a growing analytics need in industry, the management concentration is designed for those who want to receive data analytics knowledge but have a more managerial role. This degree has two options: hybrid or completely online as an accelerated online program.

Admission requirements

Students seeking a Master of Science with a major in advanced data analytics must satisfy the admission requirements of the Toulouse Graduate School. In addition to the Toulouse Graduate School requirements, applicants must submit the following:

1. minimum 3.0 GPA (cumulative or last 60 hours);
2. a resume or curriculum vitae;
3. a written statement of purpose (500-700 words); and
4. 2 letters of recommendation.

Degree requirements

The student earning the MS with a major in advanced data analytics must meet the following requirements:

1. completion of background courses in statistics, analytics or decision science as necessary;

2. completion of at least 30 semester hours of graduate work beyond assigned background courses;
3. a GPA of at least a 3.0 on all core program courses taken at UNT after admission to graduate school;
4. a GPA of at least a 3.0 on all courses taken for graduate credit applied toward the degree plan; and
5. a grade of at least a B in the capstone experience.

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 adequate academic preparation through their undergraduate program, through their professional experience or a combination of the two. Students are required to have working knowledge of undergraduate-level statistics and basic programming skills before beginning required courses.

Required courses, 18 hours

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5410 - Applications and Deployment of Advanced Analytics
- ADTA 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

Students take four courses from the list below.

- MGMT 5120 - Managing Organizational Design and Change
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5300 - Entrepreneurship and Venture Management
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MGMT 5760 - Strategic Management
- MGMT 5870 - Leadership Research and Development

Advanced Data Analytics with a concentration in Sports, MS

The Master of Science with a major in advanced data analytics is designed to provide students with an advanced quantitative foundation for advancement in decision science or applied analytics fields. The program is intended for those students who desire a strong, quantitative degree in data science that develops an in-depth understanding of analytical methods, data management, technology tools and applications.

Admission requirements

Students seeking a Master of Science with a major in advanced data analytics must satisfy the admission requirements of the Toulouse Graduate School. In addition to the Toulouse Graduate School requirements, applicants must submit the following:

1. minimum 3.0 GPA (cumulative or last 60 hours);
2. a resume or curriculum vitae
3. a written statement of purpose (500-700 words);
4. 2 letters of recommendation.

Degree requirements

The student earning the MS with a major in advanced data analytics must meet the following requirements:

1. completion of background courses in statistics, analytics or decision science as necessary;
2. completion of at least 30 semester hours of graduate work beyond assigned background courses;
3. a GPA of at least a 3.0 on all core program courses taken at UNT after admission to graduate school;
4. a GPA of at least a 3.0 on all courses taken for graduate credit applied toward the degree plan; and
5. a grade of at least a B in the capstone experience.

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 adequate academic preparation through their undergraduate program, through their professional experience or a combination of the two. Students are required to have working knowledge of undergraduate-level statistics and basic programming skills before beginning required courses.

Required courses, 18 hours

All students admitted to the MS in advanced data analytics must complete the following required courses:

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5410 - Applications and Deployment of Advanced Analytics
- ADTA 5940 - Analytics Capstone Experience

Sports concentration, 12 hours

Choose four courses (12 hours) from the courses listed below.

- SENM 5261 - Corporate Partnerships in the Sport Entertainment Industry
- SENM 5401 - Talent Management in the Sport Entertainment Industry
- SENM 5490 - Consulting in the Sport Entertainment Industry
- RESM 5520 - Strategic Marketing in RESM
- RESM 5530 - Legal Principles and Risk Management in RESM
- RESM 5600 - Sport in the Global Marketplace

Advanced Data Analytics with a concentration in Statistics, MS

The Master of Science with a major in advanced data analytics is designed to provide students with an advanced quantitative foundation for advancement in decision science or applied analytics fields. The program is intended for those students who desire a strong, quantitative degree in data science that develops an in-depth understanding of analytical methods, data management, technology tools and applications.

Admission requirements

Students seeking a Master of Science with a major in advanced data analytics must satisfy the admission requirements of the Toulouse Graduate School. In addition to the Toulouse Graduate School requirements, applicants must submit the following:

1. minimum 3.0 GPA (cumulative or last 60 hours);
2. a resume or curriculum vitae;
3. a written statement of purpose (500-700 words); and
4. 2 letters of recommendation.

Degree requirements

The student earning the MS with a major in advanced data analytics must meet the following requirements:

1. completion of background courses in statistics, analytics or decision science as necessary;
2. completion of at least 30 semester hours of graduate work beyond assigned background courses;
3. a GPA of at least a 3.0 on all core program courses taken at UNT after admission to graduate school;
4. a GPA of at least a 3.0 on all courses taken for graduate credit applied toward the degree plan; and
5. a grade of at least a B in the capstone experience.

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 adequate academic preparation through their undergraduate program, through their professional experience or a combination of the two. Students are required to have working knowledge of undergraduate-level statistics and basic programming skills before beginning required courses.

Required courses, 18 hours

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5410 - Applications and Deployment of Advanced Analytics
- ADTA 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

- ADTA 5610 - Applied Probability Modeling for Data Analytics
- ADTA 5620 - Applied and Computational Statistics for Data Analytics

Plus two courses from the following

- BIOL 5130 - Biostatistics I
- BIOL 5140 - Biostatistics II
- BIOL 5810 - Bioinformatics Algorithms
- BIOL 5820 - Computational Epidemiology
- ECON 5645 - Empirical Linear Modeling
- ECON 5660 - Time Series Econometrics and Forecasting
- GEOG 5195 - Advanced Geospatial Data Analytics
- MATH 5700 - Selected Topics in Contemporary Mathematics

Advanced Data Analytics, MS

The Master of Science with a major in advanced data analytics is designed to provide students with an advanced quantitative foundation for advancement in decision science or applied analytics fields. The program is intended for those students who desire a strong, quantitative degree in data science that develops an in-depth understanding of analytical methods, data management, technology tools and applications.

Admission requirements

Students seeking a Master of Science with a major in advanced data analytics must satisfy the admission requirements of the Toulouse Graduate School. In addition to the Toulouse Graduate School requirements, applicants must submit the following:

1. minimum 3.0 GPA (cumulative or last 60 hours);
2. a resume or curriculum vitae;
3. a written statement of purpose (500-700 words); and
4. 2 letters of recommendation.

Degree requirements

The student earning the MS with a major in advanced data analytics must meet the following requirements:

1. completion of background courses in statistics, analytics or decision science as necessary;
2. completion of at least 30 semester hours of graduate work beyond assigned background courses;
3. a GPA of at least a 3.0 on all core program courses taken at UNT after admission to graduate school;
4. a GPA of at least a 3.0 on all courses taken for graduate credit applied toward the degree plan; and
5. a grade of at least a B in the capstone experience.

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 adequate academic preparation through their undergraduate program, through their professional experience or a combination of the two. Students are required to have working knowledge of undergraduate-level statistics and basic programming skills before beginning required courses.

Required courses, 21 hours

All students admitted to the MS in advanced data analytics must complete the following required courses:

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5250 - Large Data Visualization
- ADTA 5340 - Discovery and Learning with Big Data
- ADTA 5410 - Applications and Deployment of Advanced Analytics
- ADTA 5940 - Analytics Capstone Experience

Graduate Academic Certificate

Analytics Project Management certificate

Nearly every business is standing up data analytics teams within and across their organizational units. There is a significant need for analytics talent to staff these groups, especially for people with the experience and skills needed to manage complex analytics projects. Successfully managing analytics projects across the data analytics lifecycle takes strong analytics competencies as well as specialized project management skills. This certificate helps provide students with the skills and knowledge needed to effectively

manage and lead analytics teams. Certificate courses emphasize the unique nature of managing analytics teams. This certificate helps graduate's standout in the high-demand field of data analytics.

Required courses, 12 hours

- ADTA 5810 - Managing Analytics Projects
- ADTA 5820 - Analytics Leadership and Communication
- ADTA 5830 - Risk Management and Value Creation for Analytics
- ADTA 5840 - Agile Frameworks for Analytics

Data Analytics certificate

Training and experience in data analytics is becoming increasingly important in nearly any career. This certificate comprises a collection of courses that graduate students from any major may use to complete a Graduate Certificate in Data Analytics. The certificate provides students with an understanding of fundamental concepts of contemporary statistical and data analytics methods, as well as experience in obtaining, wrangling and learning from big data. Certificate courses emphasize applications of methods for solving problems in science, business, and industry with real-world data and case studies. This certificate helps prepare graduates to be highly competitive in the employment marketplace.

Required courses, 15 hours

- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II
- ADTA 5240 - Harvesting, Storing and Retrieving Data
- ADTA 5250 - Large Data Visualization
- ADTA 5340 - Discovery and Learning with Big Data

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

Ralf Schmidt, Chair

Faculty

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, applied and computational mathematics, dynamical systems and ergodic theory, geometry and topology, mathematical logic and foundations, number theory, statistics.

Faculty research is supported by federal and private grants. Many of these grants provide research support for graduate students.

The university library collection in the mathematical sciences is one of the nation's finest 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. General GRE scores are strongly recommended but not required and the Math Subject GRE is recommended. 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. There can be funds within the department to support some research assistants.

Contact the graduate advisor for complete details and for information about financial support.

Master's Degree

Mathematics with a Concentration in Mathematics Education, MS

This 36 credit-hour program provides certified secondary mathematics teachers with the course work to teach dual-credit (high school/college) mathematics. Additionally, this degree provides college/university developmental mathematics instructors with the coursework required to teach introductory level college- /university-credit mathematics courses.

Graduate mathematics courses

Students can choose from any 4 graduate level mathematics courses from among the following courses (12 SCH):

- MATH 5110 - Introduction to Analysis
- MATH 5210 - Numerical Analysis
- MATH 5400 - Introduction to Functions of a Complex Variable
- MATH 5460 - Differential Equations
- MATH 5500 - Introduction to the Theory of Matrices
- MATH 5600 - Introduction to Topology
- MATH 5700 - Selected Topics in Contemporary Mathematics

Graduate mathematics education courses

Students must take any 4 graduate level mathematics education courses from among the following courses (12 SCH):

- MATH 5710 - History of Mathematics With Technology
- MATH 5720 - Problem-Solving for Secondary Teachers
- MATH 5730 - Problem-Solving in Calculus for Teaching
- MATH 5740 - Problem-Solving in Probability and Statistics for Teaching
- MATH 5750 - Special Topics in Mathematics Education

Electives

Students must take any 3 elective courses (9 SCH).

Professional project

Students must take an individual study course for their professional project. (3 SCH).

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.

A final oral presentation 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 eight courses:

- MATH 5310 - Real Analysis
- MATH 5320 - Real Analysis
- MATH 5410 - Complex Analysis
- MATH 5420 - Complex Analysis
- MATH 5520 - Modern Algebra
- MATH 5530 - Modern Algebra
- MATH 5610 - Topology
- MATH 5620 - Topology

Doctorate

Mathematics, PhD

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 - Real Analysis
- MATH 5320 - Real Analysis
- MATH 5410 - Complex Analysis
- MATH 5420 - Complex Analysis
- MATH 5520 - Modern Algebra
- MATH 5530 - Modern Algebra
- MATH 5610 - Topology
- MATH 5620 - Topology

In addition

The student is required to take a broad selection of 6000-level courses, normally 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.

Graduate Academic Certificate

Dual Credit Teaching in Mathematics certificate

This Graduate Certificate provides secondary teachers 18 hours of advanced disciplinary training in teaching dual credit math courses.

Graduate level math courses

Students will take any three graduate mathematics courses (9 SCH) from the following list of courses:

- MATH 5110 - Introduction to Analysis
- MATH 5210 - Numerical Analysis
- MATH 5400 - Introduction to Functions of a Complex Variable
- MATH 5460 - Differential Equations
- MATH 5500 - Introduction to the Theory of Matrices
- MATH 5600 - Introduction to Topology
- MATH 5700 - Selected Topics in Contemporary Mathematics

Graduate level math education courses

Students will take any three graduate mathematics education courses (9 SCH) from the following list of courses:

- MATH 5710 - History of Mathematics With Technology
- MATH 5720 - Problem-Solving for Secondary Teachers
- MATH 5730 - Problem-Solving in Calculus for Teaching
- MATH 5740 - Problem-Solving in Probability and Statistics for Teaching
- MATH 5750 - Special Topics in Mathematics Education

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

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

Jingbiao Cui, Chair
Rebekah Purvis, Associate Chair

Faculty

Students in the Department of Physics have the opportunity to obtain training with state-of-the-art equipment in modern research laboratories in areas of interest to the scientific and industrial communities, particularly those involved in microelectronics, semiconductors, applications of accelerators, photonics and lasers, and modern computational methods. Opportunities are available to develop highly marketable skills in basic and applied physics as well as interactions with regional industries.

Research

The Department of Physics is committed to carrying out state-of-the-art research across a number of areas of physics and closely related areas of science and technology. Many opportunities also exist for undergraduate research participation, for example, through senior thesis projects. With these strong student involvements, the department's research activities support and complement student education and professional preparation.

Research in the department is concentrated in the following principal areas:

- Applied Physics
- Astrophysics
- Atomic, molecular and optical physics
- Condensed Matter Physics

Supporting these research areas are a number of facilities and theoretical and observational programs:

- Astrophysics research using ground and space-based telescopes
- Atomic, molecular and optical theory
- Atomic scattering physics laboratory
- Complex systems science
- Condensed matter theory
- Ion beam modification and analysis laboratory
- Materials modeling and computation
- Nano-Plasmonics and Nano-Optics Laboratory
- Nanoscale materials synthesis and characterization laboratory
- Plasma science
- Precision atomic physics measurements laboratory
- Remote access and public astronomical observatories (LINKS)
- Scanning tunneling microscopy laboratory
- Semiconductor materials and devices characterization laboratory
- Optical nano/micro-fabrication
- Ultrafast spectroscopy and nanophotonics laboratory

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 through the UNT Toulouse Graduate School.

The prospective student must complete all of the general application requirements for the UNT Toulouse Graduate School 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.

As part of the application, the prospective student must also submit a statement of purpose and C.V., described on the UNT Department of Physics web site, and provide contact information for two recommenders. The recommenders must be individuals familiar with the applicant's academic and/or professional abilities. 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, 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 are 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 MS students must attend the Department of Physics colloquium each week during each long term/semester of full-time graduate study. As a part of this requirement, all full-time MS students must enroll in PHYS 5941 for three semesters (one credit hour per term). These credit hours may count toward the organized course requirements for the degree.

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. The program requires a minimum of 72 credit hours in 5000- and 6000-level courses beyond the bachelor's degree or 42 hours beyond the master's degree, including a 12-hour dissertation.

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 must take the following four core courses at UNT and earn a grade of at least B in each to satisfy this part of the PhD. qualification process.

- PHYS 5500 - Quantum Mechanics I (or PHYS 5510 - Quantum Mechanics II)
- PHYS 5710 - Advanced Classical Mechanics I
- PHYS 5720 - Electromagnetic Theory I (or PHYS 6030 - Electromagnetic Theory II)
- PHYS 6110 - Statistical Mechanics I

Additional course requirements

Students must take three additional organized graduate-level courses at UNT and earn a grade of at least B in each to satisfy this part of the PhD qualification process. At least two of the courses must be PHYS courses, the third may be chosen from any STEM field, and all three courses must be approved by the student's Major Professor.

Additional information

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 two years of full-time study if entering the program with a master's degree in physics. Any exceptions associated with extenuating circumstances must be approved by the graduate committee.

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 Graduate Affairs Committee. At least 3 weeks 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. At least a week before the scheduled defense, the student must provide the committee with 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

Generally, all non-dissertating physics PhD students are expected to attend a Department of Physics colloquium each week during each long term/semester of full-time graduate study. As part of this requirement, all full-time students, except those enrolled only in PHYS 6950, must enroll in PHYS 5941 each long term/semester.

College of Visual Arts and Design

Main Office
Art Building, Room 101

Mailing address:
1155 Union Circle #305100
Denton, TX 76203-5017
(940)-565-4001
Web site: cvad.unt.edu

Art Education
E-mail: cvad.arteducation@unt.edu
Phone: 940-369-7559

Art History
E-mail: cvad.arthistory@unt.edu
Phone: 940-565-4777

Design
E-mail: cvad.design@unt.edu
Phone: 940-565-3621

Studio Art
E-mail: cvad.studio@unt.edu
Phone: 940-369-7671

Karen Hutzel, Dean
Eric Ligon, Senior Associate Dean for Administrative Affairs
Heidi Strobel, Associate Dean for Academic and Student Affairs

Faculty

The College of Visual Arts and Design fosters creative futures for its diverse student population and the region through rigorous arts-based education, arts- and client-based studio practice, scholarship and research.

The University of North Texas is accredited by the National Association of Schools of Art and Design (11250 Roger Bacon Drive, Suite 21, Reston, VA 20190; 703-437-0700.

The College of Visual Arts and Design is organized into departments based on the following programs, with the college housing a BA in interdisciplinary art and design studies.

Art Education

The Department of Art Education offers the BFA, MA and PhD with a major in art education and a graduate academic certificate in art museum education.

Art History

The Department of Art History offers the undergraduate minor, BA and MA in art history, with an opportunity for an accelerated BA leading to MA graduate track program.

Design

The Department of Design offers the BFA degree with majors in communication design, fashion design and interior design and the MFA degree with a major in design and concentrations in fashion design and interior design. Also offered is the MA with a major in design and concentration in interaction design. Both the fashion design and interior design graduate curricula focus on the development of creative scholarship. The MA with a major in design and concentration in interaction design is designed to help individuals and organizations gain the skills, methods and experiences needed to define meaningful, effective and successful human-centered products, services and systems.

Studio Art

The Department of Studio Art offers BFA and MFA degrees in studio art with concentrations in ceramics, drawing and painting, metalsmithing and jewelry, new media art, photography, printmaking, and sculpture.

Admission requirements

Prospective 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 are available for the Department of Art Education, Department of Art History, Department of Design, and Department of Studio Art in this catalog, through the web site www.cvad.unt.edu or by calling the department office. Students are admitted to the MFA in studio art in fall terms/ semesters only.

Department of Art Education

Department of Art Education
Main Office
Art Building, Room 230

Mailing address:
1155 Union Circle #305100
Denton, TX 76203-5017
940-369-7559
E-mail: cvad.arteducation@unt.edu
Website: cvad.unt.edu/arteducation

Nicole Foran, Interim Chair

Faculty

Generally speaking, the discipline of art education concerns itself with the theory and practice of teaching and learning in art. At the undergraduate level, a degree in art education 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. A graduate academic certificate in art museum education readies students for careers in museums and other arts organizations.

Research

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 Jo Ann (Jody) and Dr. Charles Onstead Institute for Education in Visual Arts and Design.

Admission requirements

Applicants must meet requirements for admission to the Toulouse Graduate School. Applicants to the MA program in 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 portfolio of approximately 20 recent artworks. All applicants should submit a statement of objectives, and a minimum of two letters of recommendation (three letters of recommendation are required for the PhD program). Applicants to the graduate academic certificate in art museum education apply through the Toulouse Graduate School.

Prospective applicants for graduate degree programs must apply to UNT through the UNT Office of Admissions and the CVAD Department of Art Education. Detailed information about the application process is available on the CVAD website. Admission decisions are made on a rolling basis, but priority deadlines for consideration for funding are as follows:

- Fall term/semester: February 15
- Spring term/semester: September 15

Funding

Each term/semester the department is able to provide a limited number of graduate 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.

Exemplary students with a half-time teaching assistant/teaching fellow appointment are also eligible to receive up to full-time tuition waiver through the Toulouse Graduate School's Tuition Benefit Plan.

Graduate students may apply for fellowship opportunities in museum education at three sites: the Amon Carter Museum of American Art, CVAD Galleries, and Meadows Museum. Fellowships involve a 10-hour-per-week internship and are generously funded through the Onstead Institute, Amon Carter Museum of American Art, and Meadows Museum. The Onstead Institute also sponsors a competitive Dissertation Award for PhD students who have successfully passed their Candidacy Exam. This Award intends to support students in their completion of dissertation research in the final 12-18 months of their program.

Additional funding opportunities may be available through the Toulouse Graduate School.

Master's Degree

Art Education, MA

The MA with a major in art education offers three separate program options. All three options require applicants to have completed a bachelor's degree in the visual arts or a related field, and to be admitted to the Toulouse Graduate School. Additional background requirements depend on the option the applicant intends to pursue, as follows:

- **Option 1: art education** 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: art museum education** 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 2 applicants must have a minimum of 12 semester credit hours of art history, of which 6 must be advanced.
- **Option 3: teacher certification** 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 ARTE 5799 - MA Project or additional course work in consultation with the MA advisor.

For detailed program information, see cvad.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 or related field and have typically 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 additional semester hours of studio art, art education, or certification leveling course work, which will be determined on an individual basis and in consultation with the student's major advisor.

The program consists of a minimum of 42 hours:

- 12 hours of doctoral core of art education classes
- 9 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)
- 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 42 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.

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 18 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.
- 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, they 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 their 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 them 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 their 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 their 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 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 15 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 for application information.

Required courses, 15 hours

- ARTE 5940 - Seminar in Art Museum
- ARTE 5942 - Seminar in Art Museum Education I
- ARTE 5945 - Seminar in Art Museum Education II
- ART 5450 - Professional Internship (6 hours)

Disclosures

The Gainful Employment Disclosures for Graduate Academic Certificates may be found at https://tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities-gainful-employment.html.

Department of Art History

Main Office
Art Building, Room 230

Mailing address:
1155 Union Circle #305100
Denton, TX 76203-5017
940-565-4777
E-mail: cvad.arthistory@unt.edu
Web site: cvad.unt.edu/arthistory

Lisa N. Owen, Chair

Faculty

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 research agendas of the art history faculty span the globe and address a broad chronology. Faculty research interests include ancient Mediterranean and Near Eastern art, ancient and medieval art in South Asia, 18th-century French and British art, history of fashion and textiles, European art of the late 19th and early 20th centuries, British and American art in the late 20th and 21st centuries, colonial through Contemporary Latin American Art, Mexican Cultural Studies, modern art in the Arab world, design history, art history pedagogy, modern and American architecture, history of craft, and printmaking. Several art history faculty members participate in the women's and gender studies, international studies, American cultural studies, and Arab and Islamic 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 program in art history must submit a recent term paper or a sample of professional writing and a 500 to 750-word letter of intent indicating objectives for enrolling in graduate school, and potential areas of interest that align with faculty research specializations. Applicants must identify specific Art History faculty members who can potentially serve as major professors for the MA research project. In addition, applicants need to request two letters of recommendation from people knowledgeable of the student's academic record. A professional resumé is also required. Students may wish to concurrently pursue the graduate academic certificate in art museum education and must apply separately for admission to that program.

Prospective applicants for graduate degree programs must submit an online application accessible through the Graduate Admissions website. This website will include details on how to submit materials, including transcripts and other items. Applications for the MA in Art History are considered for both fall and spring starts and have the following dates.

- Fall term/semester: February 1
- Spring term/semester: October 1

Funding

Each term/semester the department is able to provide a limited number of graduate assistant/teaching assistant positions for graduate students. If interested, the student should fill out an online application by the deadline listed on the college website. Students with a half-time appointment are also eligible to receive funding through the Toulouse Graduate School's Tuition Benefit Program.

Additional funding opportunities may be available through the Toulouse Graduate School.

Master's Degree

Art History, MA

The MA with a major in art history requires 30 hours of graduate work.

Students seeking the MA in art history should typically 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.

Students graduating from the Honors College with majors in art history or interdisciplinary art and design studies with a 3.5 or higher GPA are entitled to automatic admission to, and are not required to submit standardized test scores for admission to, the Toulouse Graduate School and the graduate program in art history.

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 (ARTH 5849). Also, if a student chooses to do 6 hours in a minor field he or she must consult with the major professor for academic approval. Students enrolled in the art museum education certification program or other similar program also must obtain academic approval to count those courses as a minor field in lieu of 6 hours of art history seminars. Students entering the MA program with limited advanced undergraduate art history course work should not count on approval for a minor, as a full complement of 21 hours of art history graduate seminars may be deemed essential for content and methodological mastery. Students must also successfully complete the graduate colloquium in the semester preceding registration in ARTH 5849.

Required course work

- ARTH 5800 - Methodologies of Art History and Visual Culture
- ARTH 5849 - Art History Research Project (6 hours)
- Art history graduate seminars (15 hours)
- Art history graduate seminars or minor field (6 hours)

Department of Design

Main Office
Art Building, Room 230

Mailing address:
1155 Union Circle #305100
Denton, TX 76203-5017
940-565-3621
E-mail: cvad.design@unt.edu
Web site: cvad.unt.edu

Hepi Wachter, Chair

Faculty

Degree programs

Discover the graduate-level professional programs offered through the UNT College of Visual Arts and Design in the Department of Design. These programs share a common mission that prepares students to identify, meet, define and reinvent solutions for the fundamental challenges that impact their respective professions in and beyond the increasingly changing world of design. The pathways of study in each program have been designed to help future designers develop the conceptual, aesthetic, analytical and technical skills necessary to achieve these objectives.

Admission requirements

Prospective applicants for graduate degree programs must obtain admission information from the UNT admissions web site: Steps to Apply and information from the College of Visual Arts and Design web site (cvad.unt.edu).

Applicants must apply to the University of North Texas Graduate College Admission System (CAS). Applicants must supply official transcripts. Applicants must have official transcripts for their domestic institutions mailed to University of North Texas Graduate CAS, P.O. Box 9205, Watertown, MA 02471.

Applicants for the MFA programs in design with concentrations in fashion design or interior design must hold a bachelor's degree from an accredited U.S. institution or an equivalent four-year degree from an international university in these specific areas of design or a closely related field. Applicants for the MA programs in design with a concentration in interaction design must hold a bachelor's degree from an accredited U.S. institution or an equivalent four-year degree at an international university.

a. Applicants for the MFA programs in design with concentrations in fashion design or interior design must have a minimum of two years of professional experience in their area of study.
b. Applicants must submit a statement of purpose/intent (500–750 words).
c. Applicants must supply a professional resumé that should list all relevant work experience, affiliations, etc.
d. Applicants must submit at least three reference letters from persons familiar with their academic or professional work.
e. Applicants must submit a portfolio of work relevant to their concentration area that includes representative professional work that exhibits their design knowledge and skills. Applicants should identify the responsibilities they fulfilled as a member of a team regarding any work they submit.
f. Applicants for the MA in design with concentration in interaction design must supply a minimum of one writing sample; however, two samples of the applicant's writing are preferable, one of which reflects the applicant's scholarly or research writing ability. Writing examples that use Artificial Intelligence will be disqualified. Each writing sample will need a concluding sentence that the author of the example did not employ Artificial Intelligence to generate the writing example.

For more information about the materials that must be submitted to effectively complete an application to one of our graduate-level design concentrations, please visit cvad.unt.edu/design.

All application materials required by the Department of Design (resumes, statements of intent, portfolios or links to online portfolios, etc.) should be submitted at University of Norh Texas Graduate College Admission System (CAS).

Students are admitted to the MFA in design with concentrations in fashion design and interior design and the MA in design with a concentration in interaction design in both the fall and spring terms/semesters. International applicants must submit their materials no later than May 15 if they wish to be accepted for enrollment the following fall, or August 15 if they wish to be accepted for enrollment for the following spring.

Funding

Each semester the Department of Design can provide a limited number of teaching assistant/teaching fellow positions for graduate students. If interested, individual graduate students should complete an application to fulfill one or two of these positions each semester (cvad.unt.edu/resource/resources-graduate-scholarships-fellowships-and-assistantships).

Additional funding opportunities for Department of Design students may be available through the Toulouse Graduate School or sources outside of UNT.

Master's Degree

Design with a concentration in Fashion Design, MFA

Program requirements

A minimum of 60 semester credit hours of graduate work, including 30 hours of studio. Up to 30 hours of graduate work may be utilized from a previous or concurrent graduate degree.

Candidates are expected to prepare an exhibition of their work for presentation to the public.

Fashion Design concentration, 21–30 hours (minimum)

Independent study arranged through faculty advisement.

Art history, 9 hours

Minor, 9–15 hours

Research methods, 6 hours

Problem in lieu of thesis, 6 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 Interaction Design, MA

Admission requirements

The prospective student must satisfy all of the general admission requirements of the Toulouse Graduate School, as well as the admission requirements imposed by the Department of Design of the College of Visual Arts and Design:

- For applicants whose native language is not English, a TOEFL (Test of English as a Foreign Language)
    - IBT (internet-based test) score of 83 (Reading: 22; Listening: 21; Speaking: 21; Writing: 18) OR
    - PBT (paper-based test) score of 550 OR a CBT (computer-based test) score of 213
- A Bachelor's degree (minimum 120 semester credit hours) from an accredited institution of higher learning.
- An undergraduate GPA of at least 3.1.
- Two to four samples of the applicant's writing that effectively convey their ability to 1) engage in critical thinking and analysis, or to 2) strategically plan and execute an initiative that requires a significant input of knowledge and skills from a diverse array of people, or to 3) understand the cultural, socio-economic, or political viewpoints of others, or 4) some combination of these. These writing samples can consist of published or unpublished work, and can include a wide variety of material, from office directives to planning documents to blog posts to books.
- (If available) two to four examples of project-based work that reveal the applicant's abilities to operate the knowledge and skills necessary to create or co-create effective, user-centric interactive EXPERIENCES. These can include, but are not limited to, user interface design work, examples of service design programs or experiences, information architecture diagrams or schematics, or descriptions of protocols or processes the applicant has created or co-created and implemented that have improved how complex information is processed, organized, shared/routed, or displayed. It is important that applicants SUCCINCTLY communicate the types of roles they played on these projects and the nature of the contributions they made toward their successful realizations.
- A letter/statement of intent that articulates, in between 450 and 800 words, what the applicant hopes to achieve by completing the course of study of the MA in design with a concentration in interaction design. This letter should clarify how the knowledge and skills the applicant will acquire during this graduate experience could help him/her/them attain key life and career priorities and goals. This letter should also attempt to answer the question: "Why does the applicant have the career/life agenda that he/she has?"
- A minimum of two and preferably three letters of recommendation from some combination of the following: former professors or instructors at the collegiate level, project managers/directors or collaborators/colleagues, clients, work supervisors, or design or creative directors.

Degree requirements

The Department of Design offers an MA with a major in design with a concentration in interaction design comprised of 30 semester credit hours of study that must include a 6-credit hour capstone experience. Leveling courses cannot be counted toward the degree plan hours.

Major requirements

To complete the Master of Arts in Design with a concentration in Interaction Design, degree candidates must enroll in and pass the following courses with a letter grade of B or better:

- ADES 5410 - Foundations and Frameworks of Interaction Design
- ADES 5420 - Human-Centered Interaction Design 1
- ADES 5430 - Human-Centered Interaction Design 2
- ADES 5440 - Interaction Design Makerlab 1
- ADES 5450 - Data and Information Visualization and Design
- ADES 5460 - Interaction Design Inception-to-Pitch Capstone Project
- ADES 5510 - Processes and Methodology for Innovation
- ADES 5520 - Methods Employed by Design Researchers

Other requirements

Electives will be required to satisfy the 30 hours for the degree. Suggested elective courses include:

- CSCE 5200 - Information Retrieval and Web Search
- CSCE 5450 - Programming Languages
- CSCE 5933 - Topics in Computer Science and Engineering (when topic is "Multimedia Computing")
- LSCM 5300 - Strategic Supply Chain Management
- LSCM 5560 - Strategic Logistics Management
- MGMT 5070 - Management Issues
- MGMT 5140 - Organizational Behavior and Analysis
- MKTG 5150 - Marketing Management
- MKTG 5200 - Consumer Behavior
- MKTG 5250 - Advanced Marketing Research and Analytics
- MKTG 5850 - Effective Marketing Planning in Dynamic Environments
- TECM 5185 - Principles of Technical Communication
- TECM 5190 - Style and Technical Writing
- TECM 5280 - Designing Technical Documents
- TECM 5740 - Content Analysis in Technical Communication

Design with a concentration in Interior Design, MFA

Program requirements

A minimum of 60 semester credit hours of graduate work, including 30 hours of studio. Up to 30 hours of graduate work may be utilized from a previous or concurrent graduate degree.

Candidates are expected to prepare an exhibition of their work for presentation to the public.

Interior Design concentration, 21–30 hours (minimum)

Independent study arranged through faculty advisement.

Art history, 9 hours

Minor, 9–15 hours

Research methods, 6 hours

Problem in lieu of thesis, 6 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.

Department of Studio Art

Main Office
Art Building, Room 230

Mailing address:
1155 Union Circle #305100
Denton, TX 76203-5017
940-369-7671
E-mail: cvad.studio@unt.edu
Web site: cvad.unt.edu

Nicole Foran, Chair

Faculty

Degree programs

The department offers a Master of Fine Arts with a major in studio art.

Concentrations are available in ceramics, drawing and painting, metalsmithing and jewelry, new media art, photography, printmaking and sculpture.

We serve our students by focusing on their intellectual and creative growth, fostering student's practice, and preparing them for lifetimes of accomplishment and meaningful contribution as culture creators. The program frames the individual needs of each student through the development of conceptual, aesthetic, and technical skills along with a strong community of active students who are leading purposeful investigations to discover, create or learn something new with or about the arts. While in the College of Visual Arts and Design, graduate students participate in arts research across disciplines and engage in the critical practice of the fine artist. Housed in a world-class Tier 1 research institute, CVAD is next door to the rich cultural and arts capitals of Dallas and Fort Worth.

Our graduate programs are led by engaged artists and educators who are recognized nationally and internationally for their intellectual and creative research and work to ensure that students realize their potential while pursuing their passion.

Admission requirements

Priority Funding Deadline for application materials: February 1

Applications are accepted by the February 1 deadline for fall enrollment only. Applications will not be reviewed until after the deadline. Application to the MFA in Studio Art is a two-step process:

Step 1: Application to the Department of Studio Art

- Portfolio of artwork
- Artist Statement
- Statement of Intent
- Resume or Artist CV
- Two letters of recommendation
- Teaching Assistant/Teaching Fellow, TA/TF, Application: Apply for a fellowship or assistantship position. Read the details and instructions on the **CVAD Fellowships and Assistantships web page**.
- Scholarships: Apply online at the Toulouse Graduate School and read CVAD's Paying for College web page for graduate scholarship opportunities

Step 2: Apply to UNT

Apply to UNT through the **UNT Apply Now** web page.

Note: If the minimum GPA requirements are met, the Admissions Office will forward your admissions packet to our department for further review. You must meet the admission requirements of UNT, including a minimum GPA of 3.0 on a bachelor's degree if applying without a master's degree.

Important Note: Admission to the M.F.A. Program in Studio Art is not guaranteed because UNT Admission accepts you. Admission to the graduate program in Studio Art is competitive and not determined by any single criterion but by the decision of the faculty members in the department based on all the materials and information submitted.

Master's Degree

Studio Art, MFA

Program requirements

For the Master of Fine Arts degree, students fulfill the 60 hours of degree requirements.

- ASTU 5001 - Graduate Seminar (18 within studio concentration)
- ASTU 5005 - Studio Art Teaching Practices
- ASTU 5010 - Professional Practices for the Studio Artist
- ASTU 5015 - Creative Project
- ASTU 5020 - MFA Exhibition
- Art History Courses, 9 hours
- Elective Courses, 12 hours
- Theoretical/conceptual framework courses (must be approved by Graduate Director), 3 hours
- Special Problems: Third Year Studio Hours, 6 hours

Honors College

Main Office
Sage Hall, Room 320

Mailing address:
1155 Union Circle #310529
Denton, TX 76203-5017
940-565-3305
E-mail: honorscollege@unt.edu
Web site: honors.unt.edu

Glênisson de Oliveira, Dean, TAMS and the Honors College
Sean Ryan, Associate Dean for the Honors College
James Duban, Associate Dean for Research and National Scholarships
Eric Gruver, Associate Dean for TAMS

Faculty

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 via research-based curricula, thereby preparing them to study at the graduate level, establish a career, and meet the demands of responsible citizenship.

International Affairs

Main Office
Marquis Hall, Room 105

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

Lauren Jacobsen-Bridges, Vice Provost (term begins July 21, 2025)
Amy Shenberger, Interim Vice Provost and Dean (term ends July 20, 2025)

International Affairs

International Affairs is a guide and champion for internationalization at the University of North Texas. International Affairs supports international teaching, research, and service. We strive to enrich campus life by welcoming international students and scholars, cultivating global citizens among students, and fostering global connections between UNT and institutions, communities and people around the world.

International Affairs functions in a leadership and facilitation role to support the university's global endeavors and international initiatives. We provide expertise, assistance, and support to faculty, staff, students, and administration in all international activities.

All units are located in Marquis Hall (international.unt.edu).

Global Engagement

Marquis Hall, Room 105

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2197
Email: GlobalPartnerships@unt.edu, Fulbright@unt.edu
Website: international.unt.edu/global-dashboard.html.

Global Engagement supports UNT's global engagement activities and international initiatives. Global Engagement advises colleges on the development of global programs, manages UNT's international agreements and contracts, and oversees the data and information about UNT's global engagement activities. Global Engagement acts as steward for campus internationalization by encouraging global scholarship, managing Fulbright and intramural grants, and promoting other global opportunities for faculty and students.

International Programs and Communications

Marquis Hall, Room 105

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2197
E-mail: internationalaffairs@unt.edu
Web site: international.unt.edu/programs-and-events/index.html.

International Programs and Communication *provides UNT students opportunities for cross-cultural learning and engagement via a full schedule of international events and activities, provides international student support programs to help new students adjust to life in the U.S., and manages and awards International Affairs scholarships and grants.*

Intensive English Language Institute

Marquis Hall, Room 223

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2003
E-mail: ieli@unt.edu
Web site: international.unt.edu/ieli

The **Intensive English Language Institute, established in 1977,** is the longest-standing program of its kind in North Texas and one of the most prestigious programs for learning academic English in the United States. In addition, IELI conducts the International Teaching Assistants testing and training program for UNT.

International Recruitment Office

Marquis Hall, Room 209

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-369-7624
E-mail: study@unt.edu
Web site: international.unt.edu/international-students/index.html.

International Recruitment recruits well-qualified and diverse international students to UNT colleges and schools. Its core activities include converting international prospects to applicants via digital outreach and recruitment at feeder institutions both abroad and in the U.S. Office staff work regularly with high school counselors, international faculty, U.S. higher education advisors and UNT alumni.

International Student and Scholar Services

Marquis Hall, Room 110

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2195
Fax: 940-565-4145
E-mail: internationaladvising@unt.edu
Web site: international.unt.edu/international-scholar-services/index.html.

International Student and Scholar Services provides culturally sensitive immigration advising and support to international students and scholars engaged in academic activities at the University of North Texas System. The office serves as the primary campus and system resource on immigration matters pertaining to all non-immigrant visa types.

Study Abroad Office

Marquis Hall, 145

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

The **Study Abroad Office** coordinates affiliate, exchange and faculty led programs for UNT students in collaboration with the university's colleges and schools. The office works to create programs that inspire global citizenship, enhance curriculum, and support the academic, career and personal goals of UNT students from all majors and backgrounds. The office also serves as a U.S. Passport Acceptance Facility and is open to the UNT and North Texas communities.

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.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 ACCT- MS, or ATAX - MS program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5120 - Data Analysis in Accounting

3 hours Introduces sophisticated accounting data analysis techniques using the Python programming language and contemporary accounting research. Includes instruction in hypothesis testing, multivariate regression, and machine learning algorithms. Students develop advanced computer skills for conducting data analysis in audit, financial reporting, and tax environments using big data. Upon completion of the course, students will understand how to develop testable hypotheses for analysis, identify data needs for testing, clean data for analysis, perform analytical tests, and interpret outputs for use by decision makers..

Prerequisite(s): ACCT 4400 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 2010 or its equivalent. Background in Micro and Macro Economics is strongly encouraged.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5160 - Issues in Financial Accounting and Standard Setting

3 hours Advanced accounting concepts and standards with emphasis on income determination, including legal, economic and accounting views of the income concept. Development of criteria for evaluating and applying theoretical concepts, particularly as they apply to current controversial questions in accounting.

Prerequisite(s): ACCT 3120, ACCT 3270.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5170 - Accounting Communication

3 hours The primary purpose of this course is to provide you an opportunity to build a skill-set that can be applied to interactions between auditors/tax professionals and their clients, decisions regarding accounting treatments or issues. In addition, the course is applicable to your business life as managers as well as your personal life.

Prerequisite(s): ACCT 4400.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 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 4400 and admission to the MS in Accounting or MS in Taxation program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 analytics, statistics, and critical thinking to accounting analysis.

Prerequisite(s): ACCT 3270 or ACCT 5130. Student must have completed at least 18 hours of graduate level courses before enrollment.

May be repeated for credit for a maximum of 6 hours. May not be taken for credit if ACCT 4270 or equivalent has been taken.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 4320 with a grade of C or better or consent of department; ACCT 4400 with a grade of C or better; and acceptance into either the MBA or MS program.

Master of Science in Taxation students should enroll in this course at the first opportunity after beginning their graduate course work.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 4320 with a grade of C or better or consent of department.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 4320 with a grade of C or better or consent of department.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5350 - Multijurisdictional Taxation

3 hours Examination of international, state and local tax issues. Topics include U.S. taxation of in- and out-bound transactions, sourcing of income and deductions, and nexus issues.

Prerequisite(s): ACCT 4320 with a grade of C or better or consent of department.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5360 - Advanced Topics in Federal Taxation

3 hours Provides thorough coverage of advanced topics in tax accounting, including but not limited to state and local taxation, multinational income taxation, tax policy, tax practice and administration, advanced topics in the taxation of C corporations, advanced topics in the taxation of flow-through entities, estates, gifts and trusts, taxation of tax-exempt entities, and financial accounting for income taxes.

Prerequisite(s): ACCT 5310.

ACCT 5360 may not be taken prior to completing a minimum of 9 hours in taxation (including ACCT 5310).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5380 - Tax Practice and Procedures

3 hours Covers federal tax practice and procedures with particular emphasis on issues of current importance. Also delves into matters of tax policy and issues of particular importance in tax enforcement. Material important and relevant to participation in the Low Income Taxpayer Clinic is also covered.

Prerequisite(s): ACCT 5310.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5390 - Taxes and Business Strategy

3 hours Enables students to understand how taxes (primarily income taxes) affect business decision-making. Takes the perspective of the business decision-maker rather than the tax professional.

Prerequisite(s): ACCT 4300 (with a c or higher); ACCT 4320 (with a C or higher); or consent of department chair.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5410 - External Auditing

3 hours Develops the knowledge and skills required of external auditors by focusing on audit cases, auditing standards, the AICPA Code of Professional Conduct, and technologies used in audit practice. Students complete a multi-part data analytics case using Excel and Tableau. Case enhances students' decision-making in the financial statement audit context through the validation and analysis of financial data, planning audit tests that incorporate data analytics, performance of audit tests using data analytic techniques, and creation of data visualizations to communicate the results of audit tests.

Prerequisite(s): ACCT 4100 and ACCT 4400.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5440 - IT Auditing

3 hours Addresses the skills and knowledge required of IT auditors, both internal and independent, in technology-driven accounting environments. Primary focus is on financial big data modeling, predictive analytics, and the integration of AI and machine learning into auditing and consulting practices. Includes a data analytics capstone project on actual airline data utilizing Python, Alteryx, and Tableau for financial decision-making. Additional topics covered include IT governance, cybersecurity, RPA, and blockchain applications.

Prerequisite(s): ACCT 4100 and ACCT 4400.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5450 - Seminar in Internal Auditing

3 hours Study of the theory and practice of internal auditing, emphasizing differences between internal and external auditing in areas such as independence, scope, and reporting. Incorporates three real-life audits executed by students, applying data analytics principles and reporting standards to prepare and publish audit reports. Advanced Excel and Alteryx are used to evaluate the data, Tableau is used for visualization. Students also engage in consulting projects with real-life municipalities (reviewing their public data), utilizing data analytic software (Excel, Alteryx, Tableau) to evaluate data governance and fraud detection procedures, culminating in formal audit reports and communications. Additionally, students conduct data-driven research to create an audit charter from scratch, ensuring alignment with the Institute of Internal Auditors' (IIA) International Professional Practices Framework (IPPF) standards.

Prerequisite(s): ACCT 4100 and ACCT 4400.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5480 - Fraud Examination

3 hours The use of forensic accounting and fraud prevention and deterrence to understand why and how fraud and occupational abuse is committed. Students learn about prevention, detection, and investigation methods to help minimize exposure to losses. Course is structured to enhance the student's ability to understand the pervasiveness of occupational fraud, to assess the risk of fraud, and those who commit fraud.

Prerequisite(s): Admission to the master's program in accounting and completion of ACCT 4100 and ACCT 4400; or admission to the master's program in criminal justice.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5520 - Governmental and Non-Profit Accounting

3 hours A detailed exposure of governmental and non-profit accounting for state and local governments, universities, hospitals, and other not-for-profit entities.

Prerequisite(s): ACCT 3120 and ACCT 3270; or ACCT 5130.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Students should complete a packet of materials prior to the first day of class. Contact the department for materials.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5700 - Energy Industry Fundamentals

3 hours Overview of the energy industry from early oil exploration through emerging alternative technologies. A broad overview of the geologic, engineering and business sides of the oil and gas industry. Acquaints students with the steps in the exploration, development and production of oil and gas from developing a prospect to delivering a product: how geologists decide where to drill, how mineral rights are acquired, how contracts are structured, and how financing is obtained for oil and gas deals. Includes the study of drilling and completion operations and the technology required to produce oil and gas. Students also are acquainted with the legal, regulatory and environmental issues encountered in drilling for and production of oil and gas.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5720 - Energy Accounting, Federal Tax and Financial Reporting

3 hours Focuses on upstream accounting, federal tax and reporting issues affecting the energy industry. Topics include successful-efforts and full-cost accounting, impairments, asset retirement obligations, production costs, joint interest operations, revenue streams, unitization, supplemental disclosures, conveyances, and completion decisions. Other topics covered include tax issues relative to the oil and gas industry, environmental liabilities and financial information used by energy companies for decision making. The material covered also includes a review of how accounting and tax information impact finance and operations from the local to the global level.

Prerequisite(s): ACCT 5130.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5760 - Accounting Based Valuation

3 hours Provides an analytical framework for business valuation using financial statements. Students use time-series analysis, regression models, and other quantitative tools to forecast future financial statements and estimate firm equity value. Students also learn to communicate their analyses graphically and via oral presentation.

Prerequisite(s): ACCT 4400.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5780 - Professional Exam Competency

3 hours Prepares students for the accounting profession while improving examination skills. Students participate in intensive testing and study to prepare for professional certifications.

Prerequisite(s): Department of Accounting approval is required and must be taken in student's final semester.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

ACCT 5800 - Internship

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 the Internship Director and department chair.

May not be taken for academic credit if student has received 3 hours of credit for ACCT 4800. May only be taken once. May be counted only as an accounting elective and does not count as part of the accounting GPA. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 school. 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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Advanced Data Analytics

ADTA 5100 - Fundamentals of Data Analytics

3 hours Introduces fundamental statistical concepts, data analysis methods and data management systems. Students use familiar tools to prepare data for analysis and practice techniques associated with exploratory data analysis, interpretation of results and communicating the significance of their analysis. Knowledge and skills gained in this course prepare students for more advanced analytics and programming courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5110 - Fundamentals of Data Collection and Management

3 hours Introduction to fundamental data collection and management methods used in science and industry. Topics include tabular and relational data models, formulas, functions, and queries to acquire, clean, and integrate data with commonly used software and programming tools. Prepares students for more advanced data management and programming courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5120 - Introduction to Data Analytics

3 hours Provides an introduction to fundamental concepts of data science, including data-informed decision making, research design, data acquisition and management, statistical analysis software and programming, communicating and operationalizing analysis results, and data ethics. Focuses on applications of data science methods in framing and answering strategic questions facing decision makers in a variety of organizations – from marketing to policing. Topics presented are explored in depth in later courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5130 - Data Analytics I

3 hours Provides an overview of quantitative methods essential for analyzing data, with an emphasis on business and industry applications. Topics include identification of appropriate metrics and measurement methods, descriptive and inferential statistics, experimental design, parametric and non-parametric tests, simulation, and linear and logistic regression, categorical data analysis, and select unsupervised learning techniques. Standard and open source statistical packages are used to apply techniques to real-world problems.

Recommended: MATH 1100 or MATH 1680 or equivalent, or ADTA 5100.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5160 - Sport and Entertainment Analytics

3 hours Focuses on developing an understanding of how data analysis can be used to inform decision making in the context of sport and entertainment management. The current sport business landscape requires managers to possess baseline skills in data management and statistical analysis in order to make informed decisions. Students are required to manage data and conduct statistical analyses according to questions of interest. Topics covered are both practical and applied. Examples from industry complement the core concepts covered in lectures.

Prerequisite(s): ADTA 5130, DSCI 5180, or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5230 - Data Analytics II

3 hours Extends the concepts developed in Data Analytics I to multivariate and unstructured data analysis. Modern techniques of multivariate analysis, including association rules, classification methods, time series and text analysis are explored and implemented with real-world business and industry data. Provides a hands-on introduction to state-of-practice technology and tools. Focus is on the application and interpretation of the methods discussed.

Prerequisite(s): ADTA 5130 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5240 - Harvesting, Storing and Retrieving Data

3 hours Provides an introduction to collecting, storing, managing, retrieving and processing datasets. Techniques for large and small datasets are considered, as both are needed in data science applications. Traditional survey and experimental design principles for data collection as well as script-based programming techniques for large-scale data harvesting from third party sources are covered. Data wrangling methodologies are introduced for cleaning and merging datasets, storing data for later analysis and constructing derived datasets. Various storage and process architectures are introduced with a focus on how approaches depend on applications, data velocity and end users. Emphasizes applications and includes many hands-on projects.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5250 - Large Data Visualization

3 hours Presents strategies and methods for effective visualization and communication of large data sets. Standard and open source data visualization packages are used to develop presentations that convey findings, answer business questions, drive decisions and provide persuasive evidence supported by data.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5340 - Discovery and Learning with Big Data

3 hours Examines the latest methods for discovery and learning from large data sets. Emphasizes applications of predictive and pattern recognition techniques in making business, policy and allocation decisions. Topics complemented by hands-on projects using data discovery and statistical learning software.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5410 - Applications and Deployment of Advanced Analytics

3 hours Application of advanced analytics to case study projects designed to provide experience in solving complex industry and business problems, determining solutions that address project objectives, selecting appropriate methods among various possible alternatives, applying techniques and technology in real-world settings, and attaining proficiency in the deployment of analytics, including professional communication.

Prerequisite(s): ADTA 5130, ADTA 5230, and either ADTA 5240 or ADTA 5340; or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5550 - Deep Learning with Big Data

3 hours Introduction to fundamentals of artificial neural networks with big data applications. Theory and implementation of deep learning techniques to obtain solutions to business, industry, and science problems. Applications of deep learning frameworks and libraries.

Prerequisite(s): ADTA 5240 or ADTA 5250 or ADTA 5340.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5560 - Recurrent Neural Networks for Sequence Data

3 hours Fundamentals and practical implementations of Recurrent Neural Networks, focusing on Long Short-Term Memory (LSTM) networks. Emphasis on applying current AI frameworks to build artificial neural networks for deep learning solutions to problems in business, industry, and science. The course provides the student with a guide through how to use TensorFlow and Keras, the two most popular AI frameworks at present, to build artificial neural networks for deep learning that will be trained on the sequence data of which time series is one example. Covers both the theory and the practical implementation of the AI network. As the fundamentals are discussed, exemplary AI techniques will be employed to illustrate how AI deep learning theories can be applied to real-world solutions using various programming and system tools.

Prerequisite(s): One of the courses: ADTA 5240, ADTA 5340, or ADTA 5550, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5610 - Applied Probability Modeling for Data Analytics

3 hours Introduction to fundamental concepts and methods of probability modeling, emphasizing applications and simulation. Topics include probability axioms and models, conditional probability, independence, discrete and continuous random variables, law of large numbers, central limit theorem, and stochastic processes. Concepts are applied to develop and simulate models to solve important problems in business, industry, and science, using real-world data to inform model development.

Prerequisite(s): Undergraduate probability or statistics course, or ADTA 5130, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5620 - Applied and Computational Statistics for Data Analytics

3 hours Introduces fundamental concepts of contemporary statistics with an emphasis on applications and computational methods. Topics include classical inference and related numerical optimization methods; Bayesian inference and Monte Carlo methods for density estimation; jackknife, bootstrap, and related nonparametric methods for assessing statistical accuracy, obtaining linear regression solutions, and performing hypothesis tests; estimation of functions. Focuses on applications of statistical methods to addressing important problems in business, science, and industry.

Prerequisite(s): ADTA 5610, equivalent probability course, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5630 - Advanced Statistical Analysis for Experiments

3 hours Develops principles, key concepts, and advanced techniques for statistical analysis of experimental and survey data. Emphasizes the collection, presentation, analysis, and interpretation of data in the healthcare, social and behavioral sciences, marketing, and finance.

Prerequisite(s): ADTA 5130 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5640 - Time Series Analysis with Machine Learning

3 hours Develops time series analysis methods from a machine learning and artificial intelligence perspective. Practical applications with real world data sets are used to illustrate the techniques presented.

Prerequisite(s): ADTA 5130, ADTA 5230.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5650 - Operations Analytics 1

3 hours Introduces quantitative methods to model, analyze and support decisions for complex business and industry problems. Fundamental optimization methods are developed and applied to solve business problems using a variety of software tools.

Prerequisite(s): MATH 1710, MATH 1720, ADTA 5610, or equivalent courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5660 - Operations Analytics 2

3 hours Develops advanced quantitative methods to model, simulate, analyze, and support decisions for complex business and industry problems involving uncertainty. Topics include decision tree analysis, Markov process models, and queueing theory. Simulation and modeling software tools are introduced and applied to solve real-world problems.

Prerequisite(s): MATH 1710, MATH 1720, ADTA 5610, ADTA 5650, or equivalent courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5750 - Applied Natural Language Processing

3 hours Introduces fundamentals of Natural Language Processing (NLP), providing a guide to applying novel and pre-trained NLP systems in business and other real-world environments. Presents contemporary methods and tools used to perform a variety of language-related analysis, such as text understanding and text classification, in a low-code development environment. Emphasizes the practical implementation of Natural Language Processing methods to solving business, industry and science problems.

Prerequisite(s): ADTA 5340, ADTA 5550, ADTA 5560, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5760 - Natural Language Processing with Artificial Neural Networks

3 hours Introduces theory and the practical implementation of Natural Language Processing (NLP) using artificial neural networks. Provides experience applying current neural network frameworks to build, train, and test NLP models. Emphasizes the practical implementation of AI techniques to develop NLP solutions for business, industry and science applications

Prerequisite(s): ADTA 5340, ADTA 5550, ADTA 5560, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5810 - Managing Analytics Projects

3 hours Introduces project management principles and concepts, providing a foundation for managing data analytics projects effectively. Addresses project management knowledge areas, roles and responsibilities of analytics teams, and agile practices to facilitate the production of industry-standard artifacts.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5820 - Analytics Leadership and Communication

3 hours Develops an understanding of the theory and practice of leadership in organizational settings commonly encountered by analytics professionals. Develops and practices persuasive communication methods essential for effective leadership of analytics teams.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5830 - Risk Management and Value Creation for Analytics

3 hours Examines policies, practices, regulations, and governance for analytics projects to reduce risk and create value. Provides an understanding of how to identify and manage risk and maintain value through quality & procurement management and stakeholder engagement.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5840 - Agile Frameworks for Analytics

3 hours Examines Agile frameworks and practices for analytics teams and projects. Facilitates the development of an Agile mindset and focuses on how to create business value through the values and principles of Agile.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5920 - ADTA Internship

1–3 hours Graduate internship that focuses on the application of skills and knowledge related to the MS in Advanced Data Analytics. The internship should provide the student valuable work experience and increase their knowledge in areas related to ADTA course work. Students will submit monthly status reports and a final report summarizing their experience gained through the internship.

Prerequisite(s): Consent of the department and completion of 18 graduate hours toward their degree.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

ADTA 5940 - Analytics Capstone Experience

3 hours Open to all student seeking an analytics capstone course. This unique learn-by-doing course is offered in lieu of a project, portfolio or thesis for candidates of the MS Advanced Data Analytics degree. Requires a significant project about which students periodically report, highlighting the interdisciplinary nature of their findings and its relevance to their interests and/or career goals. Students and peers discuss how their ongoing effort enriches and advances the human condition. Submission of a final paper and presentations are required for successful completion.

Prerequisite(s): Completion of required 18 hours of Advanced Data Analytics core courses toward degree; consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70 (instructional fee), $7.75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

For online sections, this class has a combination of synchronous and asynchronous learning. There are weekly synchronous Zoom meetings. Day/time TBD by entire class.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

For online sections, this class has a combination of synchronous and asynchronous learning. There are 8 synchronous Zoom meetings. Day/time TBD by entire class.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

For online sections, this class has a combination of synchronous and asynchronous learning. There are 6-8 synchronous Zoom meetings. Day/time TBD by entire class.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

For online sections, this class has a combination of synchronous and asynchronous learning. There are 6-8 synchronous Zoom meetings. Day/time TBD by entire class.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5050 - Preparation for Capstone and Career

3 hours Students plan their capstone project, and learn about professional development in applied/practicing anthropology, with an emphasis on client development, project design, proposal writing, informational interviews, job-searching, workplace practices, and networking.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5060 - Advanced Community Engagement through Action Research

3 hours Focuses on various approaches to action research by engaging the community as experts and active collaborators and by thinking about and doing anthropology differently. Advanced action-oriented learning and research to create social change attempting to democratize the process of research and the relationships between the university and community.

Prerequisite(s): Department Consent Required.

Meets with ANTH 4060.

Not open to students who have completed ANTH 4060.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5070 - Evaluation in Anthropological Practice

3 hours Defines and promulgates an anthropological component to a solid basis of research and method already existing in evaluation. Investigates the links between anthropological methods and theory with evaluation. Addresses common methodological, logistic and theoretical issues that occur in the course of conducting evaluation projects using holistic, mixed method and qualitative designs.

Prerequisite(s): Department Consent Required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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): Consent of department.

Course may be repeated for credit. Projects vary each semester.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5130 - Advanced Anthropology of Non-Governmental Organizations

3 hours Utilizes an anthropological lens to understand the organizational culture of non-governmental organizations (NGOs) and NGO development in Western and non-Western spheres, with emphasis on their impacts in local and global, neoliberal contexts. Examines diverse and sometimes divergent principles, policies, and practices guiding human rights efforts, humanitarian aid, environmental activism, and cultural heritage.

Prerequisite(s): Departmental Consent Required.

Meets with ANTH 4130.

Not open to students who have completed ANTH 4130.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5210 - Anthropology in 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Same as EDCI 5620X .

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5730 - Advanced Feminist Anthropology

3 hours Advanced critical analysis of the social construction of sex/gender and the ways that categories of sex/gender are constructed in and through cultural norms, with special attention to the impacts of feminist anthropology on both anthropology and gender studies.

Meets with ANTH 4730.

May not receive credit for both ANTH 4730 and ANTH 5730.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5740 - Advanced Anthropological Perspectives in Tourism

3 hours Explores advanced representations of the exotic "other" in host vs. guest encounters before examining such intricacies of global tourism as heritage and authenticity, staging and commodification, development, gender inequality, and sustainability. Through advanced ethnographic case studies, students will explore and compare these phenomena in cultural tourism, eco-tourism, spiritual tourism, and biomedical tourism.

Prerequisite(s): Departmental Consent Required.

Meets with ANTH 4740.

Not open to students who have completed ANTH 4740.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5755 - Advanced Anthropology of Stuff and Things

3 hours Investigates human relationships in and with the material world using an array of advanced anthropological perspectives and methodologies. From art, architecture and adornment to tools, technology and transportation, students will study how people create, value, exchange, consume, contest, discard and dwell in a world of "stuff and things".

Prerequisite(s): Department Consent Required.

Meets with ANTH 4755.

Not open to students who have completed ANTH 4755.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5760 - Advanced Studies in Urban Anthropology

3 hours A historical and contemporary account of approaches to urban anthropology with a focus on social justice.

Meets with ANTH 4760.

Not open to students who have completed ANTH 4760.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5765 - Advanced Studies of Urban Beings

3 hours Anthropological investigation of city life centering an array of urban beings in the built environment through theory and ethnography, guest speakers, fieldtrips, and a research project.

Meets with ANTH 4765.

Not open to students who have completed ANTH 4765.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5920 - Non-Thesis Research 1

3–6 hours Prepare and conduct applied anthropological research in consultation with committee.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ANTH 5930 - Non-Thesis Research 2

3–6 hours Complete applied anthropological research and submit project deliverables and writing outcomes.

Prerequisite(s): ANTH 5920.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 school. 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

Applied Aging and Rehabilitation Science

AARS 6800 - Social Policies for Health 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 health sciences or related doctoral program; or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AARS 6810 - Global Perspectives on Aging and Disability

3 hours Explores current trends in individual and population aging and their implications for future societies in which even larger numbers of individuals will live to a more advanced age. Includes a focus on demographic, social structures and policies, family and cultural issues, and the impact of acquiring a disability or chronic illness.

Prerequisite(s): Admission to the doctoral program in health sciences or a related doctoral program, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AARS 6820 - Community Living and Participation

3 hours Examines strength-based and socioecological approaches to promote health and increase community participation among elderly individuals, including those with disabilities and chronic illness. Legislation, social policies, and strategies designed to impact full social participation by members of these vulnerable populations are critically examined.

Prerequisite(s): Admission to the doctoral program in health sciences or related doctoral program; or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AARS 6830 - Disability, Health and Functioning

3 hours Discusses theories and models of disability, functioning, health and wellness, and reviews the historical and contemporary concepts, terms and scholarship associated with rehabilitation and health-related services. Medical, functional, psychological, and social implications of disability are examined.

Prerequisite(s): Admission to the doctoral program in health sciences or related doctoral program; or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AARS 6840 - Organizations for Aging and Health Services

3 hours Provides students with an understanding of the nature, structure and functioning of large-scale organizations in the fields of aging and health. 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, and foundations that impact long-term care and home health care programs.

Prerequisite(s): Admission to the doctoral program in health sciences or related doctoral program, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AARS 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): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

Applied Data Analytics and Research

ADAR 5110 - Business Analytics for Project Management

3 hours Covers key concepts in statistics, data management and visualization, and explores subsets of business analytics including diagnostic and predictive analysis.

ADAR 5210 - Project Operations and Risk Management

3 hours Explores different tools and techniques in risk prediction and management across company portfolios and projects, operational analytics, with a focus on quantitative approach to operations management.

Applied Design Thinking

ADSN 5110 - Strategic Design Thinking

3 hours Covers key elements of the design thinking framework, design principles, and explores the impact of social, technological, and business specific factors on product and service design.

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5001 - Student Teaching in Studio Piano

3 hours Observation and supervised student teaching with emphasis on private studio teaching.

Prerequisite(s): Consent of college.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5002 - Student Teaching in Group Piano

3 hours Observation and supervised student teaching with an emphasis on group piano teaching.

Prerequisite(s): Consent of college.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5070 - Operatic Literature I

3 hours Historical overview of Western opera from Baroque through Bel canto; emphasis on skills for recognizing and analyzing operatic styles and genres from both the musical and dramatic perspectives.

Meets with MUAG 4070.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5072 - Operatic Literature II

3 hours Historical overview of Western opera from Wagner through the present; emphasis on skills for recognizing and analyzing operatic styles and genres from both the musical and dramatic perspectives.

Meets with MUAG 4072.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5160 - Elementary Piano Pedagogy

3 hours Approaches for children and adult beginners; technique, style and musicianship; review and recommendation of materials for all grades. Supervised student teaching.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5170 - Intermediate Piano Pedagogy

3 hours Approaches for children and adult intermediate level; technique, style and musicianship; review and recommendation of materials for all grades. Supervised student teaching.

Recommended: MUAG 5160 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5200 - Piano Literature

3 hours Bach through the early romantics. Survey of major composers, styles and forms; individual topics.

Meets with MUAG 1270.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5201 - Piano Literature

3 hours The late romantics to the present. Survey of major composers, styles and forms; individual topics.

Meets with MUAG 3270.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5210 - Vocal Literature

3 hours Advanced song literature from all national styles from 1750. Stylistics analysis and historical significance.

Recommended: MUAG 4210 or equivalent.

Meets with MUAG 4210.

Offered spring semester, odd-numbered years.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5215 - Advanced Vocal Diction

2 hours Advanced Italian, French and German diction. Phonetics and pronunciation.

Recommended: MUAG 1906, MUAG 1907, MUAG 1909, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5225 - Oratorio Repertoire and Practicum

3 hours Comprehensive study and performance of oratorio repertoire from the Baroque through Contemporary periods.

Meets with MUAG 4225.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5226 - Vocal Concert Repertoire and Practicum

3 hours Survey and performance of vocal concert repertoire from the Baroque through Contemporary periods.

Recommended: MUAG 5225.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5230 - Keyboard Improvisation

3 hours Whether they be pianists, organists, collaborative pianists or harpsichordists, keyboardists sometimes find themselves in situations in which improvisation skills are needed. A clearer understanding of the principles involved gives students a better chance to succeed in these situations and helps students better understand harmony in everything they play.

Meets with MUAG 3230.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5250 - Collaborative Piano Pedagogy

3 hours

Trains pianists to effectively teach and coach pianists and pianists with partner(s) in private and classroom settings. In addition to discussion of teaching strategies and review of relevant instructional materials, students will hone their teaching, coaching, presentation and interview skills.

Open to pianists admitted to the collaborative piano-related field, MM collaborative piano, piano performance, conducting, or faculty approval.

This is a required course for the DMA in Performance, specialization in Collaborative Piano (ideally taken in year 2 or 3).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5260 - Collaborative Piano Techniques

3 hours Development of collaborative ensemble skills of listening, breathing, voicing, flexibility, setting tempo, and achieving balance, as well as issues of translation, language, meaning and text-music relationship. In addition to the important topics of score preparation/study and poetry, related issues such as learning strategies, rehearsal techniques, and period performance, as well as sight-reading, transposition and orchestral reduction skills will be addressed.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5270 - Topics in Collaborative Piano

3 hours Topics of this seminar-style course vary by semester according to student needs and faculty availability/interest. Sample topics may include: Chamber Music Coaching Techniques, Collaborative Piano Pedagogy, Conducting for Collaborative Pianists, Lyric Diction for Pianists, Techniques of Vocal Coaching, Technology for Collaborative Pianists.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5271 - Instrumental Repertoire Master Class

3 hours Intensive study and performance of sonata and other instrumental literature.

Recommended: MUAG 5270 or consent of instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5295 - Techniques of Vocal Coaching

3 hours

Trains pianists to competently work with classical singers in song, concert and operatic literature through overview of languages and styles, discussion and practical application of coaching techniques, and through observation of faculty coachings in a variety of settings.

Open to pianists admitted to the collaborative piano-related field, MM collaborative piano, piano performance, conducting, or faculty approval.

This is a required course for the DMA in Performance, specialization in Collaborative Piano (ideally taken in year 2 or 3).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5300 - Science and Pedagogy of Singing

3 hours Basic knowledge of respiration, phonation, resonation and articulation; concepts and techniques for the teaching of singing. Laboratory demonstrations and studio observations for students of voice, choral conducting and composition.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5310 - Topics in Vocal Literature

2 hours Comprehensive study and performance of specific genres of song literature. Topics rotate by semester; may be repeated for credit.

Recommended: Students must be vocal studies majors in 3000-level lessons or above, or collaborative pianists; otherwise, consent of instructor is required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5350 - Repair and Maintenance of Musical Instruments

1 hour (0;3) Repair of brass, woodwind and percussion instruments. For instrumental music teachers and those interested in instrument repair.

Recommended: MUAG 1125 or MUAG 1225 or consent of college.

Meets with MUAG 4350.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5520 - Performance Practice: Medieval/ Renaissance

3 hours Comprehensive study of medieval and Renaissance performance practices.

Recommended: MUMH 5010 or equivalent.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5530 - Performance Practice: Baroque

3 hours Comprehensive study of baroque performance practices.

Recommended: MUMH 5010 or equivalent.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5540 - Performance Practice: Classic/Romantic

3 hours Comprehensive study of classical and romantic performance practices.

Recommended: MUMH 5010 or equivalent.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUAG 4260 and MUAG 4270, or equivalent.

Field experience required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUAG 4260 and MUAG 4270, or equivalent.

Field experience required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUAG 4300 or consent of college.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUAG 5600 or consent of college.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5640 - Operatic Acting

3 hours Analysis and preparation of roles, exercises in pantomime, improvisation, visualization and concentration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUAM 5503.

May be repeated for credit as MUAG 5702 in piano and collaborative piano only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUAM 5503.

May be repeated for credit as MUAG 5702 in piano and collaborative piano only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5800 - Advanced Choral Conducting

3 hours Class is organized as an a cappella choir for performance practice; manipulating the group and the music.

Recommended: MUAG 3820 or equivalent.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5805 - Fundamentals of Conducting

3 hours Fundamentals of conducting, including beat patterns, various gestures for attack, release and phrasing, includes the use of the left hand, score reading, development of aural skills, rehearsal techniques and interpretation.

Meets with MUAG 3800.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5810 - Choral Literature I

3 hours Music from 1600–1750. Score study, listening, performance practice, technical demands and rehearsal requirements.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5811 - Choral Literature II

3 hours Music from 1750–1900. Score study, listening, performance practice, technical demands and rehearsal requirements.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5812 - Choral Literature III

3 hours Music from 1900 to the present. Score study, listening, performance practice, technical demands and rehearsal requirements.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUAG 3800-3870 and consent of instructor.

Audition required. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 5910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 6000 - Seminar in Piano Pedagogy

3 hours This advanced course in piano pedagogy is designed to explore topics in advanced piano performance and teaching. This course will examine materials, advanced repertoire, musical and technical development, historical perspectives related to piano teaching and sequential curriculum planning for the advanced piano student. This course will also explore facets of preparing and interviewing for a college teaching position. Students will have an opportunity in a seminar setting to observe and conduct masterclasses, present lectures suitable for a job interview or conference presentation, and will participate in mock interviews.

Prerequisite(s): Consent of division.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 6260 - Piano Literature

3 hours Baroque and classical periods; recordings and student performances.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 6270 - Piano Literature

3 hours Romantic period to present; recordings and student performances.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUAG 5210 or equivalent.

Offered fall semester, odd-numbered years.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUAG 5210 or equivalent.

Offered fall semester, even-numbered years.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 6360 - Instrumental Literature

3 hours Solo works for the student's major instrument.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 6370 - Instrumental Literature

3 hours Chamber and orchestral works for the student's major instrument.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 6380 - Organ Literature

3 hours To 1750.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 6390 - Organ Literature

3 hours From 1750 to present.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 6900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAG 6910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 5250 - Topics in Gerontology

1–3 hours In-depth analysis and discussion of significant subjects in aging.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Same as ANTH 5220X .

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Same as SOCI 5700.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 5750 - Processes of Aging

1–3 hours Advanced seminar in social gerontology with emphasis upon psychosocial changes associated with aging.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 5760 - Geriatric Care Management

3 hours Examines the increasing presence of geriatric care management in pivotal positions throughout today's complex health care delivery systems. Emphasis is given to the role geriatric care managers play in client intake and assessment, establishing goals and a plan of care, coordinating and linking services and resources, managing and monitoring care, and evaluating patient outcomes. Students learn specific assessment instrumentation and protocols employed in various settings for needs determination and care planning with frail and impaired elders and their families.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 5840 - Internship in Administration of Programs in Aging

3 hours Five-hundred-clock-hour practicum in approved agency serving the aged.

Credit awarded only upon completion of internship. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 5850 - Internship in Administration of Programs in Aging

3 hours Five-hundred-clock-hour practicum in approved agency serving the aged.

Credit awarded only upon completion of internship. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Same as PSYC 5860X .

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Same as PSYC 5890X .

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 5900 - Special Problems

1–3 hours Individual study assigned with consent of major professor and instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 5910 - Special Problems

1–3 hours Individual study assigned with consent of major professor and instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 5960 - Studies in Aging Institute

1–3 hours Scheduled regularly for participants in institutes.

May be repeated for credit. No more than 6 hours allowed for regular students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 5970 - Studies in Aging Institute

1–3 hours Scheduled regularly for participants in institutes.

May be repeated for credit. No more than 6 hours allowed for regular students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 6350 - Mediation Theory and Application in Social and Organizational Contexts

3 hours Focuses on identification and resolution of problems arising in the dynamics of interpersonal and organizational communications. Participants learn how to design dispute resolution systems that assess and correct problems arising from ineffective patterns of communication within organizations. Emphasis is given to identification of relationship building and problem resolution and isolation and removal of systemic barriers impacting organizational goals and objectives.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 6740 - Advanced Social Gerontology

3 hours Focuses on disciplinary perspectives on aging, demographic issues of aging, social structure and aging, family issues with aging, cultural aspects of aging, implications for individual aging in society, social policy issues regarding aging, and implications for practice.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 6790 - Applications in Community Planning and Evaluation

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. Students critique the structure of service delivery under the Older Americans Act and the wide array of preventive, supportive and restorative services comprising the aging/social/disabilities services continuum. Applications in needs assessment, program planning, administration, and evaluation help prepare students to conceptualize and direct the policy conversation pertaining to community readiness to service the changing needs of an aging society in the areas identified above.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

AGER 6870 - Writing the Dissertation Proposal

3 hours Addresses the various issues involved in dissertation proposals. Students create a preliminary literature review, outline the theoretical perspectives to be employed, define the research questions and hypotheses to be addressed, outline the methods and analysis to be employed, and produce at least a draft of such a proposal, if not the actual proposal. By its nature, the class is very student-participatory: presentations are made and written sections are distributed to other class members, and critiques of the strengths and weaknesses of such sections are expected of class members.

Prerequisite(s): Completion of the other 15 credits of the HSR Core, the Gerontology Core, and completion of (or concurrent enrollment in final courses of) the electives.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

Applied Project Management

APMG 5110 - Fundamentals of Project Management

3 hours Covers the role of cost, schedule, and resource constraints, project selection and prioritization, monitoring, performance, and explores industry specific approaches to project management including waterfall and agile methodologies.

APMG 5210 - Advanced Concepts in Project Management

3 hours Explores in detail select topics in project management that include quality and process improvement, risk analysis and management, and business analysis including cost estimation and forecasting.

APMG 5220 - PDA Capstone

3 hours The capstone course is designed to integrate student learning from the previous semesters by allowing them to apply their professional and technical skills to identify, manage, and execute an industry sponsored project of their choice. The course is a culmination of the college learning experience by integrating concepts and skills in project management, design thinking, and data analysis into a project.

Prerequisite(s): APMG 5110.

Archaeology

ARCH 5620 - 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. The 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): Consent of department.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

Art

ART 5030 - Digital Communication for Art and Creative Entrepreneurship

3 hours Investigation in the conceptual, technical and practical uses of digital tools for communication and promotion in the art and design fields.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ART 5450 - Professional Internship

3–6 hours In-training programs offered in cooperation with approved businesses and professional organizations with career connections.

Prerequisite(s): 12 hours of credit in CVAD courses and consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ART 5614 - Art and Business

3 hours Introduces students to how art, business, and economics intersect in a variety of settings, including both for-profit (galleries, auction houses, artists' studios, design firms/agencies) and non-profit (museums, municipalities, universities, and arts organizations) entities.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ART 5620 - Grant Writing and Arts Funding

3 hours 50.0701.00.03 Explores the study of grant writing and funding strategies for artists, creatives and arts organizations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ART 5640 - Community Engagement in Art and Design

3 hours Exclusively service-learning and community engagement course that prepares students to responsibly participate in class projects that contribute to community arts initiatives, arts organizations, and/or cause-based design projects. Designed to provide students with opportunities to engage in professional development, networking, and establishing connections with the local art and design communities within North Texas and beyond.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ART 5900 - Special Problems

1–3 hours Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Not to be registered for except when other graduate courses are not available. Registration permitted only with consent of college. A maximum of 3 semester hours of credit for each course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ART 5910 - Special Problems

1–3 hours Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Not to be registered for except when other graduate courses are not available. Registration permitted only with consent of college. A maximum of 3 semester hours of credit for each course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

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.

Course open to MFA students who are doing a project in lieu of a thesis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

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.

Course open to MFA students who are doing a project in lieu of a thesis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ART 6900 - Special Problems

1–3 hours Conference courses for doctoral students. Directed reading and research in fields of special interest.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ART 6910 - Special Problems

1–3 hours Conference courses for doctoral students. Directed reading and research in fields of special interest.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

Art Education

ARTE 5708 - Art Education Laboratory School

3 hours Processes for developing and implementing visual arts and design curriculum and pedagogy within a laboratory school setting. Explorations in the philosophies and modes of inquiry related to the formal and informal learning of pre-K, elementary, secondary, adult and/or life-long learner populations.

May be repeated for credit for a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5710 - Foundations for Urban Art Education Studies

3 hours Introduces students to the various historical, ideological, and conceptual tensions of *urban* in art and education. It is concerned with enduring ideas of space, civicness, geographical sensibilities, encounters, difference, displacement, conflict, freedom, and collective empowerment, particularly as they materialize within real-world art education landscapes.

Recommended: Admission to MA with a major in art education with a concentration in urban art education studies or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5712 - Networks and Partnerships in Art Education

3 hours Examines how arts and education professionals connect and build relationships to empower learners across institutions. Includes site visits to city museums and guest speakers from museum professionals, school teachers, higher education, and community leaders, who discuss what makes for impactful and sustainable arts programming.

Recommended: Admission to MA with a major in art education with a concentration in urban art education studies or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5714 - Urban Aesthetics, Youth and Communities

3 hours Explores multiple ways of dialoguing and inquiring into art in urban settings that can be adapted to educational sites including city museums, urban school art classrooms, and community arts programs.

Recommended: Admission to MA with a major in art education with a concentration in urban art education studies or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5715 - Intersection of Culture and Race in Art Education

3 hours An overview of theories and trends addressing issues of race and culture in art education with a focus on analyzing and writing curriculum. The objective of the course is to introduce students to a range of theories and strategies educators use to design curriculum addressing and bridging cultural differences. Topics include the history of culture and race in American schools, and various pedagogical theories for addressing cultures one is not a part of. Optional course for graduate students in the Art Education program. Specifically helps those MA (Option 3) students seeking ECE-12 licensure to prepare for their exams and enables practicing teachers (in MA Option 1) returning to graduate school to deepen their skills and a chance to evaluate and revise their lessons to deepen their teaching. Evaluation methods include responses to readings and emphasize the application of theory to practice through curriculum analysis and assignments to design and teach lessons for a range of settings, including schools, museums, and communities.

Open to students from College of Education and across CVAD

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5716 - Special Topics in Urban Art Education Studies

3 hours Introduces students to special topics relevant to urban art education theory, practice and research.

Recommended: Admission to MA with a major in art education with a concentration in urban art education studies or consent of instructor.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 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.

May be repeated for credit as topics vary for a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5757 - Histories of Arts Education

3 hours Topics based seminar exploring the history and philosophy of education in relationship to the teaching of art in various contexts, including but not limited to U.S. public schools.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5760 - Seminar in Art Education

3 hours Selected problems in art education, theory and practice.

May be repeated for credit as topics vary for a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5763 - Politics of Aesthetics

3 hours Examination of visual discrimination and critical thinking in relationship to historical and socio-political influences. Application of the theories of aesthetics and criticism to curriculum development.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5767 - Intersections of Technology, Art and Education

3 hours Exploration of the role of technologies, digital and otherwise, in contemporary art education. Emphasis on the intersections of artistic expression, STEAM innovations, and social intervention in the teaching and learning of art.

Recommended: ARTE 5750 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5772 - Critical Art Education

3 hours Introduction to theoretical frameworks and current research in critical art education, with particular emphasis on the relationship between art education and social inequality and change.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5773 - Curriculum Theory and Development for Art

3 hours Processes for developing and sequencing the curriculum and methodologies for the assessment of educational programs and student learning in art in various settings, such as K-12, higher education, community programming, and online education.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5774 - Visual Culture Theories and Pedagogy

3 hours Examination of theories, concepts, practices and debates that frame contemporary understandings of visual culture and visual studies education through a wide range of images, sites, films and media culture/technologies.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5775 - Feminist Perspectives on Art, Research, and Teaching

3 hours In this seminar students analyze divergent theories, concepts, practices, and debates that frame contemporary understandings of feminist art, research, and teaching through a wide range of texts, images, sites, films, and media culture/technologies. Readings and topics vary from semester to semester.

May be repeated for credit as topics vary up to a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5779 - Theory and Research of Lived Experience for Art Education

3 hours Specially designed for art educators. Introduces students to basic phenomenological theory, key philosophers within the phenomenological field, and methods of descriptive analysis with particular emphasis on phenomenology's own relationship to the arts.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 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.

Recommended: Admission to the graduate program in art education or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5781 - Contemporary Art and Education

3 hours Introduction to emergent art practices, related theories, and research in contemporary art, with particular emphasis on how modes of artistic production create possibilities for broadening participants' theoretical knowledge and current understanding of art and education practices.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 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.

Recommended: ARTE 5787.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 5790 - Art Institute

1–3 hours For current students and students accepted by the university as participants in special institute programs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 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.

Recommended: ARTE 5787. Completion of all other master's degree program courses.

Course open to MA students in art education.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 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.

Recommended: Admission to an art graduate degree and museum certification program, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTE 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.

Recommended: ARTE 5942, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

Art History

ARTH 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5801 - Topics in Art History

3 hours Research and study in selected topical areas in art history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5805 - Seminar in Medieval Art

3 hours Selected problems in Medieval art.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5806 - Seminar in Renaissance Art

3 hours Selected problems in Renaissance art.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5807 - Seminar in Seventeenth-Century Art

3 hours Selected problems in 17th-century art.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5809 - Seminar in Eighteenth-Century Art

3 hours Selected problems in 18th-century art.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5811 - Seminar in Nineteenth-Century Art

3 hours Selected problems in 19th-century art.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5813 - Seminar in Twentieth- and Twenty-First–Century Art

3 hours Selected problems in 20th- and 21st-century art.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5817 - Seminar in American Art

3 hours Selected problems in American art.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5818 - Seminar in Latin American Art

3 hours Selected problems in Latin American art.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5819 - Seminar in Native American Art

3 hours Selected problems in native North American art.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5821 - Seminar in Pre-Columbian Art

3 hours Arts of the Pre-Columbian cultures of Mesoamerica.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5824 - Seminar in Asian Art

3 hours Selected problems in the arts of Asia.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5825 - Seminar in Islamic and/or Middle Eastern Cultures

3 hours Selected problems in the arts of the Islamic and/or Middle Eastern cultures.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5840 - Topics in the History of Crafts

3 hours Selected topics in the history of crafts.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5843 - History of Photography

3 hours Selected problems in the history of photography.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5844 - History of Prints

3 hours Selected problems in the history of prints.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5845 - Seminar in the History of Architecture and Design

3 hours Selected problems in the history of architecture and/or design.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5847 - Seminar in Ancient Mediterranean Art

3 hours Research and study focused upon selected topics in ancient Mediterranean art history.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5848 - Seminar in Art History

3 hours Research and study in selected topical areas of art history.

For art history majors only. May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ARTH 5849 - Art History Research Project

6 hours Research and writing on a significant problem in the field of art history.

Prerequisite(s): ARTH 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

Audiology and Speech-Language Pathology

ASLP 5060 - Practicum in Speech-Language Pathology and Audiology

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 are required to gain experience in an ASLP 4060 enrollment.

Prerequisite(s): Admission to a graduate degree program in speech and hearing sciences.

Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 5065 - Clinical Externship in Speech-Language Pathology

1–6 hours Advanced clinical practicum. Enrollment in external practicum sites during the last semester of the SLP graduate program.

Prerequisite(s): ASLP 5060. Enrollment in master's program of speech-language pathology.

Pass/No Pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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): Admission to MS Speech-Language Pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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): Admission to MS Speech-Language Pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 5755 - Neuromotor Speech Disorders

3 hours Study of neurologically based communication disorders such as cerebral palsy, dysarthria, apraxia and demyelinization.

Prerequisite(s): Admission to MS Speech-Language Pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 5780 - Diagnostics Speech Pathology

3 hours Philosophical and practical considerations of the diagnostic process: current principles, methods, techniques.

Prerequisite(s): Admission to MS Speech-Language Pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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): Admission to MS Speech-Language Pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 5810 - Voice Disorders

3 hours Principles, methods and techniques of evaluation and management of voice disorders.

Prerequisite(s): Admission to the graduate degree program in speech-language pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 5825 - Pediatric Speech Sound 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): Admission to MS Speech-Language Pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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): Admission to MS Speech-Language Pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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): Admission to MS Speech-Language Pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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): Admission to MS Speech-Language Pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 5850 - Augmentative and Alternative Communication

3 hours Focuses on a wide range of augmentative and alternative communication (AAC) topics.

Prerequisite(s): Admission to the graduate degree program in Speech-Language Pathology or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 5870 - Seminar in Speech-Language Pathology

1–4 hours Consideration of current research, clinical or professional trends and issues in speech-language pathology.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 5920 - Research Problems in Lieu of Thesis

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6010 - Clinical Audiology Observation

2 hours Directed observation in the audiology clinic followed by development of basic audiological skills through introductory clinical practice, including case history, basic audiometry, recommendations and record keeping.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6020 - Clinical Audiology Practicum

2–4 hours Supervised client care in the UNT Speech and Hearing Center in a variety of specialty areas, including audiological assessment of pediatrics through geriatrics, hearing aids, rehabilitative audiology and counseling.

Prerequisite(s): ASLP 6010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6060 - Clinical Audiology Advanced Practicum

2–4 hours Supervised client care in the UNT Speech and Hearing Center and external placements in a variety of specialty areas, including audiological assessment of pediatrics through geriatrics, educational audiology, hearing aids, rehabilitative audiology, electrophysiology, vestibular evaluation, tinnitus and counseling.

Prerequisite(s): Enrollment in the Doctor of Audiology degree program and ASLP 6020.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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 staffing, interdisciplinary interactions and discussions of current trends and issues.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6650 - Audiologic Assessment

3 hours Fundamental principles and clinical application of pure tone and speech audiometry.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6660 - Hearing Science

3 hours Physical and psychological aspects of audition.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6670 - Medical Audiology

3 hours Functional anatomy, physiology and neurology of the hearing mechanism as applied to various pathologies and their otological management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6680 - Pediatric Audiology

3 hours Clinical evaluation and audiological management of children with normal hearing, hearing impairment, developmental delay and special considerations.

Prerequisite(s): ASLP 6650 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6690 - Hearing Aids I

3 hours Physical characteristics and clinical aspects of auditory amplification for the hearing impaired.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 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): ASLP 6690 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6700 - Vestibular Sciences and Disorders

3 hours Anatomy and physiology of the vestibular system, vestibular diagnostics, pathologies of the vestibular system, and treatment of vestibular disorders.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6720 - Cochlear Implants

3 hours Introduces a variety of content areas related to cochlear implants and implantable devices including: signal processing, candidacy requirements, medical considerations, programming cochlear implants, outcomes with electric hearing, audiologic rehabilitation, and ethical issues.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6730 - Seminar in Audiology

1–3 hours Consideration of current research, clinical or professional trends, and issues in audiology. Topics may change to reflect professional advances in the discipline.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6750 - Advanced Audiologic Assessment

3 hours Application of pure tone, speech audiometry and electrophysiological measures to complex auditory problems.

Prerequisite(s): ASLP 6650 or consent of the instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6770 - Electrophysiologic Assessment

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6800 - (Re)Habilitative Audiology for Adults and Children

4 hours (Re)Habilitative management for adults, infants and children. For adults, content focuses on the assessment of communication function and appropriate remediation strategies. For children, content includes management strategies, amplification considerations, treatment methodologies, strategies for speech and language skills assessment, and educational options.

Required course for AuD.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6950 - Doctoral Dissertation

3, 6 or 9 hours To be scheduled only with consent of department. 9 hours credit required total. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6990 - Research Project

1–3 hours Faculty-directed research project that may be a prospective study of a selected aspect of auditory evaluation or rehabilitation, a retrospective analysis of existing audiologic databases, a historical survey of a particular problem area, or a feasibility study of an existing or proposed evaluation or intervention technique.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6991 - Instrumentation in Speech and Hearing Sciences

3 hours Designed for doctoral students in ASLP to provide fundamental and applied knowledge of underlying principles of electronic and software tools used by audiologists, speech-language pathologists, and speech and hearing scientists.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6992 - Advanced Neuroanatomy and Neurophysiology of Communication, Audition and Vestibular Functions

3 hours Designed for doctoral students in ASLP to provide a comprehensive knowledge of the structure and function of the human peripheral and central nervous system, including sensory and motor innervation of the musculo-skeletal system, as they relate to audiology and speech-language pathology. Neurological bases of normal and disordered speech, language, hearing, cognition, non-verbal communication and vestibular functions are addressed.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6993 - Advanced Topics in Audiology, Speech and Language

3 hours Designed for doctoral students in ASLP to provide an in-depth knowledge of selected topics in line with current research, clinical and professional trends and issues in the field of ASLP.

Prerequisite(s): Students must obtain instructor approval to enroll in this course.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6994 - Auditory and Language Processing in the Brain

3 hours Doctoral students in the Department of Audiology and Speech-Language Pathology explore up-to-date research and principles related to the processing and the plasticity in the brain, with particular focus on speech, language and auditory processing. Topics include auditory and speech perception, attention, memory, language, training, cortical plasticity and cognition.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

ASLP 6995 - Communication and Communication Disorders Across the Life-Span

3 hours Designed for doctoral students in ASLP to provide fundamental and applied knowledge of normal communication and communication disorders, especially age-related disorders that impair cognition, speech, language, hearing and swallowing. Attention is paid to the relationship between cognitive physiological functioning and the psychological and social consequences of communication difficulties across the life-span.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

Behavior Analysis

BEHV 5000 - Observation and Measurement of Behavior and Environment

3 hours Students learn the factors to be considered in observing and measuring behavior and environment and various methods of recording data with emphasis on the conditions under which each method is most appropriate. Students explore best practices in and the functional purposes of data visualization. Students practice designing observational systems, taking data and making data-based decisions.

Prerequisite(s): Formal admission to the MS in Behavior Analysis program or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5010 - Experimental Analysis of Behavior

3 hours Reviews classical as well as contemporary experimental literature in behavior analysis. Surveys topic areas in EAB and requires students to distill key elements of basic experimental reports. Emphasis on the mutual relationships between basic, translational, and applied work.

Prerequisite(s): BEHV 5000 and BEHV 5100, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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): BEHV 5000 and BEHV 5100 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5028 - Autism I: Conceptual/Methodological Issues in Applied Behavior Analysis

3 hours Describes basic conceptual and methodological issues involved in behavior analysis and 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): Formal admission to the MS in Behavior Analysis program or consent of instructor.

Corequisite(s): BEHV 5810 concurrent enrollment is strongly suggested.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5029 - Autism II: Applied Behavior Analysis Research and Practice

3 hours Describes research and practice associated with the scientist-practitioner model of behavior analysis and autism. Students conduct comprehensive reviews of experimental literature and learn to evaluate this literature in the context of scientific method, culture, compassion, and ethics. 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 5028.

Corequisite(s): Concurrent enrollment in BEHV 5815 is strongly suggested.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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):
Formal admission to the MS in Behavior Analysis program or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5120 - Survey of Concepts and Principles in Behavior Analysis

3 hours Introduces students to the science and practice of behavior analysis by providing students with foundational knowledge about the science of behavior analysis, as well as an overview of behavioral principles and the behavior change procedures derived from these principles. Through lectures, readings, video examples and terminology exercises, students develop foundational knowledge of concepts and apply these concepts in various simulations meant to further understanding and prepare students for the practice of behavior analysis. Themes include the dynamic interaction of behavior and environment, the identification of behavioral concepts within the student's life, and the relevance of strong conceptual knowledge in the effective and compassionate practice of behavior analysis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5130 - Basic Behavior Principles

3 hours First in a sequence of six courses in the certificate program for non-degree seeking graduate students. Everyday behavior is examined as part of the natural world, and behavior change is explained by behavioral principles derived from scientific research. Principles and procedures included in course content are reinforcement, extinction, differential reinforcement, punishment, discrimination training, generalization, shaping fading and programming. Definitions, reliability and validity and direct observation methods are also addressed.

The course sequence has been designed to meet minimum course content specified by the Behavior Analysis Certification Board as part of the requirements for certification.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5140 - Research Methods in Behavior Analysis

3 hours In-depth examination of strategies and tactics of experimental design in behavior analysis. Students read about, discuss, and evaluate strengths and weaknesses of within-subject methods, between-subject methods, and other approaches to the empirical analysis of behavior, in basic and applied research. Students interact with a variety of topics covered, including ethical considerations for the conduct of research; issues of experimental logic and experimental control; variability as a dependent, interdependent and extraneous variable; methods of data analysis and display; interpretation of experimental findings, and dissemination of findings through professional presentations and scholarly writing.

Prerequisite(s): BEHV 5000 and BEHV 5100, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5150 - Techniques in Applied Behavior Analysis

3 hours The subject matter of behavior analysis is environment-behavior interactions. Applied behavior analysis is the branch of this natural science that studies environment-behavior interactions in situations believed to be socially important. Primary goal is to provide students with a contemporary view of applied behavior analysis and its methods, contributions and controversies. Emphasis is placed on identifying and understanding effective behavior change techniques. Those areas that are covered by entire BEHV courses will not be covered in detail (such as Systems, Verbal Behavior, Functional Analysis, Stimulus Control, Research Methods, and Developing Behavior Intervention Plans).

Prerequisite(s): BEHV 5000 and BEHV 5100, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5170 - Research and Applications in Behavior Analysis

3 hours Third in a sequence of six 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5330 - Verbal Behavior and the Analysis of Human Behavior

3 hours Introduces a behavioral framework for the analysis of verbal behavior. Skinner (1957) defined verbal behavior as behavior that is mediated through the reinforcement provided by another individual. He provided a framework of several elementary verbal operants defined by the environmental controlling variables and reinforced via indirect action on the environment. Students learn about Skinner's analysis of verbal behavior and the controlling variables associated with each verbal operant. Students discuss and analyze multiply-controlled verbal operants and extensions of Skinner's analysis. Students read current research and conceptual pieces from various fields.

Prerequisite(s): Formal admission to the MS in Behavior Analysis program or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5400 - Behavioral Neuroscience

3 hours The brain plays a fundamental role in allowing organisms to learn and interact effectively with their environment. This course analyzes how neural activation and anatomy are shaped - during the lifetime of the individual - by relevant behavioral variables. Looks at different levels of resolution, starting from the individual neuron, its structure and how neurons communicate with each other, to larger structural elements (e.g., the hippocampus), and to the whole organism. In all cases, takes into account how experience continuously modifies structure and activation of neural variables. Stresses that brain activation in relation to behavioral variables can only be understood by taking a systemic approach in which the role of individual areas is best understood within the context of other brain areas and within the natural environment. Introduces the methodologies typically used in behavioral neuroscience, with a specific focus on neuroimaging technologies applied to the behaving organism.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5410 - Brain Plasticity and Behavioral Dynamics

3 hours In the first part of this course, students will be introduced to underlying problems and strategies for cross-level analytical science, and to behavioral science as the organizing framework for this class's material. Under this organizing framework, students will then be introduced to the general architecture of the brain, to the known functions of important areas, and to the behavioral and environmental processes that contribute to building this anatomy. The second part of the course will focus on the mechanisms by which brains and behavior change, the mechanisms of neural plasticity and their relationship to the environment, to the physiological mediation of environment-behavior relations, to the network structures related to brain and behavioral plasticity, and to the role of biological complexity, systems organization, and integration in behavioral processes. Although it is not required, students will be best prepared for this course if they have already taken one at least one of the following: BEHV4900-711 (Behavioral Neuroscience), BIOL 4751/ BIOL 5751 (Cells and Circuits), and BEHV 2700, 2300, 3150, or 5100 (Introduction to Behavior Analysis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5500 - Functional Analysis and Behavior Disorders

3 hours Designed to provide an advanced treatment of the literature in functional analysis and behavior disorders. Students are exposed to the conceptual and methodological underpinnings of the functional analysis literature, including early operant accounts of problem behavior, the development of procedures designed to reveal operant functions of problem behavior, advances in assessment technologies, and novel applications and extensions. Students are encouraged to extend our current understanding of functional analysis to new populations, problems and solutions.

Prerequisite(s): BEHV 5000, BEHV 5100, and BEHV 5140 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5540 - Legal, Ethical and Professional Issues in Behavior Analysis

3 hours Provides students with a solid understanding of core ethical principles, one's own personal assumptions and biases, and the professional guidelines for ethical behavior, as well as the ability to make professional and personal decisions that adhere to the BACB and ABAI codes of ethics. Introduction to the Guidelines for Responsible Conduct adopted by the Behavior Analyst Certification Board (BACB) and the Code of Ethics that has been adopted by the Association for Behavior Analysis International (ABAI). Provides a cursory overview of legal issues common to practicing behavior analysts and how such legislation may impact our profession in research and applications. Strong emphasis on professionalism, the development of the associated skill sets related to professional behavior and to the profession itself. Some focus areas regarding professional behavior include perspective-taking; bias; working in diverse, international and interdisciplinary settings; philosophic doubt; and constructive and respectful problem solving, dispute, and collaboration.

Prerequisite(s): Formal admission to the MS in Behavior Analysis program or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5560 - Development of Behavior Intervention Programs

3 hours Teaches the process of writing behavior change programs to improve the lives of individuals. Major themes covered include the selection and measurement of behavior, analysis of contingencies, assessment of the intra- and extra-organismic variables, and program design, implementation, and evaluation. Students also learn about scientific, ethical, administrative, procedural, and aesthetic considerations in the design of behavior change procedures.

Prerequisite(s): BEHV 5000 and BEHV 5100 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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): Formal admission to the MS in Behavior Analysis program or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5600 - ABA Foundations, Concepts and Principles

3 hours Introduces students to the science and practice of applied behavior analysis by providing students with foundational knowledge about the science of behavior analysis, as well as an overview of behavioral principles and the behavior change procedures derived from these principles. Through lectures, readings, video examples, and terminology exercises, students develop foundational knowledge of concepts and apply these concepts in various simulations meant to further understanding and prepare students for the practice of behavior analysis. Themes include the dynamic interaction of behavior and environment, the identification of behavioral concepts within the student's life, and preparation for professional credentialing as a Board Certified Behavior Analyst.

Prerequisite(s): Formal admission to the MA or GACT in ABA program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5610 - ABA Foundations, Concepts and Principles 1

3 hours Introduces students to the science and practice of applied behavior analysis by providing students with an overview of behavioral principles and the behavior change procedures derived from these principles. Through lectures, readings, video examples and terminology exercises, students develop foundational knowledge of concepts and apply these concepts in various simulations meant to further extend understanding. Themes include the dynamic interaction of behavior and environment, the identification of behavioral concepts within the student's life, and preparation for professional credentialing as a Board Certified Behavior Analyst.

Prerequisite(s): Formal admission to the MA in ABA program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5612 - Meaningful Assessment in Behavioral Practice

3 hours Teaches students the role of assessment in the practice of applied behavior analysis. Includes a comprehensive understanding of the purpose of assessment, types of assessments, methods for assessment analysis, and considerations for selecting and prioritizing socially valid goals for behavior change that are based on assessment results. Emphasis is placed on assessment of both skills and problems through descriptive and functional analyses. Focus is on clinical settings in behavioral practice and preparation for professional credentialing as a Board Certified Behavior Analyst.

Prerequisite(s): BEHV 5600 with a B or better (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5613 - Culturally Responsive Ethics in Behavioral Practice

3 hours Provides students with an understanding of the benefits, complexities, and characteristics of ethical conduct within the science and practice of applied behavior analysis. Lectures and readings address ethical behavior in everyday situations and especially within the context of applied behavior analysis, then students practice applying this information to examples that might be encountered in research and clinical service settings. The themes of this course are to promote the value of ethical behavior, to provide guidelines for ethical decision making and to prepare students to adhere to the professional ethical code of a Board Certified Behavior Analysts.

Prerequisite(s): BEHV 5600 and BEHV 5612 each with a B or better (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5614 - Applied Research Evidence, Design and Analysis

3 hours Builds a foundation for a scientist-practitioner model of behavior- analytic service provision. Includes learning the rationales for observable and socially valid interventions that are based on experimental proofs of effectiveness and the core characteristics of single subject research. Specific topics include measurement tactics and strategies, data display and interpretation, and experimental design. Through a series of readings, lectures and activities, students learn an Evidence-Based Practice (EBP) framework for understanding research in applied behavior analysis so that the treatments they select are effective and meaningful for the individuals they serve. Preparation for professional credentialing as a Board Certified Behavior Analyst.

Prerequisite(s): BEHV 5610, BEHV 5619, BEHV 5612, BEHV 5613.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5616 - ABA Issues: Effective Communication and Collaboration in Behavioral Practice

3 hours Improves the written and verbal communication skills of students as applied to behavior analysis. Students learn to construct understandable and clear documents, collaborate with caregivers and professionals, and present to professional audiences. Projects include a literature review, a professional presentation and outcome reports.

Prerequisite(s): BEHV 5600, BEHV 5612 and BEHV 5613 each with a B or better (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5617 - Behaviorism and the Philosophy of Science

3 hours Teaches students the philosophical underpinnings of the science of behavior analysis. Through lectures and readings, students examine radical behaviorism, how it differs from other philosophical perspectives of behavior, and how it influences the way behavior analysts view the world. Based on these philosophical foundations, students describe the goals of behavior analysis as a science, identify and distinguish between the different domains of the science, and the dimensions of applied behavior analysis.

Prerequisite(s): BEHV 5600 with a B or better. BEHV 5612 and BEHV 5613 each with a B or better (may be taken concurrently). BEHV 5616 with a B or better (only required for MA students; may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5618 - ABA Foundations, Concepts and Principles 2

3 hours Extends conceptual knowledge of the science and practice of applied behavior analysis by providing students with an advanced understanding of behavioral principles and the behavior change procedures derived from these principles. Through lectures, readings, video examples and terminology exercises, students deepen and add to their conceptual knowledge, as well as apply these concepts in various simulations meant to further understanding and prepare students for the practice of behavior analysis. Themes include the importance of strong conceptual knowledge to underlie the practice of behavior analysis, the identification of behavioral concepts within the student's life and preparation for professional credentialing as a Board Certified Behavior Analyst.

Prerequisite(s): BEHV 5610, BEHV 5612 (may be taken concurrently), BEHV 5613 (may be taken concurrently), BEHV 5616 (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5619 - Fundamentals and Techniques of Compassionate and Effective Behavior Change

3 hours Provides students with a deeper understanding of the science and practice of applied behavior analysis by extending knowledge of behavioral principles and procedures to prepare for application in clinical service settings. Through lectures, readings, video examples and terminology exercises, students increase proficiency with behavioral concepts and then apply this knowledge in activities meant to simulate skills required of a practitioner of applied behavior analysis working in a clinical service setting. Themes of this course are to promote the value of an underlying knowledge of behavioral principles leading to an ability to flexibly apply this knowledge when choosing effective procedures to teach meaningful skills, as well as preparation for professional credentialing as a Board Certified Behavior Analyst.

Prerequisite(s): BEHV 5600 and BEHV 5612 each with a B or higher. BEHV 5613, BEHV 5616 (only required for MA students), and BEHV 5617 each with a B or better (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5621 - ABA Issues: Responsiveness to Cultural Diversity

3 hours Examines culture from a behavior-analytic perspective and considers the ethical and scientific issues related to cultural differences. Particular emphasis is placed on perspectives of families and communities of differing ethnic, racial, religious, gender, class and geographic backgrounds. Using an Evidence Based Practice framework students learn approaches for creating inclusive and culturally responsive practice environments in applied behavior analysis.

Prerequisite(s): BEHV 5610, BEHV 5619, BEHV 5612, BEHV 5613.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5622 - Evidence-Based Practice: Understanding and Using Applied Behavior Analytic Research

3 hours Builds a foundation for a scientist-practitioner model of behavior- analytic service provision. Includes learning the rationales for observable and socially valid interventions that are based on experimental proofs of effectiveness and the core characteristics of single subject research. Specific topics include measurement tactics and strategies, data display and interpretation, and experimental design. Through a series of readings, lectures and activities, students learn an Evidence-Based Practice (EBP) framework for understanding research in applied behavior analysis so that the treatments they select are effective and meaningful for the individuals they serve. Preparation for professional credentialing as a Board Certified Behavior Analyst.

Prerequisite(s): BEHV 5600, BEHV 5612 and BEHV 5613 with a B or better. BEHV 5616 (only required for MA students), BEHV 5617 and BEHV 5619 with a B or better (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5623 - ABA Issues: Verbal Behavior Interventions

3 hours Provides an overview of verbal behavior within the context of interventions in applied behavior analysis. Through lectures, readings and activities, students examine the conceptual basis of a functional approach to verbal behavior; review at least three verbal behavior perspectives in the field; and design programs to teach, maintain, and generate verbal repertoires and verbal communities.

Prerequisite(s): BEHV 5610, BEHV 5619, BEHV 5612, BEHV 5613.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5624 - ABA Issues: Behavioral Parent Training

3 hours Introduces students to the conceptual and procedural aspects of parent training within a behavioral systems framework. Topics covered include family structures and functions; protective and risk factors; developmental needs, events and milestones in family life; essential elements of evidence-based parent training; and design and ethical considerations in the implementation of parent training programs in applied behavior analysis.

Prerequisite(s): BEHV 5610, BEHV 5619, BEHV 5612, BEHV 5613.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5625 - ABA Issues: Behavioral Gerontology

3 hours Provides students with an overview of perspectives and commentaries related to the science and practice of applied behavior analysis when applied to behavioral gerontology. Through lectures and readings, students examine the role of behavior analysis in supporting high quality of life for ageing populations, the selection of meaningful goals and effective interventions during this period of life, and strategies for creating effective interventions in home communities and support facilities. Themes include quality of life, multi-sourced data-based decision making, and collaboration with caregivers and service providers.

Prerequisite(s): BEHV 5610, BEHV 5619, BEHV 5612, BEHV 5613.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5626 - ABA Issues: Technical Writing

3 hours Teaches students the mechanics of writing as it applies to applied behavior analysis content. Through extensive practice and feedback, students learn strategies for improving clarity, structure and organization. Themes include critical thinking, functional approaches to learn the guiding principles of technical writing, and then experimenting to find the best individualized ways to communicate in written form. Students learn to construct understandable and clear documents related to practice, such as programs and protocols; reports and presentations to multiple audiences; and manuscripts for publication.

Prerequisite(s): BEHV 5610, BEHV 5619, BEHV 5612, BEHV 5613.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5627 - ABA Issues: Behavioral Practice in Autism

3 hours Provides students with an overview of perspectives and commentaries related to the science and practice of applied behavior analysis when applied to Autism Spectrum Disorders. Through lectures and readings, students examine the relationship between science and autism, the selection of meaningful goals and effective interventions across the lifespan, and strategies for supporting effective interventions. Themes include scientific evidence, data-based decision making, collaboration with caregivers and service providers, and preparation for professional credentialing as a Board Certified Behavior Analyst.

Prerequisite(s): BEHV 5600, BEHV 5612, BEHV 5613 and BEHV 5616 (only required for MA students) with a B or better. BEHV 5617, BEHV 5619 and BEHV 5622 with a B or better (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5634 - Improving Staff Performance in Behavioral Practice

3 hours Provides students with an understanding of the components of evidence-based staff training within the science and practice of applied behavior analysis and then to integrate and apply these components as would be necessary as a practitioner of applied behavior analysis working in a clinical service setting. Through examples of research and practice across domains, students examine problem identification, effective training strategies and evaluation of training effectiveness. The themes of this course are to promote the value of effective staff training, especially relating to improved clinical outcomes, and to prepare students for professional credentialing as a Board Certified Behavior Analyst.

Prerequisite(s): BEHV 5600, BEHV 5612, BEHV 5613, BEHV 5616 (only required for MA students) and BEHV 5617 with a B or better. BEHV 5619, BEHV 5622, and BEHV 5627 with a B or better (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5636 - ABA Capstone: Compassion and Science in Behavioral Practice

3 hours Integrates and extends student understanding of the philosophical underpinnings and the basic principles and concepts underlying the science and practice of applied behavior analysis. Through examples of research and practice across domains, students examine how the philosophy and basic concepts apply to areas of social importance and how applied behavior analysis can contribute to the betterment of conditions across domains and areas of scientific endeavor that are still uncharted. The overarching themes of the course are to facilitate a broad understanding and enthusiasm for a science of behavior and to prepare the student for professional credentialing as a Board Certified Behavior Analyst.

Prerequisite(s): BEHV 5600, BEHV 5612, BEHV 5613, BEHV 5616 (only required for MA students), BEHV 5617, BEHV 5619 and BEHV 5622 with a B or better. BEHV 5617 and BEHV 5634 with a B or better (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5770 - Stimulus Control

3 hours Review of the basic phenomena of stimulus control in both animal and human research. Students learn a variety of methods to measure, study, establish and change stimulus control. Both applied and basic issues are considered. Particular emphasis is given to the measurement of stimulus control and to the contrast between trial-and-error learning and errorless learning. Students write a reflection paper about what they learned in this course. Students also write and implement a program to teach an animal to match objects or pictures.

Prerequisite(s): BEHV 5000 and BEHV 5100 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 5820 - Internship

3 hours (0;0;3) The student and thesis advisor select a setting with a qualified internship supervisor to gain advanced skills for approximately 240 hours. See additional requirements in graduate student manual.

Prerequisite(s): Formal admission to the MS in Behavior Analysis program with consent of faculty supervisor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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): Formal admission to the MS in BA program or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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 school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s):
Formal admission to the MS in Behavior Analysis program.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 6010 - Survey of Literature in the Experimental Analysis of Behavior

3 hours Provides a broad and comprehensive survey of the current and seminal literature in the Experimental Analysis of Behavior (EAB). Concentrates on 1) the identification of historical trends in the development of EAB; 2) documenting change and development in research methods and strategies; and 3) the identification and current and near-future trends in research foci and methodology.

Prerequisite(s): Formal admission to the Health Sciences Ph.D. program, Behavior Analysis concentration, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 6020 - The Conceptual Basis of Radical Behaviorism

3 hours Continues discussion of the philosophical position known as Radical Behaviorism with students in advanced graduate training in Behavior Analysis. Seeks to identify broad anchors that have guided and constrained the development of Behavior Analysis and Applied Behavior Analysis.

Prerequisite(s): Formal admission to the Health Sciences Ph.D. program, Behavior Analysis concentration, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 6140 - Advanced Strategies and Tactics in Behavior Analytic Research

3 hours Purpose is to continue an extended discussion of research methodology in Behavior Analysis. Concentrates on helping students identify the essential features of behavioral research methods by providing multiple exemplars of research strategies and tactics across a large number of areas of research.

Prerequisite(s): Formal admission to the Health Sciences Ph.D. program, Behavior Analysis concentration, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 6200 - Behavior Analysis from a Systems Perspective

3 hours Empirical and conceptual developments increasingly suggest that behavior is best understood as part of an ecosystem of behavior-environment relations in which perturbations in one set of variables impact other sets of variables and their interaction with the behavior of an organism. The purpose of this course is to teach students to identify such systemic interactions and, by reading and dissecting case studies, learn something about how to create and/or influence such systemic interactions.

Prerequisite(s): Formal admission to the Health Sciences Ph.D. program, Behavior Analysis concentration, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 6300 - Better Living through Behavioral Science

3 hours Continues an advanced discussion of the strategies and tactics of experimental research in behavior analysis. Primary is a survey of common and not-so-common methods in behavior analytic research and the principles that define appropriate methodology in behavior analytic research.

Prerequisite(s): BEHV 5000, BEHV 5010, BEHV 5100, BEHV 5140; BEHV 6810 or equivalent

May be repeated for credit as topics vary up to a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 6410 - The Dissemination and Application of Behavior Analysis

3 hours Students read, develop and discuss strategies to disseminate behavior analytic practices to the non-academic world. Students consider factors that improve adoption of best-practices and data-based decision making; the role of public policy in such endeavors, etc.

Prerequisite(s): Formal admission to the Health Sciences Ph.D. program, Behavior Analysis concentration, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 6810 - Developing Behavior Analytic Expertise I

3 hours Students select a content area and begin developing a concentrated set of skills and expertise in a particular area. Student deliverables in the course might include a submitted manuscript or a grant application.

Prerequisite(s): Formal admission to the Health Sciences Ph.D. program, Behavior Analysis concentration, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

BEHV 6910 - Developing Behavior Analytic Expertise II

3 hours Students select a content area and begin developing a concentrated set of skills and expertise in a particular area. Student deliverables in the course might include a submitted manuscript or a grant application.

Prerequisite(s): Formal admission to the Health Sciences Ph.D. program, Behavior Analysis concentration, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDBE 5580 - Bilingual Content Instruction

3 hours Study of curriculum, materials and pedagogy applicable to bilingual classrooms. Attention is given to the integrated teaching of mathematics and the social and natural sciences in bilingual classrooms, emphasizing research-based methods that use the learner's first language for content instruction. Taught in Spanish.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDBE 5582 - ESL Content Instruction

3 hours Study of subject-specific instructional methods, approaches and materials to teach mathematics, science, English language arts and social studies to students for whom English is a second language.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDBE 5585 - Effective Practices in Biliteracy Education

3 hours Theoretical principles, practices and materials applicable to the teaching of reading and writing in 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. Taught in Spanish.

Placement through departmental Spanish proficiency test.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

In order to be compliant with the Texas Education Agency requirement for teacher certification, 15 hours of early clinical experience in a school classroom is required in this course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDBE 5600 - Sociocultural Foundations of Bilingual and ESL Education

3 hours Study of sociolinguistic and sociocultural theory and methodology, with special emphasis on their applicability to various educational contexts and communities.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDBE 5620 - Leadership in Bilingual and ESL Education

3 hours Planning, implementation and evaluation of bilingual and ESL education programs. Topics include the use of student achievement data for decision making purposes related to planning and program development as well as legal mandates, accountability, and acquisition and management of financial resources to support and develop the programs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDBE 5650 - Academic Spanish in the Bilingual Classroom

3 hours Focuses on the use of academic Spanish in bilingual classrooms, including Spanish writing conventions, genres and grammar. Attention is given to Spanish language systems and applications as well as to classroom pedagogy. Taught in Spanish.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDBE 5680 - Culture and Language in the ESL Classroom

3 hours Study of the intercultural elements in the ESL classroom as well as the impact of culture and language on teaching and learning.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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).

Meets with BIOC 4560.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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).

Meets with BIOC 4580. Same as BIOL 5580.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOC 5940 - Seminar in Current Biochemistry

1 hour Study of current literature; current research emphasized.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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 school. 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOC 6640 - Cellular Signal Transduction and Biochemical Regulation

3 hours Study of the components of cellular signal transduction pathways and their biochemical functions; regulation of metabolic processes and pathways in the context of cellular signaling; readings from the current literature.

Prerequisite(s): BIOC 4550 or BIOC 5550, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOC 6900 - Special Problems

1–3 hours Independent study or laboratory research for doctoral students. Problem must be approved by the major professor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOC 6910 - Special Problems

1–3 hours Independent study or laboratory research for doctoral students. Problem must be approved by the major professor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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 school. 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

Biological Sciences

BIOL 5001 - Contemporary Topics in Molecular Biology

1–3 hours Contemporary topics in molecular biology and biochemistry. Topics may vary from semester to semester and may include eukaryotic and prokaryotic molecular genetics, DNA profiling, physiology and metabolism and application of recombinant DNA technologies.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5035 - Behavioral Ecology

3 hours Behavioral ecology investigates how organisms change what they are doing as they interact with other organisms and with their environment. This course will focus on understanding the evolution of behavior, primarily with animals. We will discuss genetic, hormonal, neurological, developmental, learning, and cultural mechanisms underlying the production of behaviors. We will then investigate how survival value and evolutionary history shape behaviors within the contexts of foraging (food acquisition), avoiding predators, mating behavior and systems, habitat selection, social behavior, communication, and parental care.

Prerequisite(s): If major is outside of Biological Sciences, department consent is required.

Meets with BIOL 4035.

May not be taken for credit if previously taken BIOL 4035 for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5045 - Scientific College Teaching

3 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Meets with BIOL 4053/PHIL 4053. Same as PHIL 6780.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5055 - Ornithology

3 hours Classification, distribution, ecology, adaptations and behavior of birds. Emphasis on both local and global species.

Prerequisite(s): Twelve hours of biological sciences or consent of instructor.

Corequisite(s): BIOL 5056.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5056 - Ornithology Lab

1 hour Laboratory emphasis on field identification, behavior and habitats of birds.

Prerequisite(s): 6 hours of biology.

Corequisite(s): BIOL 5055.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5057 - Mammalian Ecology and Evolution

4 hours (3;1)

Mammalogy course with hands-on, laboratory-style format. Emphasis on diversity, morphology, ecological roles, and contemporary field and analytical techniques. Identification of mammals to family level using skulls, tracks, scats, pictures, and identification of live individuals to species. Interpret and estimate diet of representative Texas mammals through a diversity of techniques.

Prerequisite(s): BIOL 2140 or BIOL 2251, or consent of department.

Must also enroll in laboratory.

Mandatory field trip attendance, including participation in two-night, overnight field trip to take place over a weekend.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5085 - Fish Diversity and Ecology

4 hours (3;1) Emphasis on evolution, diversity, biology, ecology, and management and conservation of fishes. Field techniques and species identification, with focus on fishes of Texas.

Prerequisite(s): Consent of department.

Must also enroll in laboratory.

Mandatory field trip attendance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5100 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5130 - Biostatistics I

3 hours Introduction to data science and biostatistics using R. Topics include R programming, statistical methods, experimental design, data visualization, data workflow, and hypothesis testing in biological research. Methods covered include simple to advanced general linear models (correlation, regression, t-test, ANOVA, ANCOVA, multi-way ANOVA).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5140 - Biostatistics II

3 hours Continuation of Biostatistics I. Advanced data science, statistical methods and experimental designs in biological research using R. Topics covered include generalized linear models, linear and generalized linear mixed models (fixed and random factors), correlation structures, Bayesian statistics, multivariate techniques (MANOVA, PCA, etc.), and specialized topics.

Prerequisite(s): BIOL 5130.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5230 - Physiological Ecology

4 hours Animals live within a diverse array of habitats, each characterized by its own physical and biological constraints varying in intensity, duration and periodicity. In this course, students learn various ways in which animals have evolved to meet these challenges and thrive in the context of their natural environments (biotic and abiotic). Specifically, a survey of the physiological, behavioral and biochemical adaptations of animals to environmental factors, including temperature, oxygen, water, salinity, pH and toxic chemicals are explored.

Meets with BIOL 4030.

May not be taken for credit if previously taken BIOL 4030 for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5250 - Advanced Human Physiology

3 hours Physiological mechanisms in humans, with emphasis on medical physiology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5260 - Principles of Evolution

3 hours Genetic, systematic, ecological, historical and geographical concepts of evolution.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5261 - Principles of Evolution Laboratory

1 hour (0;3) Laboratory and discussion exercises focused on topics related to evolutionary biology.

Prerequisite(s): BIOL 5260.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5350 - Mass Spectrometry Techniques for Metabolomics

3 hours (2;1) Each cell or tissue features a collection of metabolites (small molecules) which are the resultant of cellular processes. Metabolomics is the study of these compounds, providing a unique opportunity to fingerprint physiological activities. Specifically, metabolomics will be used here to measure intracellular metabolite levels in samples from each student's research project. The analyses will be conducted in the BioAnalytical Facility (BAF), which serves researchers at the University of North Texas through the detection and quantification of small molecules from biological sources.

Lecture and lab sections must be taken concurrently.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5375 - Molecular Toxicology

3 hours In-depth discussion of toxicology at the biochemical and molecular level to include a discussion of a variety of toxic modes of action, modern techniques used in molecular toxicology, and current toxicological research literature. Includes the writing of a mock grant proposal.

Prerequisite(s): 8 hours each of biology and chemistry.

Meets with BIOL 4375.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: BIOL 3451, BIOL 3452, BIOL 3510, BIOL 3520. Suggest credit for or concurrent enrollment in either Molecular biology or biochemistry.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5501 - Bacterial Diversity and Physiology

3 hours Comparative survey of bacteria. Growth, ecology, metabolism, energy transformations, differentiation and adaptive mechanisms.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5502 - Bacterial Diversity and Physiology Laboratory

1 hour Isolation of bacteria from nature. Enrichment methods, morphology, enumeration of bacterial growth and enzymes.

Recommended: BIOL 5501 (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5503 - Plant Physiology and Development

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5800 - Microbial Genetics

3 hours Genetic structure, inheritance and gene expression in microorganisms and their viruses.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5810 - Bioinformatics Algorithms

3 hours Introduction to computational problems inspired by the life sciences and overview of the algorithms behind the bioinformatics tools. Exposure to fundamental algorithmic concepts underlying sequence data in computational molecular biology. Formulate biological problems as computational problems and implement algorithms to solve these problems efficiently. Topics include methods to compute sequence alignments (dynamic programming algorithm), motif finding (randomized algorithms), DNA sequence assembly (graph algorithms), protein sequencing data analysis (brute force algorithms), and sequence data analysis (suffix trees and hidden Markov models).

Meets with BIOL 4810 and CSCE 4810. Same as CSCE 5810 and MATH 5810 .

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5815 - Bioinformatics

3 hours Introduction to the interdisciplinary field of Bioinformatics. Databases and genome browser tools. Methods and algorithms for biological sequence analysis. Applications to problems in biology or medicine.

Meets with BIOL 4815.

May not be taken for credit if previously taken BIOL 4815 for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Meets with BIOL 4820 and CSCE 4820. Same as CSCE 5820.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5870 - Developmental Integrative Biology Seminar

1 hour (0;0;1) Current research in the field of developmental biology is discussed via an open seminar series. Speakers for the graduate student population as well as leaders in the field give presentations on research topics ranging from organismal to molecular biology.

Prerequisite(s): Enrolled in graduate school.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

No more than 6 hours can be counted toward a master's degree.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

No more than 6 hours can be counted toward a master's degree.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5920 - Research Problems in Lieu of Thesis

3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 5930 - Research Problems in Lieu of Thesis

3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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 school. 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated up to a total of three times to cover all aspects.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 6200 - Bioinstrumentation and Analytical Techniques

4 hours (3;0;1) Current research instrumentation and techniques in biological sciences.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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): BIOL 5120 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 6460 - Cellular Neuroscience

3 hours Detailed examination of the nervous system, specifically neuroanatomy, neurophysiology, neurochemistry and sensory transduction.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 6700 - Plant Interaction with Environment

3 hours Covers the impact of a variety of environmental factors (e.g., seasons, light, temperature, water availability, pathogens, insects, etc.) on plant growth, development and reproduction, and the mechanism that plants utilize to adjust to stressful conditions. Emphasis on the molecular, biochemical and physiological aspects of plant response to the environment.

Prerequisite(s): A course in plant biology and a course in biochemistry/molecular biology or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 6710 - Signaling Mechanism in Plants

3 hours Covers the variety of signaling molecules and mechanisms that plants utilize to facilitate communication at different levels, focusing on the molecular and biochemical basis of plant signaling.

Prerequisite(s): A course in plant biology & course in biochemistry/molecular biology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Same as CSCE 6810.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 6900 - Special Problems

1–3 hours Independent study or laboratory research for doctoral students. Problem must be approved by major professor.

No more than 6 hours may be counted toward a degree.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 6910 - Special Problems

1–3 hours Independent study or laboratory research for doctoral students. Problem must be approved by major professor.

No more than 6 hours may be counted toward a degree.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

BIOL 6940 - Individual Research

1–12 hours Doctoral research of independent nature.

Number of hours counted toward the PhD determined by major professor and graduate advisory committee. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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 school. 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

Biomedical Engineering

BMEN 5005 - Neuroengineering

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.

Recommended: Graduate standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5007 - Research Methods in Biomedical Engineering

3 hours Begins with an introduction to design of experiments as pertaining to biomedical engineering. Examples discussed include sample size, completely randomized design, mean separation procedures, factorial experiments, etc. Also includes exercises in writing IRB and IACUC protocols for in vivo studies in biomedical engineering. Students are required to read, analyze and present critical findings of classic biomedical engineering research papers from Pubmed/Medline. Students have opportunities to write a well-researched paper and also a research proposal to a funding agency based on requirements for a proposal.

Prerequisite(s): Graduate standing or consent of instructor.

Meets with BMEN 4007.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5100 - Standards and FDA Regulations

3 hours Develop full understanding of US Food and Drug Administration (FDA) regulations that pertain to medical devices within the US, including requirements for manufacturers, importers, contract manufacturers and specification developers. Overview of translations between regulations and quality and industry standards and best practices. Develop an understanding of ISO 13485, the internationally-recognized standard followed by medical device companies globally. Introduction to regulations required by countries outside the USA including Canada and the European Union (EU). Introduction into requirements for clinical and pre-clinical testing. Overview of ethical and moral considerations for biomedical engineers entering into the medical device industry. Design project to include case study developing design history file documentation for the development of a medical device product to be developed.

Prerequisite(s): Graduate student in Biomedical Engineering or permission of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5150 - Medical Device Marketing and New Product Integration

3 hours Medical device regulatory strategy for the U.S. and other countries, to allow products to be marketed. Deeper dive into design and development for new products, including regulatory strategy, quality plan, design development inputs and outputs, clinical considerations, design verification and validation, etc. Includes a walk-through of the phase-gate approach to design development that is utilized in industry. Final project to include a case study developing design history file documentation, including regulatory strategy.

Prerequisite(s): Graduate student in Biomedical Engineering or permission of instructor, *Introduction to FDA Quality and Regulatory Affairs.*

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5175 - Medical Device Clinical Requirements

3 hours Focuses on the clinical evidence needed for regulatory submissions in both the USA and Europe for medical devices. Review of requirements needed to conduct a clinical trial, documentation needs, and ethical considerations. Also reviews requirements needed for clinical evidence, literature searches and requirements for post-market surveillance. Final project to include a case study on a post-market surveillance report.

Prerequisite(s): Graduate student in Biomedical Engineering or permission of instructor, *Introduction to FDA Quality and Regulatory Affairs*

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5210 - Biomedical Engineering Laboratory

2 hours (1;3) Laboratory-based course designed to develop hands-on experimental skills relevant to the design and application of biomedical instrumentation. Students are presented with open-ended, real-world, design process starting with the project definition, specification development, management, team interactions and communication, failure and safety criteria, progress reporting, marketing concepts, documentation and technical presentation of the final project outcome.

Prerequisite(s): Graduate standing or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5280 - AI for Wearables and Healthcare

3 hours Students use machine learning to extract clinically useful signals from wearable devices including inertial sensors such as accelerometers and gyroscopes. Applications of AI in healthcare as a whole are discussed, with a specific emphasis on wearable devices.

Recommended: CSCE 5215 or CSCE 5216 or BMEN 5312 or BMEN 5315.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5310 - Clinical Instrumentation

3 hours Design and application of medical instruments. Responsibilities, functions, and duties of the hospital-based biomedical engineer, including program organization, management, medical equipment acquisition and use, preventive maintenance and repair, and hospital safety.

Prerequisite(s): Graduate standing or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5311 - Rehabilitation Engineering

3 hours Surveys the design and application of rehabilitation engineering and assistive technologies in a wide range of applications, including wheeled mobility, ergonomics, seating and positioning, gait analysis and control, and sensory aids, as well as emerging technologies.

Prerequisite(s): Graduate standing or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5312 - Advanced Signal Processing in Biomedical Engineering

3 hours Provides an overview of advanced topics in biomedical signal processing with an emphasis on practical applications and best practices in industry. Topics include stochastic and adaptive signal processing of biomedical signals such as ECG, EMG and EEG; spectral estimation and signal modeling.

Prerequisite(s): Graduate standing or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5313 - Bioengineering of Cellular Systems

3 hours Cell-based technologies are emerging to support biomedical applications. By modifying DNA, RNA, proteins, and other biological components, bioengineers have created new cellular behaviors that can be harnessed for disease preventions, diagnostics, and treatments. To continue exploring the use of cell-based approaches for solving biomedical problems, bioengineers are required to gain a molecular understanding on cellular systems. Students learn about how biological pathways have been targeted for engineering new cellular functions, including transcription, translation, post-translational modification, and regulatory mechanisms for controlling these processes. Additionally, course discusses a range of examples on using engineered cells as medical tools for therapies and diagnostics.

Prerequisite(s): Graduate Classification

Meets with BMEN 4313.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5314 - Advanced Tissue Engineering and Regenerative Medicine

3 hours Tissue engineering and regenerative medicine provide new therapies for patients with severe injuries or chronic diseases. The successful development of tissue engineered replacements depends on complementary advances in biomedicine, cell biology, material science, and engineering. Comprehensive course designed for graduate level study. Covers the fundamental concepts, multidisciplinary approaches, and clinical applications of tissue engineering and regenerative medicine. Students gain the fundamental understandings of structure-function relationship in normal and pathological mammalian tissues. Principles of tissue engineering, regenerative medicines, biological mechanisms, experimental, analytical and computational approaches, animal models, as well as their respective clinical applications are integrated to address problems in current tissue regeneration field.

Prerequisite(s): Graduate standing.

Meets with BMEN 4314.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5315 - Computational Methods in Biomedical Engineering

3 hours (2;3) Introduction to practical computational methods for data analysis and simulation of biomedical systems and instrumentation. Topics covered include compartmental modeling, numerical analysis, FEA, and other techniques, as applied to examples from biomechanics, electrophysiology and other areas of biomedical engineering.

Prerequisite(s): Graduate standing or consent of instructor.

Meets with BMEN 4310.

Grad-Track course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5316 - Biopolymers and Flexible Bioelectronics

3 hours First half introduces biopolymers and covers polymers such as polysaccharides, polypeptides and polynucleotides. Second half talks about flexible bioelectronic devices. Topics covered include wearable electronics, pacemaker, and neural interfaces. The working principle of stimulating and recording bioelectronic devices is discussed on various examples.

Recommended: Graduate classification.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5317 - Advanced Biotechnology

3 hours Introduction to the development and practical application of biotechnology. Topics covered include biomolecular assay development, protein and oligonucleotide synthesis/engineering, and genetic and cellular engineering. Examples applications encompass diagnostics, therapeutics, industrial chemical synthesis and bioinformatics.

Recommended: Graduate classification.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5318 - Biomedical Implants

3 hours Comprehensive course covering the essential knowledge in biomedical implants. Goal is providing students with knowledge and skills in understanding the medical needs, engineering principles in implant design, host-implant interaction, engineering restrictions and non-engineering restrictions in design optimization, and implant performance/clinical outcome assessments. Case studies include mechanical, bioprosthetic and transcatheter heart valves, vascular grafts, stents, pacemakers, orthopedic implants, dental implants, etc. Also covers regulatory knowledge such as patent protection, design validation in animal models and clinical trials, IACUC, IRB, Good Manufacture Practice (GMP), and FDA regulations and approvals.

Recommended: Graduate classification.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5319 - Cardiovascular Fluid Dynamics

3 hours (2;3) Blood flow is essential for normal body function. The dynamics of blood flow and the heart functioning as a pump are regulated by, and in turn regulate many physiological processes in the human body. Understanding the flow of blood in the human body provides valuable insights into human physiology and the interdependence of various organ systems. Cardiovascular diseases disrupt normal blood flow in the human body, affecting many essential processes and organs (giving rise to a plumbing problem!). Students learn about the nature of blood and regulation of blood flow in normal and diseased situations using fundamental principles including physiology, engineering, analytical and computational models, mechanistic approaches and clinical viewpoints. State-of-the-art therapeutic techniques and medical devices currently used by clinicians for detecting and treating cardiovascular diseases also are discussed.

Prerequisite(s): Graduate classification.

Meets with BMEN 4319.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5320 - Advanced Biomechanics

3 hours Introduction to solid and orthopedic biomechanical analysis. Involves the study of complex tissues and structures. Emphasis on modeling of bone, soft tissue and FEM.

Prerequisite(s): Graduate standing or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5321 - Biomaterials Compatibility

3 hours Relevance of mechanical and physical properties to implant selection and design; effect of the body environment on metallic, ceramic and plastic materials; tissue engineering; rejection mechanisms used by the body to maintain homeostasis regulatory requirements.

Prerequisite(s): Graduate standing or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5322 - Medical Imaging

3 hours Study of the basics of information detection, processing and presentation of medical imaging. An overview of various medical imaging techniques such as CT, MRI and PET.

Prerequisite(s): Graduate standing or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5323 - Advanced Biomedical Optics

3 hours Principles of optical spectroscopy, including absorption, fluorescence, and scattering spectroscopy; emphasis on understanding how light interacts with biological samples and how these interactions can be optically measured, quantified, and used for medical diagnosis and sensing.

Prerequisite(s): Graduate standing or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5324 - Applications of Biomedical MEMS

3 hours Addresses advances in the science and technology of miniaturization and its applications in biomedical engineering. Advanced techniques to create submicron electromechanical and fluidic architectures, with hands-on lab practice and software modeling. Different types of lithography methods are presented and different techniques such as chemical etching and reactive ion etching are discussed. Applications in bio micro-electro-mechanical systems (BioMEMS) are also discussed in different subjects, such as biosensor, microfluidics, and BioMEMS for diagnosis and tissue engineering.

Prerequisite(s): BMEN 3311 and BMEN 3321, or consent of department.

Meets with BMEN 4320.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5325 - Biomedical Nanotechnology Compatibility

3 hours Provides an overview of structure and functions of DNA, protein and cell, advanced micro-/nanoengineering technology and characterization methods. Also addresses major areas in biomedical sectors, influenced by developments in nanotechnology.

Prerequisite(s): BMEN 3321 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5326 - Biomolecular Engineering

3 hours Engineering biomolecular components provides a means to create novel, programmable functions in cells and other biological systems. These components can be proteins with different biological roles and other macromolecules. The advent of biomolecular engineering leads to emerging strategies of protein design and protein construction. This course discusses these strategies in the aspects of designing macromolecules, generating libraries of these parts, and screening desirable candidates. Additionally, it aims to train students in reading, analyzing, and discussing materials from academic research articles.

Prerequisite(s): Graduate classification; consent of instructor.

Meets with BMEN 4326.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5327 - Immuno-engineering

3 hours Covers the basic concepts of immunology and immunoengineering and the state of the art technologies of immunotherapies. Includes subject-specific content in the area of antibody-based immunotherapies, immune cell-based immunotherapies and other biomaterials-based immunological approaches. Examines current challenges in effective immunological strategies to treat human diseases and how advanced immune engineering can provide opportunities to enhance the efficacy of immunotherapy against human diseases. Introduces students to modern immunoengineering including recombinant antibodies, engineered immune cells, immune engagers, and biomaterials to modulate the immune system. Those technologies enable targeted therapy, disease-specific activation of the immune system, and the development of off-the-shelf immunotherapy. Emphasis is on understanding the principles of immunoengineering to improve clinical efficacy as well as to reduce side effects and on realizing the importance of the immunotherapy. From the engineering standpoint, in addition to the mechanism of action of those immunological approaches, the course covers the basic concepts of gene delivery/therapy, recombinant antibody technologies, and immune cell isolation/expansion/infusion. Finally, recent advances in immunotherapies to better treat patients with cancer are discussed.

Prerequisite(s): Graduate classification or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5330 - Three-Dimensional Bioprinting

3 hours There have been great advances made recently in three-dimensional (3D) bioprinting, which is a robotic additive manufacturing of functional human tissue constructs using living cells and hydrogels, similar to their tissue structure in vivo. Introduction to the basic principles and applications of 3D bioprinting of human cells in biomimetic hydrogels (a.k.a. “bioinks”) to create multicellular tissue constructs used in biomedical and biological research.

Prerequisite(s): Graduate student in BMEN or permission of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5331 - Drug Delivery and Nanomedicine

3 hours

Covers the effective design and development of modern medicines. Includes subject-specific content in the area of drug delivery and nanomedicine. Examines current challenges in drug delivery and how advanced formulation designs and nanotechnology can provide opportunities to enhance future treatment.

Introduces students the modern drug delivery systems including microparticles, nanoparticles, self-assembling surfaces, and lipid-based drugs, that provide pharmaceutical agents at target tissues, the mechanism of pharmacokinetic regulation, the basics, technology, of controlled released and targeted therapy. Emphasis on understanding the principles of drug delivery systems to improve clinical efficacy as well as to reduce side effects and on realizing the importance of the drug delivery field.

In the pharmaceutical field, in addition to drug delivery system, provides an understanding of the physiological barriers in the human body as they are critical to developing appropriate controlled release systems. The skin, vascular system, cell membrane, eye and brain blood barrier are of particular importance. Finally, recent advances in genetic engineering, DNA and siRNA delivery systems, and approaches for delivering and stabilizing these molecules will be discussed.

Prerequisite(s): Graduate student in BMEN or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5332 - Soft Robotics in Biomedical Engineering

3 hours Modeling and analysis of Soft Actuators, Soft Materials, soft Sensors and their application in rehabilitation and wearable technologies.

Prerequisite(s): Graduate student in BMEN or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5700 - Introduction to Statistical Genetics

3 hours Introductory course for graduate students in statistics, biology, bioinformatics and other disciplines which covers statistical methods for the analysis of family and population based genetic data. Topics covered include allele frequency estimation, linkage analysis, family-based and population-based association analysis, DNA-seq and RNA-seq analysis. Students are exposed to the latest statistical methodology and computer tools on gene mapping in complex human disease. Students also read and evaluate current statistical human genetics literature.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5800 - Topics in Biomedical Engineering

3 hours Selected topics of contemporary interest in biomedical engineering.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5810 - Topics in Biomedical Engineering

3 hours Selected topics of contemporary interest in biomedical engineering.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5820 - Advances in Bioinformatics

3 hours Covers computational methods to address modern bioinformatics problems. The students learn latest advances in bioinformatics and develop data science solutions to analyze large biological datasets and solve important biological questions. Topics include analysis of next-generation sequencing datasets, integration of multi-omics datasets, supervised and unsupervised analysis of biomedical datasets, inference of gene regulatory networks, and genome wide association studies (GWAS).

Recommended: Students are expected to have background in programming and data structures.

Same as CSCE 5820.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5890 - Directed Study in Biomedical 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): Consent of instructor.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5900 - Special Problems in Biomedical Engineering

1–6 hours Special problems in biomedical engineering for graduate students only.

Prerequisite(s): Consent of student's supervisor and/or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5910 - Special Problems in Biomedical Engineering

1–6 hours Special problems in biomedical engineering for graduate students only.

Prerequisite(s): Consent of student's supervisor and/or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5920 - Cooperative Education in Biomedical 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5940 - Biomedical Engineering Seminar

1 hour Introduction to biomedical engineering research conducted by faculty and researchers at UNT and other institutions. Students are required to make a well-researched presentation at the end of the course.

Recommended: Graduate standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 5950 - Master's Thesis

3–6 hours Master's thesis research. A minimum of 6 hours is required. No credit is assigned until the thesis is filed and approved by the Dean of the Toulouse Graduate School.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 6800 - Advanced Topics in Biomedical Engineering

3 hours Selected topics of contemporary interest in biomedical engineering.

Prerequisite(s): Doctoral student in BMEN or consent of instructor.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 6910 - Individual Research

1–6 hours To be scheduled by the doctoral candidate engaged in research.

Prerequisite(s): Doctoral student in BMEN. Consent of advisor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 6920 - Instructional Service Component

3 hours Instructional service involves learning to teach an undergraduate BMEN course with peer feedback on effective teaching techniques. Development of student outcomes, and program educational objectives. ABET assessment of undergraduate program. Also involves a session with research office and career center on professional interactions including, resume writing, interviewing; exploring funding opportunities, writing research proposals.

Recommended: Doctoral student in BMEN.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 6930 - Translational Biomedical Engineering

3 hours Introduction to the pathway of taking one's research innovation from the laboratory to commercialization. Topics include FDA regulatory pathways, requirements for product approval; development of business plan and understanding the investor environment.

Recommended: Doctoral student in BMEN.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 6940 - Biomedical Engineering Doctoral Seminar

1 hour Introduction to biomedical engineering research conducted by faculty and researchers at UNT and other institutions. Students are required to make a presentation of their proposed research at the end of the course.

Recommended: Doctoral Student in BMEN.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

BMEN 6950 - Biomedical Engineering Doctoral Dissertation

1–6 hours To be scheduled only with the consent of the instructor. Minimum 12 hours credit required. No credit assigned until the dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Recommended: Doctoral Student in BMEN.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

Business, Interdepartmental

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 essentials of entrepreneurship, risk taking and market opportunity. Students are expected to develop a major, discussing the market opportunities for a business product or service.

Corequisite(s): FINA 5170

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BUSI 5510 - Managing Innovation and Creativity

3 hours Creativity and innovation are keys to an organization's ability to gain competitive advantage and survive in today's and, even more important, tomorrow's marketplace. This course provides students with an understanding of how creativity and innovation can be facilitated and managed in a work setting using three forms of thinking…design thinking, systemic thinking and systems thinking. Students learn about theoretical conceptualizations of these thinking constructs as well as practical applications involved in fostering creativity and innovation in the workplace. Students play an active role in learning through live projects, class exercises, class discussions, dialogue with guest speakers, participating in industry visits, and presentations about real (or planned) innovations in organizations. This course focuses on understanding how to apply the methodologies learnt to challenges in business and society.

Prerequisite(s): Admission to the full-time cohort MBA in Management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BUSI 5520 - Industry Visits

3 hours Revolves around industry visits and involves dealing with topics that may or may not be covered in other MBA classes. Course may also have guest speakers on different topics designed to enrich the student's experience. The goal is to expose students to different businesses and issues facing these businesses. Further, it is hoped that students will learn to synthesize their experiences from these industry visits, information from both secondary and primary sources, and what they are learning in other classes. After every industry visit students prepare a white paper for the focal firm. Given the ambiguous nature of these industry visits and the challenges they pose, UNCERTAINTY is an integral part of this course, and the students will have to learn to deal with it and create value for the firm and for themselves.

Prerequisite(s): Admission to the full-time Cohort MBA in Management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BUSI 5920 - Problems in Lieu of Thesis

3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BUSI 5930 - Problems in Lieu of Thesis

3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Business Computer Information Systems

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5110 - Programming Languages for Business Analytics

3 hours Introduces graduate students to programming for business analytics applications. Makes use of programming tools that are appropriate for business applications such as data analysis and model building. Problem-solving and programming techniques are covered early and used throughout the course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5140 - Artificial Intelligence in Business

3 hours Offers an integrated perspective on the opportunities and challenges associated with the introduction of artificial intelligence (AI) and machine learning capabilities into business computer information systems. Topics include technical foundation of AI, survey of current AI capabilities, AI applications in business, implications of AI for business, and society and AI governance.

Prerequisite(s): DSCI 5180 or course equivalent or consent of department; BCIS 5110 or course equivalent or consent of department; DSCI 5240 (can be taken concurrently) or course equivalent or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5150 - Leveraging Information Technology for Business

3 hours Examines the role of information technology (IT) in an organization's operations, processes and strategy. Challenges students to develop and apply critical thinking skills to understand how to leverage IT to address organizational issues by understanding how, why and where IT is used in organizations. Designed to provide students with the ability to compare and contrast issues in leveraging IT and to determine and demonstrate the value of IT in an organization. Focuses on both existing and emerging technologies.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5530 - Ethics in Business and Information Technology

3 hours Introduction to ethical issues in the use and development of information technologies in business, with a focus on their consequences for individuals, business decision-making, and society. Prepare students to anticipate and identify ethical issues and apply ethical reasoning. Through class discussions, case studies and exercises, explores the ethical concepts that include privacy, security, and surveillance in modern technology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5540 - Enterprise Systems Programming

3 hours Introduces students to the fundamentals of software design, development, and testing using common business tools and languages such as COBOL in a mainframe environment. Covers the language syntax as well as a variety of data and file structures. In

addition, the course explores issues related to data validation and reporting as it relates to business problems. Students gain experience working in both a batch and interactive environment using a variety of computing hardware including mainframe computers.

Prerequisite(s): BCIS 5110 and BCIS 5120.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5550 - Advanced Enterprise Systems Programming

3 hours Focuses on concepts related to advanced COBOL programming such as computer utilization, advanced business applications, structures, debugging techniques and tools. Students explore advanced techniques related to software design on interactive systems using a variety of software development tools. Other topics include advanced file processing, utilities, batch and interactive JCL, report writer and other advanced features of COBOL.

Prerequisite(s): BCIS 5540.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5560 - Cybersecurity Governance and Risk Management

3 hours Delves into the fundamental principles of cybersecurity risk management, including an exploration of the various tools and mechanisms used to evaluate, control and transfer risk within organizations. Key topics covered include risk identification, risk assessment, control and management strategies, as well as the concept of organizational cyber resilience, which encompasses incident response, disaster recovery planning, and business continuity planning.

Prerequisite(s): BCIS 5110 and BCIS 5120.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5610 - Enterprise Data Warehousing

3 hours Provides the student with in-depth knowledge of data warehousing principles, data warehouse design techniques and business intelligence systems. Introduces the topics of data warehouse design, Extract-Transform-Load (ETL), data cubes, and data marts. Students learn how to use Business Intelligence tools with data warehouses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5660 - Organizing and Managing IT Projects

3 hours Examines the organization and management of information technology project functions including the implementation and acquisition of information technology 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 information technology and systems.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5690 - Topics in Information Technology

3 hours Current issues dealing with the development and use of information technologies in business.

Prerequisite(s): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5700 - Information Systems and Technologies Capstone

3 hours Through an integrated capstone project, students strengthen their understanding of interrelationships among information technology components in a broader context of IT and business strategy. Projects leverage student knowledge of programming, IS design concepts, databases, information security as well as specialized and emergent technologies. Students develop and present solutions to the problems chosen for analysis. Emphasis is placed on a written report and a presentation of solutions attained.

Prerequisite(s): Completion of Foundation and Technology Sequence course work and within 9 hours of graduation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5740 - Information Security Management

3 hours Investigates the major concepts, challenges and strategies of countermeasures used in information security management. Typical topics include definition of terms, concepts, elements, and goals incorporating industry standards and practices with a focus on availability, vulnerability, integrity and confidentiality aspects of information security management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5750 - Blockchain for Business

3 hours Introduction to blockchain for business. Much like the internet in its early days, blockchain seems difficult to understand and forecast, but it could become pervasive in the exchange of payments, goods, services, information and interactions between organizations. Beginning with the history of blockchain and it antecedents, we explore the significance of blockchain in the marketplace starting with existing implementations like bitcoin and other cryptocurrencies, emerging and probable applications, as well as the possibilities for the expanded use of blockchain in business, government, and not-for-profit organizations. Topics include the strengths, weaknesses and technical limitations of blockchain; its legal, regulatory and governance implications; its potential to disrupt industries and organizations; and much more.

Prerequisite(s): None; no prior knowledge of Blockchain is required.

Meets with BCIS 4750.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 5760 - Introduction to Business Aspects of Digital Forensics

3 hours Overview of the principles and practices of digital investigation. Addresses forensic techniques used throughout an investigation life-cycle. Students learn different techniques and procedures that enable them to perform a digital investigation with a focus on complying with legal and regulatory requirements.

Prerequisite(s): There are no formal prerequisites. However, it is beneficial for students to have a good understanding of basic issues in cybersecurity, programming and computer architecture.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 ITDS master's coordinator.

May be repeated for credit. Can be used as a support course with prior ITDS departmental approval if three hours are taken. Pass/No Pass.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BCIS 6010 - Seminar in Business Administration

3 hours Covers one or more special fields.

May be repeated for credit. Two or more sections may be taken concurrently.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 school. 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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 agency, contracts, debtor-creditor relationships, privacy and data security, accountant's liability and professional conduct regulations, government regulation of business, and business structures.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BLAW 5410 - Business Law for Managers and Entrepreneurs

3 hours Examines federal and state laws affecting managers and entrepreneurs. Incorporates the study of ethical issues that arise in contemporary business settings, including corporate social responsibility and corporate governance. Covers major areas of legal regulation to which businesses are subject, such as contract law, employment law, intellectual property law, environmental regulation, financial regulation, and privacy/data security law. Emphasis is placed on active, experiential application of legal and ethical reasoning and analysis in a global environment.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

BLAW 5500 - Oil and Gas Law

3 hours Survey of the laws, legislation and regulations governing development, production and disposition of energy resources. Emphasis on oil and gas leases, pooling/unitization, drilling contracts, conveyances and regulation of mineral development. Focuses on legal and regulatory issues unique to the U.S. energy industry. Key legal topics covered include ownership rights, creation and transfer of mineral interests, essential clauses of modern energy leases, taxation, and energy contracts/agreements.

Prerequisite(s): BLAW 5050 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Chamber Music

MUCM 5510 - String Chamber Music

1 hour (0;2) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCM 5520 - Woodwind Chamber Music

1 hour (0;2) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCM 5530 - Brass Chamber Music

1 hour (0;2) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCM 5540 - Percussion Chamber Music

1 hour (0;2) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCM 5550 - Jazz Chamber Music

1 hour (0;2) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCM 5560 - Mixed Ensemble Chamber Music

1 hour May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

CHEM 5200 - Physical Chemistry

3 hours Survey of selected topics in physical chemistry, including thermodynamics, statistical mechanics, heterogeneous and homogeneous equilibria, and chemical kinetics.

Recommended: CHEM 3520 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: CHEM 2380 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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).

Recommended: CHEM 3520 or equivalent, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: Completion of undergraduate science courses required for certification and consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

CHEM 5940 - Seminar in Current Chemistry

1 hour Colloquia covering current topics in chemistry.

Required of all full-time graduate students in each term/semester of graduate residence. May be repeated for credit. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

CHEM 5960 - Science Institute

1–6 hours Courses for students accepted by the university for enrollment in special institute courses.

May be repeated for credit, not to exceed a total of 6 hours in each course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit. Six credit hours required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

CHEM 6540 - Chemical Biology Design and Instrumentation

3 hours Emphasizes the determination, structure and chemical function of biological molecules. Topics include biological chemical function, structure related to function of biological chemistries, instrumentation and methods in molecular biology, and biochemical kinetics.

Recommended: BIOC 4540 or equivalent.

CHEM 6540 requires algebraic and trigonometric calculations, and requires the background to perform such.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

CHEM 6940 - Individual Research

1–12 hours Doctoral research of independent nature.

May be repeated for credit. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

CHEM 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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

Communication Studies

COMM 5080 - Introduction to Graduate Study and Research in Communication Studies

3 hours Broad perspective on communication studies content areas.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5085 - Pedagogy and Communication

3 hours Study of pedagogy and communication. Examines philosophical, theoretical and practical issues faced by university instructors.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5120 - Group Processes

3 hours Theoretical and practical examination of task group processes. The role of communication and technology in group development, maintenance, decision making, leadership and performance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5140 - Landscapes of Public Memory

3 hours Examines role of rhetoric in shaping public memory around topics of civic, political, and social importance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5160 - Performative Writing

3 hours Seminar in experimental scholarly/critical writing. Prepares students to produce and critique writing that may challenge current modes of acceptable expository academic writing. Explores a variety of textual and theoretical perspectives for writing produced for both the page and the stage.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5165 - Performance and U.S. Southern Culture

3 hours Examination of the performative traditions of cultures in the southeastern United States, as well as research, analysis and performance of fictional and nonfictional texts of the region.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5180 - Qualitative Research Methods in Communication

3 hours Qualitative research methodologies for communication studies research.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5185 - Quantitative Research Methods in Communication

3 hours Experimental and quantitative techniques usable in research in communication.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5225 - Interpersonal Communication

3 hours Contemporary research and theory in the study of communication patterns found at various stages of normal interpersonal interactions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5260 - Seminar in Adaptation and Staging

3 hours Historical and contemporary theoretical approaches to the adaptation and staging of texts for performance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5325 - Communication Theory

3 hours Survey of scientific and humanistic perspectives on the communication process and social contexts in which it occurs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5340 - Rhetorical Methods

3 hours Use of critical and rhetorical theories in the investigation and evaluation of rhetorical acts and artifacts.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5345 - Rhetorical Theory

3 hours Examination of significant rhetorical theories and theorists.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5440 - Public Address Studies

3 hours Research and theory in the critical interpretation and assessment of public discourse.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5465 - Performance and Autoethnography

3 hours Application of autoethnography as a research method to analyze cultural identities. Emphasis on personal narrative, storytelling and embodied practice.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5481 - Graduate Internship

3 hours Supervised work in a job related to the student's major, professional field of study or career objective.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5560 - 20th Century Theory and Practice in Performance Studies

3 hours Exploration of philosophies, conventions, techniques and major figures in the history of performance studies as an academic discipline.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5565 - Black Matters and the Body

3 hours Performance theories related to embodiment, space and time. Centers on Black feminist thought.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5645 - Rhetorics of Worldmaking

3 hours Rhetorical and performance theories related to processes and practices of worldmaking.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5660 - Performance and Ethnography

3 hours Seminar in the history, ethics and methodology of participant-observer research. Students participate in fieldwork and the creation of aesthetic representations of the data they collect.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5665 - Fandom and Performance

3 hours Examines fandom and fanart as performance methods. Study of wide range of mediated forms, emphasizing both critical analysis and creation of fanart.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5745 - Rhetorics of Protest, Social Movement(s) and Resistance

3 hours Application of rhetorical theories and concepts to examine individual and collective efforts for social change. Survey of historical and contemporary acts of protest and social movements.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5760 - Performance, Culture and Tourism

3 hours Investigation of the performative practices of travel and tourism through examinations of public memory, networks of power and national identities as embodied experiences.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5820 - Seminar in Communication Processes

3 hours Contemporary research and theory in communication processes. Rotating topics.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5840 - Seminar in Rhetorical Studies

3 hours Contemporary research and theory in oral rhetorical studies. Rotating topics.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5860 - Seminar in Performance Studies

3 hours Contemporary research and theory in performance studies. Rotating topics.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5920 - Research Problems in Lieu of a Thesis

3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

COMM 5930 - Research Problems in Lieu of a Thesis

3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

Computer Science and Engineering

CSCE 5001 - Computer Science Theory I

3 hours Provides an overview of programming concepts and structure as well as algorithm design and development. Helps students develop an understanding of discrete structures and basic data structures commonly used in computer science. This is a Bridge Pathways course and cannot be taken to fulfill requirements for any regular CSE degree program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5002 - Computer Science Theory II

3 hours Provides an in-depth understanding of common data structures and algorithms used in computer science, as well as the analysis of the complexity and performance of these algorithms and the theories underpinning computational concepts. This is a Bridge Pathways course and cannot be taken to fulfill requirements for any regular CSE degree program.

Prerequisite(s): CSCE 5001.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5011 - Computer Science Programming I

3 hours Provides an introduction to programming concepts and structure through the development of syntactic skills and real programming problem solving in a High-Level Language. Covers basic programming constructs, variables, memory management and implementation of data structures, as well as file handling, Input/Output processing and Object-Oriented concepts. This is a Bridge Pathways course and cannot be taken to fulfill requirements for any regular CSE degree program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5012 - Computer Science Programming II

3 hours Illustrates the syntax, semantics, and computation models of programming languages. Introduces the major programming languages paradigms and presents the key features of high-level programming languages from each paradigm. Presents the basic skills necessary in a software engineering context. Then addresses the Software Development Life Cycle (SDLC) activities along with the applied Object-Oriented (OO) modeling approach such as Unified Modeling Language (UML) to illustrate the relevant concepts. Considers the importance of design in the SDLC to enable students specifying, designing, and implementing complex software systems using different implementation methodologies and software architectures. Offers students an opportunity to cover Internet programming and giving them practical experience in creating common Internet applications.

Prerequisite(s): CSCE 5011.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5021 - Computer Science Systems I

3 hours Covers topics related to computer hardware, network stack, and security. Helps students to understand how the processors work and how they execute instructions. Discussion about the network stack and the protocols used in the network stack. Helps students to understand the need for secure software. This is a Bridge Pathways course and cannot be taken to fulfill requirements for any regular CSE degree program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5022 - Computer Science Systems II

3 hours Covers these advanced systems topics: operating systems, system programming, and database systems. From operating systems the focus is on virtualization, concurrency, and persistence following *"Operating Systems: Three Easy Pieces"*(OSTEP). Given enough time, also covers operating system security concepts. From systems programming the focus is on how computer system software works and learning/improving students' programming skills in K&R C and Bash (Bourne- again shell). From database systems the focus is on logical and physical database system organization, logical models, design issues, and secondary storage considerations, along with practical experience with SQL.

Prerequisite(s): CSCE 5021.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5050 - Applications of Cryptography

3 hours Introduces students to concepts of cryptography and its applications. Cryptography is the fundamental building block of any computer security solution. The knowledge gained from this course will enable students to apply these cryptographic algorithms in a better way to design security solutions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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 5150.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5170 - Graph Theory

3 hours Topics include directed and undirected graphs, elementary graph algorithms, Eulerian tours, connectivity, coloring, planar graphs, matchings, and network flows.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5210 - Fundamentals of Artificial Intelligence

3 hours A broad understanding of the basic techniques for building intelligent computer systems and how AI is applied to solve problems. The emergent nature of intelligent behavior through robust and efficient sensation, knowledge representation, and decision making are demonstrated through a series of hands-on demonstrations and tutorials. Ethical implications of automation and autonomy of machines are discussed through case studies. This exposure provides the breadth to understand the capabilities to begin a deeper exploration of artificial intelligence.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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. Introduction to systems simulation and industrial dynamics. Programming languages for simulation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5214 - Software Development for Artificial Intelligence

3 hours New programming paradigms are needed to create and manage systems with embedded AI capabilities. Students are taught how to leverage available artificial intelligence APIs flexibly and reliably. Additionally, as data management is integral to AI system development, an emphasis is made to collect and process data for AI system training and testing. Traditional programming concepts and software design principles are covered in a task-oriented manner to interface with advanced AI libraries and frameworks in order to build and maintain AI infrastructure.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5215 - Machine Learning

3 hours The theory and process to create systems that learn directly from data to make predictions and decisions. Topics include a wide variety of supervised learning methods, both regression and classification, with an emphasis on those that perform well on large feature sets. Ensemble methods are used to combine independent approaches efficiently. Unsupervised and semi-supervised methods demonstrate the power of learning from data without an explicit training target or goal. Reinforcement learning enables effective reward-seeking behaviors in complex environments. The goal is to create models that can make automated decisions from new data or make inferences on unlabeled data to aid in understanding and future prediction models.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5218 - Deep Learning

3 hours Hands-on introduction to deep learning emphasizing application using GPU-accelerated hardware to train multilayer machine learning models directly on raw input signals. Discusses the foundations of feedforward networks, convolutional neural networks, and recurrent networks, as well as their usage within popular reinforcement learning frameworks. Using real datasets and popular deep learning tools (e.g. Tensorflow, Keras) students create systems to make inferences from rich and varied raw data including speech, video and other sensor signals.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5222 - Feature Engineering

3 hours Focused on applied signal processing across a variety of modalities including still images and video, audio signals, sensor signals, and natural extensions to other rich multidimensional signals. Students are introduced to computer and simplified biological visual and auditory processing models. This includes signal transduction, edge detection and segmentation. Spectral representations include fourier and various wavelet decompositions useful in making inferences from signals. The progression from 1D audio to 2D images and (3D) video representations instill the intuitions necessary to process a variety of potential, rich sensor signals.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5255 - Programming Math and Physics for Games

3 hours Fundamentals of game math and discrete physics for game development, including linear algebra and geometry, matrix math for graphics, quaternions, discrete physics, programming game math and physics in a game environment, physics engines.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5266 - Game Programming Project 1

3 hours Independent design and implementation of a full game using one of the popular game engines. The design process includes overall design of game, game play mechanics and user interface. The implementation includes multiple aspects of game programming including but not limited to graphics, game physics, AI, sound, scripting and multi-player networking. The development process must include both coding and scripting and the use of a current source code repository. Part one of a two-semester project sequence.

Prerequisite(s): CSCE 5260.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5267 - Game Programming Project 2

3 hours Independent design and implementation of a full game using one of the popular game engines. The design process includes overall design of game, game play mechanics and user interface. The implementation includes multiple aspects of game programming including but not limited to graphics, game physics, AI, sound, scripting and multi-player networking. The development process must include both coding and scripting and the use of a current source code repository. Part two of a two-semester project sequence.

Prerequisite(s): CSCE 5266.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5280 - AI for Wearables and Healthcare

3 hours Students use machine learning to extract clinically useful signals from wearable devices including inertial sensors such as accelerometers and gyroscopes. Applications of AI in healthcare as a whole are discussed, with a specific emphasis on wearable devices.

Prerequisite(s): CSCE 5215 or CSCE 5216 or BMEN 5312 or BMEN 5315 .

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5300 - Introduction to Big Data and Data Science

3 hours Introduction to Big Data and Data Science including an overview of the field, technical challenges, computational approaches, practical applications, structured and unstructured data processing, empirical methods in computer science, data analytics and learning, data visualization, privacy and ethics. Emphasis on Big Data and its effect on other topics within Data Science, its technical characteristics, and state-of-the-art Big Data analytics architectures and tools.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5310 - Methods in Empirical Analysis

3 hours Introduction to applied analysis. Topics include concepts in the design of empirical computer science research and the application of the appropriate associated statistical analysis methods; the nature and importance of scientific hypotheses in computer science, the design of valid experiments to test such hypotheses, and the basic techniques of applied statistical analysis including the exploration of the meaning of results and methods of describing data on individual variables and examining association between variables including estimation, tests of mean differences, differences in distributions, and correlation between variables; random sampling, probabilities, and independent and identically distributed data concepts are discussed as a basis for understanding how to infer results from samples to the populations from which they are drawn.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5320 - Scientific Data Visualization

3 hours Introduction to visualization methods in data exploration. Topics include the use of space, form and color to communicate information; visualization of multi-dimensional data; data reduction methods such as principal component analysis and regression; methods for special domains such as geographic data and large graphs; and designing and implementing interactive interfaces.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5350 - Fundamentals of Database Systems

3 hours Introduction to the design and use of database systems. Topics include data models, database query languages, logical database design and dependency theory.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5360 - Implementations and Practices of Database Systems

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5390 - Multimedia Computing

3 hours Aims to develop a critical appreciation of the theoretical background as well as the practical issues of multimedia systems and provides students with an in-depth knowledge of digital multimedia objects, storage and processing technologies: data acquisition, data compression, interpretation, presentation and interaction, and the emerging standards supporting them. Gives students some practical experience of programming components of multimedia systems.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5400 - Formal Languages, Automata and Computability

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5411 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5412 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5430 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5460 - Software Testing and Empirical Methodologies

3 hours Addresses recent advances in the field of software testing, including empirical methodologies that provide a systematic way to investigate various software engineering techniques and methodologies. Students learn various fundamental testing techniques and the state of the art in testing techniques, and understand how to design, conduct, analyze, and write up empirical studies of software engineering technologies.

Prerequisite(s): CSCE 5430.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5465 - Usability Testing in Software Engineering

3 hours Introduces students to usability topics, including HCI style guides, user interface localization and usability testing. Students work individually on small homework assignments and in a team on a larger project.

Prerequisite(s): CSCE 5430.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5552 - Cybersecurity Essentials

3 hours Provides a practical overview of essential computer and network security concepts and how they can be applied through a series of laboratory experiments. Introduces a wide array of security issues facing computer systems today, with an emphasis on

how these challenges are relevant to users, attackers, and forensic investigators. Topics include cryptography, steganography, hashing, attack methods (and appropriate mitigation techniques), wireless security ports, access control, and the acquisition of forensic data.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5555 - Computer Forensics

3 hours (2;0;1) Fundamentals of computer forensics and cyber-crime scene analysis including laws, regulations, international standards and formal methodology for conducting computer forensic investigations. Topics include advanced computer forensic science capabilities such as target hardening and software, tools for data duplication, recovery and analysis, and development of pre-search or on-scene computer investigative techniques.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5562 - Cloud Security

3 hours (2;0;1) Introduces theoretical and practical aspects of computer systems security and presents ways to protect a computer system with an additional focus on the distributed computing systems. Topics include operating system security, hypervisors, virtualization security, storage security, trusted hardware, trusted platform modules, application isolation, hardware security modules, cryptoprocessors, and cloud and IoT security. Students also explore emerging security challenges facing computer systems based on recent research papers.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5565 - Secure Software Development

3 hours Design and implementation of secure software systems. Software assurance techniques, approaches, mechanisms, and tools. Principles and practice of trustworthy computing. Common software security threats. Secure programming techniques. Software analysis techniques such as static analysis, dynamic analysis, testing, and model checking. Architectural approaches to building secure software.

Prerequisite(s): CSCE 5550.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5570 - Penetration Testing

3 hours Covers cybersecurity terminology, principles, and technologies and introduces students to security issues related to hardware, software, cryptography, and policy to make better, safer decisions. Topics include cyber threats and vulnerabilities, information security frameworks and policies, cryptography, penetration testing, and defense in depth. Many of the techniques are demonstrated and practiced using a modern programming language. The goal is to develop a foundation for further study in cybersecurity.

Corequisite(s): CSCE 5550.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5575 - Blockchain and Applications

3 hours (2;0;1) Basics of blockchains. Architecture and operation. Distributed ledger. Block creation and proof of work. Minimizing techniques. Transactions. Successful private and public blockchains. Barriers to adaption. Setting up the development environment (introduction to Solidity, Truffle, IPFS, Metamask, web3.js), deploying applications (Test Network Ropsten and Ganache blockchain tutorial). Literature review. Applications include smart contracts to: IoT, networks, healthcare, finance, supply chain and identity management. Architectural tradeoff for performance improvement. Studying the blockchain industry. Guest lecturers from the industry.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5585 - Network Security

3 hours Fundamentals of network defense. Topics include firewalls, intrusion prevention and detection systems, network forensics, building a secured routing network, and network penetration testing and vulnerability analysis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5612 - Embedded Hardware/Software Design

3 hours Introduction to embedded systems and its design using requirement specification, architectural design and implementation. Interrupt and polling concepts. Digital and analog input and output. Serial communication. Simple sensor interfacing. Internet of Things (IoT). Embedded software debugging and testing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5615 - Networks-on-Chip

3 hours Introduction to network-on-chip design, including router architecture, switching technology, routing algorithms, flow control and topology. Students learn how to design network-on-chip through simulations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5655 - Principles of Compiler Optimization

3 hours Design and implementation of modern methods of analysis and optimization within compilers for a variety of target architectures. Topics include intermediate representations, advanced code generation, control- and data-flow analysis, advanced compiler optimization, dynamic compilation, global register allocation and instruction scheduling.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5680 - Distributed Systems

3 hours Introduces the main principles underlying distributed systems: processes, communication, naming, synchronization, consistency, fault tolerance and security.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5740 - Topics in Modern Electronic System Design

3 hours Discusses design of hardware components such as phase-locked loops, electronic signal converters, sensor circuits and memory for efficient realization of modern electronic systems. Introduce students to concepts and means for nanoelectronic-based energy-efficient design, high performance design, reliable system design, secure system design targeted for Internet of Things (IoT) and smart city components.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5810 - Bioinformatics Algorithms

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.

Same as BIOL 5810. Meets with CSCE 4810.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5815 - Bioinformatics

3 hours Introduction to the interdisciplinary field of Bioinformatics. Databases and genome browser tools. Methods and algorithms for biological sequence analysis. Applications to problems in biology or medicine.

Same as BIOL 5815. Meets with CSCE 4815.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5820 - Advances in Bioinformatics

3 hours Covers computational methods to address modern bioinformatics problems. The students learn latest advances in bioinformatics and develop data science solutions to analyze large biological datasets and solve important biological questions. Topics include analysis of next-generation sequencing datasets, integration of multi-omics datasets, supervised and unsupervised analysis of biomedical datasets, inference of gene regulatory networks, and genome wide association studies (GWAS).

Same as BIOL 5820. Same as GEOG 5960. Meets with CSCE 4820.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5931 - CSE Seminar

1 hour The Computer Science and Engineering department seminar is designed to bring together students interested in understanding and potentially engaging in extracurricular applications of CSE, with a focus on ongoing research and preparation for industry. Speakers include department faculty, research students, and invited outside speakers. Students are asked to read relevant literature and participate in discussions.

May be repeated for credit for a maximum of 3 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

May be repeated for credit with consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Open to students with graduate standing who are capable of developing problems independently. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 5935 - CSE Research and Professionalism Overview

1 hour Designed to introduce new graduate students to the resources and expectations of the CSCE department, with a focus on academic success and professional development. Presentations and Q&A's are given by academic advisors, career coaches, and CSE faculty members. Students participate in these discussions with the goal of planning for their academic career and post-graduation.

Restrictions: Students must be enrolled in their first full-time semester or receive departmental consent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6050 - Advanced Topics in Cryptography

3 hours Graduate students learn the theory of cryptography and recent developments in cryptography. Cryptography is concerned with the construction of schemes that should maintain a desired functionality, even under malicious attempts aimed at making them deviate from it. Students learn foundations for cryptographic algorithms and the paradigms, approaches and techniques used to conceptualize, define and provide solutions to national security concerns.

Prerequisite(s): CSCE 5050.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6213 - Advanced Topics in 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.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6260 - Advanced Topics in 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): CSCE 5215 or CSCE 5216 or CSCE 5225 or equivalent.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6270 - Advanced Topics in Human-Computer Interaction Research

3 hours Students explore advanced topics in human-computer interaction based on current research and trends in the field. A research-focused project is evaluated using formal experimental methods, providing a solid foundation on conducting experimental design and analysis for user-centered projects.

Prerequisite(s): CSCE 5430.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6280 - Advanced Topics in 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.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6290 - Advanced Topics in Human/Machine Intelligence

3 hours Current topics in human/machine intelligence such as advanced research topics in machine learning, natural language processing, cognitive science, robot perception and intelligence, computer vision, intelligent systems, expert systems, data mining, and human-centered computing.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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): Consent of department.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6370 - Advanced Topics in 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 provide an in-depth understanding of multimedia processes with an emphasis on issues pertaining to DBMS, operating systems and communications.

Prerequisite(s): CSCE 5350 or CSCE 5360; CSCE 5390.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6420 - Advanced Topics in 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 CSCE 5430.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6450 - Advanced Topics in 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): CSCE 5450.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6581 - Advanced Topics in 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6585 - Advanced Topics in Network Security

3 hours Analyze the security of networks and protocols. Topics include Opportunistic Security, increased TCP security, using TLS in applications, Security Automation and Continuous Monitoring (SCAM), enabling browser-to-browser audio and video conference (WEBRTC), software defined networks security, DTLS in constrained environments, wireless network security (4G/5G), and security of Internet of Things.

Prerequisite(s): CSCE 5550 or CSCE 5580.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6610 - Advanced Topics in Computer Architecture

3 hours Current research topics in computer system architecture, including research on multicore processors, memory systems, interconnection networks, energy efficient systems, and runtime system.

Prerequisite(s): CSCE 5610 or consent of department.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6620 - Advanced Topics in 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.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6640 - Advanced Topics in Operating Systems

3 hours Current research issues and advanced topics involving both the principles and pragmatics of operating systems specification, design and implementation.

Recommended: CSCE 5640 or consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6650 - Advanced Topics in 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.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6731 - Advanced Topics in VLSI Systems

3 hours Design, simulation, synthesis and optimization of nanoscale CMOS and nanoelectric based digital and analog/mixed-signal circuits and systems. Different topics are covered based on the theme. Two example themes are: “Nanoscale Mixed-Signal System Design” and “Low-Power Nanoelectronics.”

Prerequisite(s): CSCE 5730 or consent of instructor.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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.

Same as BIOL 6810.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6933 - Advanced Topics in Computer Science and Engineering

3 hours Advanced topics and current research issues in computer science and engineering.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

CSCE 6940 - Individual Research

1–6 hours To be scheduled by the doctoral candidate engaged in research.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), Differential Tuition may vary

Counseling

COUN 5000 - Filial/Family Therapy

3 hours The use of play to incorporate the family system into the therapeutic process by training parents to be therapeutic agents in their children's lives. Focuses on 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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5100 - Expressive Arts in the Counseling Process

3 hours Study of the theoretical foundation, process and techniques of using the expressive arts in counseling diverse clients across the lifespan. Includes an extensive experiential component.

Recommended: COUN 5690; must be taken concurrently with COUN 5720/COUN 5721.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5300 - Systems, Leadership and Ethical Program Development in Clinical Mental Health Counseling

3 hours Principles, practices and ethics of counseling in clinical mental health settings with special attention to counselor functions, services, leadership, ethical program development and ethical program evaluation.

Prerequisite(s): COUN 5290, COUN 5680 and COUN 5710, or consent of department.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5470 - Career Counseling

3 hours Survey of career development and counseling with emphasis on the occupational, career and educational information service. With the exception of field courses (COUN 5690, COUN 5720/COUN 5721) Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5480 - Diagnosis and Treatment Planning in Counseling

3 hours Principles of culturally sensitive biopsychosocial assessment and case conceptualization leading to appropriate counseling treatment plans or referral within a managed care framework. Diagnosis according to the most recent edition of the DSM and evidence-based treatment planning are studied.

Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5490 - Abnormal Behavior: Effects of Trauma and Crisis Intervention

3 hours Provides the basic theoretical foundations of trauma and crisis intervention, including the effects of crisis and traumatic events on the development of abnormal behaviors. Principles of crisis intervention during trauma-causing events as well as treatment of long-term trauma-related effects are examined. Students learn crisis theory, crisis intervention models, and practical skills for effective crisis intervention in response to traumatic events. In addition, students learn long-term interventions for trauma-related symptoms.

Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5520 - Counseling for Wellness

3 hours Introduction to wellness counseling. Characteristics of optimal health and human functioning and implications for counselors. Practical application of theoretically and empirically supported wellness models and counseling interventions to address coping, stress reduction, relaxation, physical health, social well-being and spirituality.

Prerequisite(s): COUN 5710 and COUN 5680, or consent of instructor.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5610 - Addiction Counseling

3 hours Etiology and principles of addiction as well as counseling practices relevant to substance abuse and addiction counseling.

Prerequisite(s): COUN 5680 and COUN 5710, or consent of the department.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5640 - Play-Based Group and Family Counseling

3 hours Philosophy and rationale for group work with children, preadolescents, and their families. Focuses on the goals of group and family play/activity therapy, the role of the play therapist, screening and selection of group members, the use of expressive arts activities at various developmental stages, and planning and structuring group and family sessions.

Prerequisite(s): COUN 5690, COUN 5700 and COUN 5740 or consent of instructor. COUN 5690 may be taken concurrently.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5650 - Advanced Skills in Play Therapy

3 hours Competency-based course with experiential emphasis. Students are required to demonstrate proficiency in play therapy principles and practices. Students engage in the advanced study and application of play therapy, including theories of play therapy, application of advanced play therapy skills, parent consultation, and other special topics.

Prerequisite(s): COUN 5700 and COUN 5760 or consent of instructor.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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 5290, COUN 5670, COUN 5680, COUN 5710 and COUN 5790, or consent of department.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5680 - Essential Skills in Counseling

3 hours

Study of selected basic techniques of counseling.

Course should be taken concurrently with COUN 5710.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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 including track specific courses with the exception of electives, COUN 5300, COUN 5770, COUN 5780X ; COUN 5720 and COUN 5721. COUN 5740 may be taken concurrently. Exceptions are on a case-by-case basis.

Pass/no pass only. With the exception of COUN 5700, students may take an elective concurrently. With the exception of field courses (COUN 5690, COUN 5720/COUN 5721) Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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): COUN 5670, COUN 5680 and COUN 5710, or consent of instructor.

Recommended: EPSY 5123.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Course should be taken concurrently with COUN 5680.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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. This experience is designed to meet practicum requirements for Texas LPC and School Counselor Certification.

Prerequisite(s): COUN 5690.

Pass/no pass only. With the exception of field courses (COUN 5690, COUN 5720 and COUN 5721) Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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. This experience is designed to meet practicum requirements for Texas LPC and School Counselor Certification.

Prerequisite(s): COUN 5720.

Pass/no pass only. With the exception of field courses (COUN 5690, COUN 5720, and COUN 5721), Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 5770 - Professional School Counseling

3 hours Principles and practice of individual counseling, group counseling, counseling core curriculum, and consultation in elementary and secondary schools as part of the overall comprehensive developmental professional school counseling program.

Prerequisite(s): COUN 5460.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Recommended: Taken concurrently with COUN 6230.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 6120 - Qualitative Research in Counseling Specialty Areas

3 hours Provides thorough analysis of qualitative research relevant to each doctoral student's specialty area: adolescent/adult counseling, career/vocational development, college counseling, couple and family counseling, group counseling, play therapy, rehabilitation counseling, or school counseling.

Prerequisite(s): EPSY 6020.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 6125 - Quantitative Research in Counseling Specialty Area

3 hours Provides thorough analysis of past quantitative research conducted in, and application of research principles to current quantitative research in, each doctoral student's specialty area: adolescent/adult counseling, career/vocational development, college counseling, couple and family counseling, group counseling, play therapy, rehabilitation counseling, or school counseling.

Prerequisite(s): EPSY 6010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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. Strongly encouraged to have completed at least one other research tool course.

Recommended: All doctoral core classes except COUN 6260.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 6140 - Advanced Multicultural Counseling

3 hours Study of advanced practice of multicultural counseling and of implications for counselor preparation and supervision.

Prerequisite(s): Admission to doctoral program in counseling or consent of instructor. See Counseling Doctoral Program Handbook for sequencing requirements.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 6155 - Applying Quantitative Research Concepts in Play Therapy

3 hours Designed to provide thorough analysis of past research conducted in play therapy and application of research principles to current play therapy research. Students review historical play therapy and synthesize findings. Students review research methods commonly used in play therapy and analyze their utility. Application of current research methods and statistical analyses are applied to play therapy intervention designs.

Recommended: COUN 5700, COUN 6220, EPSY 6010 or EPSY 6020.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 6220 - Counseling Principles and Process I

3 hours Principles and supervised practice of advanced skills in counseling and consultation for counselor educators, including consistent implementation of counseling theory.

Prerequisite(s): Admission to doctoral program in counseling.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 6230 - Counseling Principles and Process II

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 6240 - Counseling Principles and Process III

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 6250 - Counseling Principles and Process IV

3 hours Principles and supervised practice of advanced skills in counseling and crisis intervention approaches for counselor educators, including consistent implementation of counseling theory.

Prerequisite(s): COUN 6240, COUN 6653.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 6260 - Counseling Principles and Process V

3 hours Principles and supervised practice of advanced skills in counseling, including capstone attention to consistent implementation of counseling theory.

Prerequisite(s): COUN 6250.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 6652 - Teaching Counselor Education

3 hours Principles and practices of teaching in counselor education with attention to learning theories, curriculum design, and special topics of particular interest to counselor educators. Includes attention to methods for course and program evaluation.

Prerequisite(s): Admission to doctoral program in counseling or consent of instructor. See Counseling Doctoral Program Handbook for sequencing requirements.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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): Admission to doctoral program in counseling or consent of instructor. See Counseling Doctoral Program Handbook for sequencing requirements.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

COUN 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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30 (Instructional Fee), $30 (differential tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5050 - Substance Abuse and Crime

3 hours Investigation, analysis and discussion of the relationships between substance abuse and criminal behavior.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5100 - Cyber Crime and Victimization

3 hours Provides students with a general understanding of cyber crime, cyber deviance, and cyber victimization. Students develop a thorough understanding of the issues confronting the criminal justice system resulting from the expansion of the internet and internet of things (IoTs). Theoretical explanations of cyber crime and deviance as well as cyber victimization are also examined.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5230 - Seminar on Capital Punishment

3 hours Capital punishment has played a prominent role in the ongoing development of American socio-legal culture. As such, the death penalty has gone through several stages. Course focuses on the historical and "modern era" of capital punishment. Students study the current system at length and whether juries are able and willing to follow the framework laid out for them. Students also study discrimination in sentencing and the social psychology of juror cognition. Other primary topics include public opinion and its influence on lawmaking, effective assistance of counsel and methods of execution and the 8th Amendment. Concludes by exploring emerging issues and the future of the death penalty in America.

Prerequisite(s): Students who are non-degree or in the GDES category are not allowed to take certain courses without consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5330 - Terrorism

3 hours Provides in-depth knowledge about domestic and international terrorism. Specific focus on strategies designed to address the threat of terrorism from a criminal justice perspective, particularly involving the police assuming new roles in homeland security. Explores ideological theories of terrorism and identifies trends and patterns of terrorism and hate crimes in our world.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5370 - Crime Prevention

3 hours Provides an exploration of various methods of crime prevention programs – community crime prevention programs and criminal justice system approaches. Relevant theory and research related to neighborhood efforts at crime prevention, community policing, school crime prevention and other situational prevention measures are explored critically. Provides a foundation for a better understanding of the objectives of various crime prevention efforts, as well as the proven effectiveness of these various strategies.

Prerequisite(s): Students who are non-degree or in the GDES category are not allowed to take certain courses without consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5460 - Correctional Practices and Programs

3 hours Examines the history of corrections; correctional theory; and legal, ethical and programmatic issues related to the adult and juvenile correctional field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5470 - Seminar on Juvenile Delinquency

3 hours Problems of definition and measurement, etiological theories, processing of delinquents, and treatment and prevention.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5550 - World Criminal Justice Systems

3 hours Focuses on understanding the role and function of criminal justice systems in a range of countries other than the United States. Students assess the criminal justice systems in England and France as well as other countries throughout the world.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5560 - Unequal Justice

3 hours Explores the intersections of race, class, gender and crime and criminal justice. Major focal points include, but are not limited to, the construction of identities and the effects of these processes, the structural nature of power and oppression, the interdependent relationships between criminal justice processes and other social institutions, and the role of social control in a diverse society.

Prerequisite(s): Students who are non-degree or in the GDES category are not allowed to take certain courses without consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5630 - Women and Crime

3 hours Examines theoretical explanations of female offending and the experiences of women in the criminal justice system.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5650 - Seminar on Organized Crime

3 hours Study of the history, structure and governmental responses to organized crime; special emphasis is placed on organized crimes such as drug abuse and trafficking, prostitution, pornography, and gambling.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5850 - Directed Studies

3 hours Individual research and writing on selected topics under faculty supervision.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

CJUS 5900 - Special Problems

1–6 hours Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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 school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): CJUS 5750.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

Dance

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

DANC 5900 - Special Problems

1–3 hours Problems must be approved by department chair.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

DANC 5910 - Special Problems

1–3 hours Problems must be approved by department chair.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

Data Science

DTSC 5082 - Seminar in Research and Research Methodology

3 or 6 hours Special topics in research methodology. Research proposal development. Directed research study.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

DTSC 5091 - Data Science Internship

3 hours Internship provides students with the opportunity to apply theoretical knowledge to real-world challenges, refine skills, and clarify professional goals through experiential learning. Under faculty supervision, students address data science-related issues in a workplace setting aligned with their academic focus, gaining valuable industry experience and advancing their expertise.

Prerequisite(s): Complete all core courses or complete at least 18 credit hours. Consent of instructor.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

DTSC 5501 - Fundamentals of Data Analytics

3 hours Provides an introduction to key concepts of data science, data analysis, data acquisition and management, statistical analysis software and programming, communicating and operationalizing analysis results, and data ethics. Covers the data lifecycle process and basic concepts required for data science and analytical tasks, including smart processing and technologies such as computational methods, data visualization, and other techniques to facilitate data analysis. Particular emphasis is on data management issues during the data lifecycle, from the observation of natural phenomena to the capture of raw data points to cleaning, organization and further treatments to make data useful for analysis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

DTSC 5502 - Principles and Techniques for Data Science

3 hours Covers comprehensive and practical approaches to research, including specific methods of analysis for students to develop advanced research skills in the general areas of descriptive statistics, exploratory data analysis and confirmatory data analysis. Includes methods to better communicate results of the research. Successful students will have the skills to be useful participants in the data lifecycle from collection to management, analysis and visualization of results.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

DTSC 5504 - Advanced Principles and Techniques of Data Science

3 hours Introduces fundamental principles of data science, advanced techniques and enterprise tools for building effective data science solutions in information science. Addresses various facets of data science practice, including data collection and fusion, exploratory data analysis, predictive modeling, descriptive modeling, basic data analytics, data visualization, and evaluation. Emphasis on integration and synthesis of principles and techniques to solving real-world information science problems using effective data science tools.

Prerequisite(s): DTSC 5502 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

DTSC 5505 - Machine Learning for Data Scientists

3 hours Introduction to concepts of machine learning and widely adopted machine learning algorithms including regression, clustering, support vector machine, and neural network. Defines complex modern machine learning architectures in Google TensorFlow and Keras frameworks using Python programming language. Introduces the applications of machine learning to computer vision with Convolution Neural Networks (CNN), natural language processing with Recurrent Neural Network (RNN), and information retrieval with RNN and CNN.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

DTSC 5510 - Applied Deep Learning for Data Scientists

3 hours

Provides a broad introduction to the latest techniques in deep learning and representation learning. Techniques of how to build neural networks are introduced as well as supervised and unsupervised deep learning, embedding methods, metric learning, convolutional and recurrent nets, with applications to computer vision, natural language understanding, speech recognition and more. The learning theory including bias/variance tradeoffs and large margins are introduced. Also discusses recent applications of deep learning such as data mining, autonomous navigation, speech recognition, and text and web data processing.

Prerequisite(s): A grade of C or better in DTSC 5505; or consent of instructor or program director.

Mathematics: Strong mathematical skills (linear algebra, calculus, probability, derivatives and statistics) are needed.

Programming: Proficiency in programming with Python, Jupyter notebooks, and basic with LaTex (text editor).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

DTSC 5525 - Generative AI and Large Language Models for Data Science

3 hours Provides a deep and comprehensive education in the field of generative artificial intelligence, encompassing a broad spectrum of topics from foundational theories to cutting-edge applications. The course aims to equip students with a thorough understanding of the history and development of AI and generative models, fundamental machine learning concepts, and deep learning principles, including neural networks and their architectures. A significant emphasis is placed on Large Language Models (LLMs) such as Transformers, focusing on their evolution, structure, and the complexities involved in training these models. Students gain hands-on experience in natural language processing techniques, exploring advanced topics like attention mechanisms and transfer learning, and are introduced to the versatile applications of language models in areas like text generation, machine translation, and sentiment analysis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

DTSC 5565 - Software Engineering for Data Scientists

3 hours Introduction to major topics in software engineering for data scientists such as: requirements specification, analysis and design, testing, project management, and implementation. Additional topics such as software life cycle models, the Unified Modeling Language (UML), agile software development techniques, configuration management, change control and version control tools, object oriented design, and project documentation are discussed.

Recommended: DTSC 5501.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

DTSC 5566 - Advanced Software Engineering for Data Scientists

3 hours Covers advanced software lifecycle models and object-oriented techniques as applicable for data scientists. Complex software systems are developed that involve understanding customer needs, planning the development process, teamwork, maintenance and analysis, and evaluation tasks such as testing, verification, and validation.

Recommended: DTSC 5565.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

DTSC 5777 - Virtual Reality and Its Applications

3 hours Introduction to Virtual Reality (VR) hardware, software, with an opportunity to apply this knowledge to applications for education, visualization, and games. Applies cutting-edge VR technology currently available in academia and industry. Topics include input devices, output devices, computer graphics principles for VR, geometric modeling principles for VR, human factors in VR, data visualization in VR, and traditional and emerging applications in VR. Learn the value of visualization and how to best leverage visualization methods in VR. Design, model, and program the VR environment by developing a complete VR application as a group project.

INFO 5777.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

Decision Sciences

DSCI 5180 - Analytics Foundations for Business

3 hours Emphasis on model assumptions, applying the correct statistical model and interpreting the results. Topics include interpretation of statistical distributions (specifically normal distribution), construction and interpretation of confidence intervals, determination of appropriate sample size, statistical inference from data including single sample and multi-sample hypothesis testing, and regression analysis (both simple and multiple regression).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DSCI 5210 - Model-Based Business Intelligence

3 hours Explains how model-based business intelligence systems aid managerial decision processes. Attention is paid to 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DSCI 5240 - Data Mining and Machine Learning for Business

3 hours A survey of data mining techniques and software is presented including machine learning tools. 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 and machine learning research.

Prerequisite(s): DSCI
5180 or course equivalent or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 5180 or consent of the department

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DSCI 5260 - Business Analytics Capstone

3 hours Utilization of business analytics techniques towards the completion of a graduate capstone project. Projects leverage data analysis to study and improve relevant applications and processes in business, government, and academic settings. The foundations for this are business process analysis tools such as data mining, exploratory data analysis, and machine learning. Students develop and present solutions to the problems chosen for analysis. Emphasis is placed on a written report and a presentation of solutions attained.

Prerequisite(s): DSCI 5240, completion of foundation and other course work and within 9 hours of graduation or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DSCI 5310 - Risk and Life-Data Analysis

3 hours Estimation of completing 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DSCI 5330 - Business Intelligence Foundations

3 hours Introductory course in business intelligence and its application to support business decision-making and improve business performance. Provides a foundation for modeling with spreadsheets. Business intelligence and analytics techniques are applied to business activities in various functional areas such as accounting, finance, marketing, operations, and human resources. Introduces and develops Excel skills as well as an understanding of key business concepts as well as the business context and use of analytics. Emphasis is placed on the interpretation of foundational analytic results and meaning in a business decision.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 5180 or course equivalent or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DSCI 5350 - Big Data Analytics

3 hours Current issues in storage, retrieval, and analysis of large volumes of data (Big Data), in order to support business decisions. Big Data are stored in a variety of formats, including Web log, Internet clickstream data, as well as unstructured data, such as industry reports and customer comments. Big Data analytics utilize data sources that may be left untapped by conventional business intelligence solutions. Topics include conventional data warehousing, retrieval of large data sets that are stored across clustered systems, natural language processing, topic extraction in textual data, machine learning and artificial intelligence, and predictive analytics for unstructured data. A semester project in Big Data Analytics relevant to a functional area of business is an important component of the course.

Prerequisite(s): BCIS 5420 or course equivalent or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DSCI 5360 - Data Visualization for Analytics

3 hours Insightful displays of complex, large and possibly unstructured quantitative and qualitative data. Data visualization for analytics goes beyond traditional static graphs and charts by seamlessly connecting data analysis, data-based optimization and data presentation to create visualizations. Topics include visualization design principles, data refinement and preparation, tandem modeling and optimization with visualizations, use of state-of-the-art software tools for visualization and creation of dynamic interactive visualizations as decision support aids. A semester project in data visualization for analytics relevant to a functional area of business is an important component of the course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DSCI 5530 - Ethics in Business Analytics

3 hours Introduction to ethical issues in the use of data analytics, machine learning (ML), and artificial intelligence (AI) in business decision making. Designed to build students' awareness of the collection and analysis of data using algorithms. Students would be able to explore the broader societal impact of data science, machine learning, and artificial intelligence on the society, as well as its unintended consequences. Students are introduced to the concepts of principles of fairness, accountability and transparency. Through class discussions, case studies and exercises, students explore the ethical related concepts that includes privacy, discrimination and algorithmic bias.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DSCI 5800 - Cooperative Education

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 ITDS master's coordinator.

May be repeated for credit. Can be used as a support course with prior ITDS departmental approval if three hours are taken.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may 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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Design

ADES 5410 - Foundations and Frameworks of Interaction Design

3 hours Provides an overview of foundational interaction design concepts such as human factors (physical, perceptual and cognitive), cognition, user-centered research methods, the creation and testing of affordances, and methods for guiding the design of interactions.

Prerequisite(s): Admission to the MA with a major in design with a concentration in interaction design, or consent of instructor.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5420 - Human-Centered Interaction Design 1

3 hours Explore how meaning is conveyed and interpreted through formal systems across interactive technology platforms.

Prerequisite(s): Admission to the MA in design and concentration in interaction design, or consent of instructor.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5430 - Human-Centered Interaction Design 2

3 hours Explore how meaning is conveyed and interpreted through formal systems across interactive technology platforms, and effectively utilize holistic means to 1) employ understandings about what motivates the actions of particular individuals and groups in specific settings, combined with 2) a considerate application of knowledge about how the imposition of specific social, technological, economic and public policy conditions can be used to inform interaction design decision-making.

Prerequisite(s): Admission to the MA in design and concentration in interaction design, or consent of instructor.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5440 - Interaction Design Makerlab 1

3 hours Tailored to meet the needs of students working individually rather than in groups or teams. Develop and design a single interactive, screen-based system over the course of the semester that meets the needs and aspirations of a particular group. No two student's projects will evolve according to the same sets of parameters.

Prerequisite(s): Admission to the MA in Design with a concentration in interaction design or consent of the instructor.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5450 - Data and Information Visualization and Design

3 hours Understand and utilize a wide variety of conceptual and method-based approaches that guide the development and operation of interactive information systems, graphic displays and instructions. Acquired knowledge from these learning experiences to guide decision-making the iterative development of user-centered, interactive, information delivery-cum-interpretation experiences. Apply the visually communicative depictions of sequential and time-based data to help audiences make effective comparisons between key concepts and patterns that this data reveals.

Prerequisite(s): Admission to the MA in design and concentration in interaction design, or consent of instructor.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5460 - Interaction Design Inception-to-Pitch Capstone Project

6 hours Facilitate a series of learning experiences requiring groups to work interdisciplinarity with either an industry partner, a community organization partner, or both. Projects implement a human-centered interaction and design an interactive system that positively affects the behavior of a target group. No two student teams' projects will evolve according to the same sets of parameters.

Prerequisite(s): Admission to the MA in design and concentration in interaction design, or consent of instructor.

May be repeated for credit as topics vary for a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5510 - Processes and Methodology for Innovation

3 hours Prepares learners for making impactful contributions in team-based work environments. Activities include data collection, analysis and visualization. Work conducted in this course addresses a variety of topics and utilizes emerging technologies such as virtual reality (VR), augmented reality (AR), spatial computing, gaming, robotics, machine learning, wearable technology, mobile technologies and more.

Recommended: Admission to the MA/MFA in design, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5515 - Using Critical Methods to Guide Critical Writing in Design

3 hours Introduction 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5520 - Methods Employed by Design Researchers

3 hours Students develop and then expand knowledge about how design research processes and methods can be utilized to connect design theory effectively with practice.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5540 - Communication Design Studio

3 hours (0;6) For students qualified to develop professional competence in special areas of studio work.

May be repeated for credit for a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5590 - Fashion Design Studio

3 hours (0;6) For students qualified to develop professional competence in special areas of studio work.

Prerequisite(s): Admission to the MFA with a major in design and a concentration in fashion design or consent of instructor.

May be repeated for credit as topics vary for a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

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.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5605 - Interior Design Studio

3 hours For students qualified to develop professional competence in special areas of studio work.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ADES 5730 - Research in Design

3 hours Study of research methods and their applications in the field of design. Develop knowledge about how design research processes and methods can be utilized to connect design theory effectively with practice. Preparation of prospectus.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

Digital Communication Analytics

DCAS 5000 - Introduction to Digital Communication Analytics

3 hours Explores fundamental concepts and principles that underlie techniques for extracting useful information and knowledge from digital communication data. Introduces an understanding of the nature of data and its significance for society and how to view problems from a data perspective to systematically and critically analyze such problems. Data-analytic thinking is applied in a variety of ways, from social media marketing and analysis to customer relationship management, strategic communication through the field of public relations and advertising, to data-driven decision-making and more. Focuses on introducing technical data skills within both a social and societal context.

Prerequisite(s): Admission to the MS with a major in digital communication analytics or consent of school.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

DCAS 5251 - Quantitative Research Fundamentals in Digital Communication

3 hours Teaches basic practical research and statistical methods useful for public relations, advertising and marketing professionals working in the field of data analytics. Enhances knowledge and skills in real-world research through continuous reading, proactive learning, statistical exercises and data analyses. Students conduct a primary analysis to write a report.

Prerequisite(s): Admission to the MS with a major in digital communication analytics or consent of school.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

DCAS 5261 - Qualitative Research Fundamentals in Digital Communication

3 hours Designed to introduce graduate students to basic qualitative research methods, qualitative research tools and data analyses used in computer-mediated mass communication research through readings, assignments, and online discussions. In the applied part of the course, students develop a qualitative research proposal.

Prerequisite(s): Admission to the MS with a major in digital communication analytics; consent of school.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

DCAS 5331 - Social Media Analytics

3 hours Explores the social or human dimensions of social media with respect to analyzing human behavior. Students study social network analysis (SNA), including factors such as influence and centrality information diffusion, and social contagion including why certain content "goes viral." Students investigate actual content communicated through use of topic modeling and sentiment analysis. Languages such as Python and R and programs such as Gephi and Excel are learned to help analyze social media data.

Prerequisite(s): Admission to the MS with a major in digital communication analytics or consent of school.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

DCAS 5341 - Cutting-Edge Techniques for the Digital Communication Analyst

3 hours Explores the very latest techniques and developments in the data analytics field by performing the same analyses conducted in organizations, corporations and government. Students apply data-analytic thinking in a variety of ways, from social media marketing and demographic analyses of web users to spatial analysis and machine learning. Content supports the strategic communication efforts of professionals in the fields of public relations, advertising, marketing, social media strategy, journalism and others.

Prerequisite(s): Admission to the MS with a major in digital communication analytics or consent of school.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

DCAS 5351 - Seminar in Digital Communication Analytics

3 hours Explores special topics in the field of digital communication analytics and the techniques for extracting useful information and knowledge from digital communication data. Students explore the very latest techniques and developments in the field by performing the same analyses conducted in organizations, corporations and government. Students also apply data-analytic thinking in a variety of ways, from social media marketing and demographic analyses of web users, to spatial analysis and machine learning. Content supports the strategic communication efforts of professionals situated in the fields of public relations and advertising, marketing, social media strategy, journalism, and a host of other fields.

Prerequisite(s): DCAS 5000; DCAS 5251 or DCAS 5261.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

DCAS 5361 - Data Visualization for the Digital Communication Analyst

3 hours Visualization techniques using applied methods for storytelling with data. Emphasis on construction, evaluation and presentation of data through visual means.

Prerequisite(s): Admission to the MS with a major in digital communication analytics or consent of school.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

DCAS 5581 - Capstone Seminar in Digital Communication Analytics

3 hours Capstone seminar that involves an intensive research project focused on a topic within digital communication analytics. Students learn how to demonstrate mastery of key theoretical concepts and professional analytical principles, research methods and report-writing approaches. Students review relevant scholarly and professional literature, apply selected methodological approaches to a topic, and then write a research paper that articulates and supports a thesis. The majority of the work for this class is conducted independently with regular consultation with instructor. Course serves as a research seminar that enables students to develop their own ideas and frameworks through actively engaging with classmates via peer feedback.

Prerequisite(s): To be taken during the last 9 hours of course work in the MS with a major in digital communication analytics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

DCAS 5801 - Professional Internship in Digital Communication Analytics

3 hours Practical experience in areas of digital communication analytics through an arranged internship under the instruction and supervision of the major professor and a designated professional of the office involved. Workplace settings for this internship include public relations, advertising and marketing agencies, corporations, nonprofits, governments, print and broadcast media, and social media.

Prerequisite(s): Admission to the MS with a major in digital communication analytics or consent of school.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

DCAS 5901 - Advanced Problems in Digital Communication Analytics

3 hours Individual investigations of current problems in digital communication analytics.

Prerequisite(s): DCAS 5000.

Repeatable for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

Doctor of Business Administration Seminar

DBAS 6001 - Research Philosophy and Thoughts

3 hours Focuses on the research philosophy and process that can enable students to generate both scholarly contributions and practical knowledge. Students learn the fundamentals of the research process including the scientific method, defining and understanding "theory," how to formulate a problem, review and synthesize relevant literature (including doing literature review), construct theoretical models, and methodological issues associated with testing theories including replications, generalizability, post-hoc theorizing, to name a few.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6002 - Qualitative Research Method I

3 hours Designed to teach students the basics of qualitative methods in business and develop skills necessary for the practice of business. Introduces the student to qualitative research approaches such as case study research, ethnographic research and grounded theory. Also introduces key data collection techniques used in qualitative research, namely interviews, participant observation, fieldwork, and using documents. Relative strengths and weaknesses are discussed along with examples of how each approach has been used in practice. Further, issues associated with qualitative or small sample studies such as reliability and validity are also explored. Finally, the differences between positivist, interpretivist, and critical perspectives are discussed.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6003 - Qualitative Research Method II

3 hours Application of concepts and tools for qualitative data analysis is the focus of this course. Some of the concepts include hermeneutics, semiotics, narrative analysis, and content analysis, with particular emphasis on grounded theory and case study research. Students are introduced to grounded theory coding, memo writing, theoretical sampling, saturation, sorting, and use of qualitative data analysis software. Various techniques for analyzing case study evidence are explored including pattern matching, explanation building, and within-case and cross-case analysis. Perspectives on what it means to draw conclusions and build theory from qualitative data are explored. Finally, the course concludes with guidance on how to write and publish qualitative research.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6004 - Quantitative Research Method I

3 hours The concepts and tools needed to design a quantitative-studies, and to collect, evaluate and analyze quantitative data are introduced. Students are exposed to empirical data collection methods, such as surveys and covers sampling techniques, several types of data and appropriate analytical techniques. These include an introduction to univariate and bivariate statistics (i.e., chi-square, t- and z- tests, the ANOVA family, correlation, and regression). Also helps students gain proficiency in using SPSS software to analyze and interpret empirical results.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6005 - Quantitative Research Method II

3 hours Focuses on quantitative methods such as experiments, field studies, use of secondary data and use of psychometric data. Helps students develop abilities to design and execute quantitative research with an emphasis on construct measurement (i.e., development of measurement scales associated with key variables of interest). Further, topics such as theoretical modeling, framing research questions, developing hypotheses, model refinement, reliability, scientific validity, and statistical conclusion validity are also discussed. Builds on and reinforces the knowledge acquired in Quantitative Research I.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6010 - Strategic Business Management

3 hours Focuses on the theoretical and practical aspects of why and how some firms out-perform others. Includes the study of formulation and implementation issues from strategic, economic, organizational, and other perspectives and prepares the student for participation in research within the field. Examines the theory and practice of developing and implementing strategy and managing organizations. Dominant management and organization theories focusing on the concepts of coordination and cooperation among key stakeholders are examined and applied to real-world issues. Exposes students to a variety of theoretical frameworks and helps them apply these to problems that are relevant for their research interests.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6011 - Innovation and Entrepreneurship

3 hours As the markets become more global and competitive, businesses must develop new ways of creating value, i.e., become innovative and entrepreneurial. This course gets students to explore some of the best practices and theories in the areas of entrepreneurship and innovation. Specific topics may include designing new products, services, processes, organizational structures, business models, and industry ecosystems.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6012 - Value Creation- Theory and Practice

3 hours Value creation is critical for any exchange relationship and the survival of a business. Students focus on the theoretical foundation and practical considerations of value creation in this course. Some focal questions include - How do firms create value, what role is played by various exchange opportunities and platforms, and how can value be enhanced? How do various functional disciplines of business come together to create value for key stakeholders and who are these key stakeholders?

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6013 - Integrative Research/Investigation

3 hours Focuses on the creation and the dissemination of knowledge pertaining to the student's area of interest. Students use the research skills and business theory in preceding courses to identify a research problem anchored in business practices, develop hypotheses, propositions and/or a model, and identify appropriate research methods to empirically evaluate the hypotheses or propositions. Students complete a manuscript suitable for business practitioners and/or academicians. Students are also expected to think of ways in which their research could be translated into business practices.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6021 - Digital Transformation

3 hours Digital technology is advancing at a rate that is truly transforming and disruptive –machine learning, AI, quantum computing to name a few. This course focuses on understanding how and why firms transform themselves to leverage the paradigm shifts brought about by the digital technology. This may involve rethinking the relationship between key stakeholders and the firm, communication and delivery channels, and the organization structure and culture to adapt to changes due to digital transformation. Students are exposed to the industry developments as well as research developments in the field.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6022 - Applied Data/Text Mining

3 hours Introduces students to data mining techniques and software including machine learning tools. Topics include extracting information from large databases and designing data-based decision support systems in a decision-making context. Covers the latest advances in data mining and machine learning research and practices. Current issues in storage, retrieval, and analysis of large volumes of data (Big Data) in order to support business decisions are also discussed.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6023 - Transformative Leadership

3 hours Irrespective of the industry or marketplace, leadership is critical for creating and sustaining value in organizations. The course examines key questions associated with leadership focusing on the concepts of leadership, authority, and status; understand the competing human values in leadership theories; and identify the boundary conditions that pertain to leadership theories. The students integrate both the practical and theoretical perspective to understand and explore various aspects of leadership.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6024 - Managing Complexity-Theory and Practice

3 hours Provides students with an overview of complexity, what it is and how it is different from standard ways of operating. Students gain an understanding of complexity from multiple perspectives, complexity science and naturalistic science. Students are introduced to different methods and tools to assist them in addressing complex environments and problems in real-world settings.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6025 - Global Marketplace

3 hours The market is becoming increasingly global and firms operating in the global marketplace must understand and be responsive to the global political, legal, and economic systems. Businesses today have to understand and work with multiple stakeholders in the global value chain. This course explores the extant research surrounding the contemporary global organization and provides a foundation for applied research into the dynamics of strategy and competition within a global context. Some topics include critical elements of global strategic operations, international trade, innovation in emerging economies, market entry, and knowledge flows within the firm.

Recommended: Doctor of Business Administration Students Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

DBAS 6950 - Dissertation

3 hours Students focus on a business problem that is strategically important for practitioners. They apply relevant theories to inform their investigation and use a suitable mix of quantitative and qualitative research methods. Each student is expected to make a significant contribution to the understanding of practice at the senior management level. At least 9 hours of dissertation hours must be completed before the student graduates.

Recommended: Doctor of Business Administration Students Only.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Early Childhood Education

EDEC 5013 - Research Strategies in Early Childhood Education

3 hours Applications of research methods to the understanding of early childhood studies within the context of various educational organizations. Educational research used to conceptualize professional development.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDEC 5030 - Practicum, Field Experience or Internship

3, 6 or 9 hours Supervised professional activities in development, family studies and early childhood education.

Registration is on an individual basis and student must have prior consent of professor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 that are represented by those theories. Emphasizes familiarity with children 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDEC 5613 - Curriculum Theory in Early Childhood Education

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDEC 5653 - Making the Literacy Connection: Language to Reading

3 hours Study of the development of language and literacy in young children with a focus on oral language, listening comprehension, alphabetic knowledge, print awareness and early reading/writing. Addresses supporting young children's emergent literacy skills through curricular and pedagogical practices grounded in research, as well as approaches to assessment and evaluations to early language development.

Same as EDRE 5653.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDEC 6550 - Ethics, Methods and Theories in the Study of Children

3 hours Explores ethics, methods, and theoretical frameworks in research with children. Students examine multiple research methodologies undertaken in different fields of study to identify the underlying assumptions about children and research that guides these studies. We read and discuss ethnographies and ethnographic case studies of childhoods that attempt to (re)write the world with children's voices. Students are expected to conduct a small ethnographic case study of an educational/childcare space to glean children's perspectives into their experiences within these spaces.

Students will need to locate an educational or childcare site with children to conduct a small ethnographic case study. Roughly 20 hours on site will be required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 change. The roles of individuals, organizations, institutions, and communities are explored.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDEC 6623 - Emerging Trends in Early Childhood Studies

3 hours Critically examines the rationale, 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 impact young children.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

Economics

ECON 5000 - Economic Concepts

3 hours Theory of the firm under different market structures; demand theory, the Keynesian model and the money system.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 and ECON 1110, or ECON 5000; and MATH 1190 with a grade of B or better or MATH 1710 with a grade of B or better.

Usually offered fall and spring terms/semesters and 5W1 (summer session).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ECON 5090 - Seminar on the History of Economic Thought

3 hours Development of economic thought since the Middle Ages.

Prerequisite(s): One of the following: ECON 3350, ECON 5030, or consent of department.

Students may not receive credit for both ECON 4510 and ECON 5090. Usually offered spring term/semester.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Students may not receive credit for both ECON 4180 and ECON 5180. Usually offered fall term/semester.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ECON 5430 - Energy Economics

3 hours Economic analysis of global supply and demand for energy (emphasis on fossil fuels) and U.S. energy policy.

Prerequisite(s): ECON 1100 and ECON 1110; or ECON 5000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ECON 5920 - Research Problems in Lieu of Thesis

3 hours Students write a significant research paper on an original idea with an emphasis on empirical analysis.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

ECON 5930 - Research Problems in Lieu of Thesis

3 hours Students write a significant research paper on an original idea with an emphasis on empirical analysis.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

Educational Curriculum and Instruction

EDCI 5010 - Applying Theory to Teaching Practice

3 hours Processes of learning and development related to teaching in EC-12 classrooms. Cognitive, social, physical and moral development research is presented, and practical examples applied to teaching practice are demonstrated. Additional topics include operant conditioning, social learning theory, information processing, constructivism and motivation theory as well as various approaches to instruction. In order to be compliant with the Texas Education Agency requirement for teacher certification, 15 hours of video observation of instructional scenarios is required in this course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5020 - Curriculum Development for the EC-12 Classroom

3 hours Knowledge and skills required for the development and organization of curriculum and instructional strategies in EC-12 classrooms. Topics include philosophy and principles of education; Texas Essential Knowledge and Skills; alignment of district, state and national curriculum standards; standardized testing; impact of teaching and learning on instruction and assessment; alternative assessment theories; and the relationship of instruction to classroom management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5030 - Maintaining Classroom Discipline

3 hours

Models and procedures for classroom management and discipline, as well as techniques for motivating and instructing students. 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.

In order to be compliant with the Texas Education Agency requirement for teacher certification, 15 hours of early clinical experience in a school classroom is required in this course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5100 - Education Action Research

3 hours Provides graduate students with opportunities to review the literature on pedagogy research 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5105 - Internship 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): EDCI 5010, EDSE 5004, EDCI 5020 and EDCI 5030, or consent of program administrator.

Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5108 - Student Teaching in the Secondary Schools

3 hours Teaching under supervision. Research paper may be required.

Recommended: EDSE 5001, EDCI 5010, EDSE 5003, EDSE 5004, EDCI 5020, EDCI 5030. Concurrent enrollment in EDCI 5118.

Required for those seeking secondary certification. See student teaching program for details. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5115 - Internship 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): EDCI 5010, EDSE 5004, EDCI 5020, EDCI 5105, and EDCI 5030, 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5118 - Student Teaching in the Secondary Schools

3 hours Teaching under supervision. Research paper may be required.

Recommended: EDSE 5001, EDCI 5010, EDSE 5003, EDSE 5004, EDCI 5020, EDCI 5030. Concurrent enrollment in EDCI 5108.

Required for those seeking secondary certification. See student teaching program for details. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5130 - Schooling in Society

3 hours Recognition and examination of the philosophy and principles germane to education.

Should be taken upon first residence registration in the curriculum and instruction MEd program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5310 - Pedagogical Content Knowledge for Teachers of Algebra

3 hours Instructional and curricular strategies for engaging K-12 learners in algebraic thinking and reasoning.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5320 - Curriculum Development

3 hours Identification and understanding of historical, contemporary and emerging curriculum issues and trends; processes of curriculum development; and critical curriculum perspectives.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5330 - Assessment of Learning in STEM Education

3 hours Emphasis is on alternative assessment strategies for assessing STEM thinking. Special attention is given to formative assessments.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5340 - Innovations in STEM Teaching and Learning

3 hours Exploration of the knowledge and skills needed for adopting or adapting innovations in STEM teaching and learning.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5350 - Pedagogical Content Knowledge for Teachers of Geometry

3 hours Instructional and curricular strategies for engaging K-12 learners in geometric thinking and reasoning.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5360 - Advances in Teaching

3 hours Theoretical grounding and practical experiences to further enhance the knowledge and expertise of certified teachers. Attention is given to national and state standards for teacher development beyond initial certification. By focusing on relevant research and theory, curriculum, and student needs as a basis for instructional decision making, the course enables teachers to enhance student learning in the classroom and to assume campus leadership roles such as mentor teacher and staff developer.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5710 - Research in Classroom Settings

3 hours Introduction to critical reflection and inquiry through action research. Development of basic skills as consumers of educational research and as teacher-researchers. Admission procedures are completed and degree plan developed.

Should be taken upon first residence registration in the curriculum and instruction MEd program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5720 - Curriculum and Instruction Inquiry II

3 hours Advanced critical reflection and inquiry through action research. Consideration of contemporary issues in education. Presentation of program portfolio is scheduled during enrollment in this course, including completion of action research report.

Recommended: 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 5750 - Curriculum and Instruction Design Capstone

3 hours Satisfactorily complete an oral and written comprehensive capstone presentation at the end of the program.

Prerequisite(s): Admission to the master's or doctoral program.

This course is to be taken in the last semester of the program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Same as EDSE 5800.

May be repeated for credit with departmental approval.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Same as EDSE 5810.

May be repeated for credit with departmental approval.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 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.

Course is designed for post-baccalaureate teacher certification and MEd with a major in teaching candidates only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 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.

Course is designed for post-baccalaureate teacher certification and MEd with a major in teaching candidates only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Same as EDEE 5970.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EPSY 6280 or EDCI 6280.

Same as EPSY 6285.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDCI 6360 - Critical Issues in Curriculum Studies

3 hours Critical examination of current topics and issues in the field of curriculum studies.

Prerequisite(s): EDUC 6040 or consent of instructor.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

Educational Foundations

EDUC 6030 - Research and Practice in Teaching and Teacher Education

3 hours Explores the foundational research on teaching and teacher education and their intersections. We explore practices through a historical lens. We explore the theoretical and cross-disciplinary roots for the study of teaching and teacher education as practices as well as methodological advances. Focuses on the evolution of paradigms, approaches, and tools for research in teaching and teacher preparation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDUC 6040 - Traditions of Inquiry

3 hours History, theoretical assumptions and methodological issues associated with major traditions of inquiry in educational studies.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDUC 6050 - Cultural Foundations of Educational Studies

3 hours Examination of conceptions of culture and notions of multiculturalism, interculturalism and transculturalism in education. Attention is on related concepts, and on the conduct of research in various sociocultural contexts.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDUC 6220 - Educational Law and Policy

3 hours Consideration 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, and management of educational opportunity. Attention goes to historical background of the different approaches to policy analysis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

Educational Leadership

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 5400 - Management of School Resources

3 hours Study and analysis of school resources including financial, budgetary and capital resources with particular application to school building-level administrators. Focuses on theory as well as management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 5600 - Critical Inquiry in Education

3 hours Critically examine current topics related to providing leadership for various student groups. Focus on the concept that all learners as capable, motivated, and resilient. Strategies for school change are also explored.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 5610 - School Communications and Public Relations

3 hours Every administrator in an educational organization has a responsibility to engage in public relations daily. Course examines 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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 programs and services designed to serve various student populations who, without such programs and services, may be placed at risk in educational settings.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 5650 - Professional Development and Supervision

3 hours Provides students with knowledge, interpersonal skills and technical skills to supervise human resource activities at the building level. Students learn how to implement models of hiring, appraisal, developmental supervision, clinical supervision and coaching.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 5700 - Educational Leadership Applications

3 hours Comprehensive view of educational leadership with an emphasis on the application of leadership competencies.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 5720 - Practicum in Educational Leadership

3 hours Provides on-the-job experiences and professional studies in administration and supervision as directed by the student's major advisor. Requires 60 hours of administrative duties at an accredited EC-12 school.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 5730 - Advanced Practicum in Educational Leadership

3 hours Provision for on-the-job experiences and professional studies in administration and supervision as directed by the student's major advisor. Advanced Practicum requires 100 hours of administrative duties at an accredited EC-12 school.

Recommended: EDLE 5720, a master's degree (or in the final two classes of a master's degree), at least 2 years of experience as the teacher of record in an accredited EC-12 school, and a teaching certificate.

Required for Texas Principal as Educational Leader Certificate. Not applicable to Educational Leadership degree programs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 5905 - Professional Practice

1–3 hours Required for graduate students who have been approved to receive an Intern (Probationary) Principal Certificate. This course cannot substitute for EDLE 5730.

Prerequisite(s): Approval by Educational Leadership Program faculty and an accredited school district.

Restricted course approval required. Contact Educational Leadership Program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6000 - Introduction to Scholarly Inquiry and Practice

3 hours It is assumed that research is a scholarly, significant, and practical way to improve practice, solve problems, and stay energized as an educational leader at the local, regional, state, national, and international level as well as investigate specific topics that are critical to the field of educational leadership and policy which, in turn, adds to the knowledge base at the state, national, and international level (PhD). Emphasizes the development of practice-based strategies and the importance and value of taking an inquiry stance on both practice (EdD and research (PhD). Students are introduced to the process of conducting a scholarly investigation and examination of a range of topics or policies through an examination and review of the literature. The demands and expectations of a doctoral program of study are linked to each student's proposed intent in pursuing the doctoral degree.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6031 - Internship Under Practicing School Administrator

3 hours Provision for on-the-job experience or professional study in administration or supervision as directed by student's major adviser.

Limited to 6 hours in doctoral degree program. Required for Texas professional certificate for school administration. Not applicable to degree programs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6032 - Practicum or Field Problem

3 hours Provision for a doctoral student to engage in an on-the-job training experience or professional study in administration, supervision, or educational policy as directed by the student's major advisor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6033 - Superintendent Practicum

3 hours Provision for the doctoral student to engage in an on-the-job experience in district-level administration as directed by the student's major advisor or the university supervisor of the superintendent internship in conjunction with a district-level administrator. Internship requires 160 hours of experience.

Recommended: Completion of required course work for superintendent certification and principal's certificate.

Limited to 3 hours in doctoral degree program. Required for Texas professional certificate for superintendent. Not applicable to degree programs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6100 - Change Leadership in Complex Systems and Organization

3 hours Explore a range of organizational theories as applied to educational leadership practice and research. Examine how these theories or components of the theories might help improve school systems through change leadership and decision-making. Analyze own leadership strengths and limitations to understand, apply, and integrate a range of theories to help lead student-centered school systems. Learn how to apply theories to conduct systematic research.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6105 - Scholarly Inquiry and Practice II

3 hours Students are introduced to a problem of practice applicable to educational leadership and practice. Students develop the foundational tools needed to examine complex problems of practice and explore solutions through root cause analysis and engagement in the exploration of educational frameworks of inquiry. Students learn how to pose significant questions that focus on complex educational issues and frameworks to solutions. Students explore topics associated with school, organizational, and/or policy contexts and produce papers that reflect their understanding of frameworks for inquiry.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6110 - Advanced Inquiry in Educational Leadership

3 hours Provides a platform for the development of a proposal for research or inquiry into an identified problem of practice associated with educational leadership or policy within the student's con. This process requires the ability to gather, organize, judge, aggregate and analyze situations, literature and data with a critical lens. Students are guided though the process of conceptualizing and designing a study or inquiry and draft a qualifying paper that includes a theoretical framework, a rationale for the study, a review of the current literature, a description of the proposed research design or inquiry, and the research methods or approach to be used to address a specific problem of practice. Students learn the various requirements for graduation and are guided through the initial requirements to be completed prior to being advanced to candidacy as a doctoral student.

Prerequisite(s): Completion of research courses, core educational leadership courses and in final semester of course work within the educational leadership program. Written consent of major professor for enrollment required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6130 - Social and Cultural Context in Educational Leadership

3 hours Doctoral seminar where students use an educational leadership lens to critically examine the larger social and cultural contexts in which schools, districts, and educational systems operate. Examine the ways that policies and structures interact with issues to shape students' experiences and outcomes within their schools and the larger community

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6150 - Ethics, and Policy in Change Leadership

3 hours Doctoral seminar designed to explore the intersection of issues related to ethical and moral leadership and the role of policy within educational contexts and the educational enterprise. Course content is applied to specific problems of practice in educational leadership topics most relevant to the challenges of 21st-century educational leadership.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6160 - Leadership for Learning

3 hours The work of school leaders requires them to enhance and provide the best conditions for student learning. Effective leadership depends on one's ability to advance the skills, dispositions, and teamwork of various groups of adults who are involved in and responsible for the instruction of students. This course is designed to prepare leaders to implement and sustain professional learning communities capable of providing ongoing support for adult and student learning. Students develop a case study of a school; examine the leader's role and responsibility in developing a school culture that promotes student achievement through evidence-based decision making; and review and evaluate research studies upon which educational leadership theories and leadership practices are based.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6310 - Research Practicum

3 hours Students in this course develop and work on a project related to a particular problem of practice, educational policy, or research topic that aligns with the expertise of a faculty member in the educational leadership program. In collaboration with the selected faculty member, the student is expected to complete the course with a tangible product or a report, documenting the student's investigatory activities, inquiries, data collection and analysis, and/or summation of one's discoveries or findings, and next steps for action or research. Students conduct a research project designed to generate or test theory.

Prerequisite(s): Successful completion of a minimum of 2 research courses specific to the EdD or PhD program of study. Written approval of students' major professor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6450 - School Finance and Business Forecasting

3 hours Provides students an overview of the interrelated aspects of school finance, business management, and facilities funding. Relates concepts from the fields of economics, business, law, and political science to the environment of public schools are examined. As future superintendents, students learn how to draw from and utilize real-world situations as well as apply their acquired knowledge and skills in budgeting, school business management, accounting, and financing school facilities to specific situations they encounter or are exposed to in the practice of district-level leadership.

Recommended: EDLE 5400.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6510 - Educational Law and Policy

3 hours Students focus on established case law and policy issues of particular concern to top-level educational leaders and policymakers. Topics include such complex issues as the role of the state in education, local district policy, parental rights, school choice and vouchers, privatization, religion on campus, and legal liability and the exploration of constitutional law. Topics vary, dependent upon the current school reform agenda and underlying concerns that drive the development of legal mandates associated with public schools and agendas of multiple stakeholders associated with the educational enterprise.

Prerequisite(s): EDLE 5390 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6520 - Strategic Leadership of Human Capital

3 hours Designed with a practical and strategic emphasis on the management of human capital. Content focuses on the alignment of human capital and its resources to student achievement and the closing of achievement gaps, particularly linked to poverty and race. Practical applications follow a developmental pattern of demographic study, staffing planning, recruiting and retention, climate and culture, evaluation and professional growth and compensation plans. Students also become familiar with board policy and law related to human capital.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6530 - Funding and Design of Educational Facilities

3 hours Students examine the role of the superintendent as visionary leader expressed through the design of learning facilities. Students study the planning, funding, and policies of student-centered learning spaces incorporating functional efficiencies, applicable State and Federal statutes. The politics of school construction are examined, including the management of successful bond elections and community engagement in planning and design. A focus will be on the design of school facilities and its influence on learning, considering both current and future educational needs of the learning community.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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): EDLE 5400 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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): EDLE 5400 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6580 - Innovation in Learning System

3 hours Educational leaders must be prepared to lead transformational change through an understanding of organizational models and the political landscape that must be navigated in the administration and supervision of instructional programs. Students are expected to demonstrate knowledge of conceptual models for the design of learning systems within school organizations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6590 - Systems Change and Leadership

3 hours Systems Change and Leadership prepares leaders to impact educational systems and shape the future of learning. Students gain insight into the role of visionary executive leaders through exposure to experiences designed to equip them to lead change. Students are prepared to become highly qualified practitioners, capable of leading public, private, and PreK-12 education systems and/or agencies.

Prerequisite(s): EDLE 5330 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6600 - Writing and Research Design for Educational Leadership

3 hours Development of a proposal for research in the field of educational leadership. Students are guided in conceptualizing and designing a study and will draft a paper that includes a rationale, a literature review, and a description of proposed research design and methods.

Recommended: EPSY 6010, EPSY 6020, and four core educational leadership courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLE 6950 - Dissertation in Practice

3, 6 or 9 hours Throughout the course of their program of study, students seek to identify a Problem of Practice, focusing on the complexities inherent in educational leadership and policy, that impacts one or more aspects of the educational enterprise and the future of learning. As scholarly practitioners, doctoral students blend practical wisdom with professional skills and knowledge to name, frame, and solve a specific Problem of Practice. Upon identifying a specific Problem of Practice, the doctoral student engages in a progression of various research and writing endeavors, inquiries, processes, and leadership applications that culminate in the successful completion, presentation, and defense of the Dissertation in Practice.

Prerequisite(s): Successful completion and defense of the qualifying paper and Oral Examination.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5060 - Introduction to Program Evaluation

3 hours Introduction to program evaluation and practice as an essential component in designing and sustaining effective programs. Role of evaluators in providing key information to stakeholders such as policy makers, school officials and program directors is explored. Topics include the information-gathering process, decision-making related to funding and continuing programs, and ethical implications and impacts of evaluation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5100 - Field Research in Educational Psychology and Special Education

3 hours Design and conduct an applied/action research project; basic concepts in reviewing literature, collecting and analyzing data in designated professional setting.

Recommended: EPSY 5050 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 middle childhood.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5140 - Creativity in the Classroom

3 hours Provides an overview of the creative process and empirical evidences of developing creative thinking and creative production in elementary and secondary classrooms. Students examine creative personality, the effects of environment on creative thinking, and learning design supportive of creative thinking. As part of the gifted and talented education program, students also examine the role of creative pedagogy in gifted and advanced academic programs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5143 - Advanced Adolescent Development

3 hours Focus on early and late adolescent development based on physiological, socioemotional, and cognitive changes. Application of theories and research particularly as related to cultural, neurological, academic, and social changes and their implications for adolescent functioning and later adult developmental outcomes.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5153 - Developmental Change Across Adulthood

3 hours Theories and research regarding developmental growth and change from emerging adulthood through old age. Topics of study and discussion focus on aspects of physical, cognitive, social, moral, and emotional development across adulthood; how they interact; and cross-cultural issues related to the study of adulthood.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5211 - Families in Crisis

1 hour Defines what is meant by family crises, identifies some of the major theoretical frameworks for studying families in crises, considers major life transitions, and explores the major catastrophic crises families face, including death and dying. Also examines resources and strengths that enable families to deal with crises more adequately.

Recommended: EPSY 5213.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5213 - Child Life Seminar

3 hours Provide historical and theoretical perspective on the development of the child life field and information on fundamental skills required to help children and families cope with the stress of the healthcare experience.

Prerequisite(s): Consent of department.

Meets with HDFS 4213.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5221 - Ethics in the Child Life Profession

1 hour Includes knowledge and application of ethical principles for the benefit and protection of infants, children, youth and families, and the Child Life Specialist in settings where potential for damaging stress or trauma exists. The principles are in accordance with the Code of Professional Practice required for Child Life Professionals by the Child Life Council.

Recommended: EPSY 5213.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5231 - Medical Terminology and Human Anatomy

1 hour Provides a foundation in essential medical terminology and human anatomy for the child life specialist.

Recommended: EPSY 5213.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5233 - Normative Play in the Hospital Setting

3 hours Historical foundations of normative play in the hospital setting along with current research on how play affects the development and psychosocial well-being of the hospitalized child. Methods, environments and challenges of working with children in hospital settings are examined.

Recommended: EPSY 5133.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5240 - Survey Research Methods in Education

3 hours History of surveys, information needs, sampling design, instrumentation data collection, data processing and report generation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 text utilization.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5413 - Family Relationships

3 hours Analysis of the influences that affect modern family life; consideration of variant family forms.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5453 - Family Law and Policy

3 hours Laws and policies affecting families. Attention is paid to the major child and family policy domains, the current major research developments in each domain, and the relevant policy debate from a family science perspective.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5550 - Learning Theories

3 hours Examination of theories of learning and their applications to teaching and learning contexts.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 5990 - Supervised Research or Program Evaluation

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 an opportunity to explore solutions to applied problems through conducting research or evaluating programs under the supervision of a faculty advisor.

Prerequisite(s): Taken the last semester of course work.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6000 - Applied Research Design and Analysis

3 hours Acquaint students with epistemic reasoning derived from research in a way that emphasizes the unique role educational leaders and practitioners assume as part of the research enterprise in education. De-mystifies the complexity in how research methods are employed and linked to analytical work including statistics, providing conceptual understanding of what is and should be reported in research, the relevance of reported outcomes, and the implications of research for enhanced practice. Designed to prepare students to work collaboratively with quantitative researchers, in conceptualizing and implementing research designs in ways that serve the needs of researchers and practitioners.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6001 - Action Research and Evaluation

3 hours Focuses on action research and evaluation for practitioners with emphasis on qualitative and mixed methods approaches. Informs about the variety of applied action research approaches and learn how to use action research to make evidence-based decisions in professional settings to improve practice. Includes conducting field research and seminar discussions using a project-based learning model.

Recommended: EPSY 6000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 and EPSY 6210.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EPSY 5210 or equivalent.

Required of all doctoral candidates in education.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6011 - Institutional Data Analysis and Evaluation

3 hours Primary emphasis on the use of commonly available K–12 and Higher Education data for policy, administration and instructional decision-making. Exposure to data organization, preparation, examination of variables (distributional assumptions and missingness), identification of evaluation questions that can be answered from institutional data, analysis, interpretation and reporting.

Recommended: EPSY 6010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 perceptional displays created for educational purposes.

Recommended: EPSY 5000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EPSY 5000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6120 - Advanced 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.

Recommended: EPSY 5050, EPSY 5060 or EPSY 6020.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EPSY 6010 and EPSY 6020.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6153 - Social-Emotional Development

3 hours Comprehensive developmental sequence of social and emotional development from birth through adulthood. Focuses on both theory and research pertaining to the development, expression, and regulation of emotions as well as intra- and interpersonal issues of social development.

Recommended: EPSY 5123.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 regressional analysis, data inspection and transformation, non-linear regression, trend analysis, cross validation procedures and utilization of statistical software for conducting regression analyses.

Recommended: EPSY 6010 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6220 - Advanced Testing and Measurement

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 norm-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

Recommended: EPSY 6010 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6225 - Applied Bayesian Data Analysis

3 hours Learn how to use Bayesian data analysis methods for group comparisons, modeling normal and non-normal continuous data, categorical data analysis, clustered data, and custom data analysis projects. Software used is R.

Prerequisite(s): A course in multiple regression.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6240 - Data Science using R

3 hours Provides training in using the open-source statistical programming environment, R, for data science and quantitative research. Learn to understand R environment, read in, clean, manage data, create graphical displays of data, and summarize data (e.g., computing descriptive statistics and exploring missing data patterns). In addition, focus on writing codes and functions to conduct statistical analysis (e.g., linear regression) and its core frameworks.

Prerequisite(s): EPSY 5210 or EPSY 6210, or equivalent statistics course, or consent of the instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EPSY 5350 or EPSY 6220 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EPSY 6040.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EPSY 5050 or EPSY 6020.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EPSY 6210.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6300 - Meta-analysis

3 hours Introduces the stages of the research synthesis process and the statistical methods used for conducting quantitative syntheses of social-scientific research. The focus is on practical application and interpretation of meta-analytic methods, enriched with discussion of underlying statistical theory. Uses R statistical software.

Prerequisite(s): EPSY 6010, EPSY 6210, or equivalent graduate-level statistics courses upon approval of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6313 - Application of Family Theory in Research

3 hours Reviews classic and contemporary family theories and current family trends 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6323 - Critical Issues in Human Development and Family Studies

3 hours Study of a current issue related to human development and/or families. Issues vary and include implications for research, programs and/or policies.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6413 - Current Issues in Family Science

3 hours Current issues in the field of family science.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6500 - Learning Sciences Seminar 1

3 hours Provides an overview of theoretical perspectives and methodological approaches to the study and design of learning. Considers the role of social context and culture in shaping learning processes; the various ways learning is demonstrated; and the implications of these processes for the design and study of learning environments.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6510 - Learning Sciences Seminar 2

3 hours Provides a context for developing students' professional identities as Learning Sciences scholars by articulating their own theoretical perspectives to the study of learning. This course supports students to deepen their understanding of the role of social context and culture in shaping learning processes, the various ways learning is demonstrated, and the implications of these processes for their design and study of learning environments.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6520 - Design-Based and Participatory Research Methods

3 hours Provides an overview of design-based research (DBR) observational methods, participatory action research (PAR), community-based research (CBR), and social design experiments (SDEs). Builds capacity to form ethical and effective partnerships toward design-based and participatory research studies. Provides support in conceptualizing and designing their own design-based and/or participatory research studies.

Recommended: EPSY 6020, EPSY 6280.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6530 - Research Methodologies as Contexts for Learning

3 hours Explores multiple approaches to analysis of learning contexts and the iterative qualitative exploration of data that supports the learning of researchers and the iterative design of learning environments. Students will engage in a small sample-project using a corpus of data to explore a phenomenon of interest, recording their iterative analysis process through analytical memos and presenting their methodological justifications for method choices throughout the semester.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6610 - Theories and Paradigms of Giftedness

3 hours A survey of the history, theories, paradigms, and conceptions of giftedness and gifted education. Coverage includes the history of what we label "giftedness," the field of intelligence, the genetic and environmental influences on giftedness and talent development, and the current state of the field of gifted education.

Prerequisite(s): EPSY 5105 or equivalent, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6620 - Special Populations in Gifted Education

3 hours Bridges the fields of gifted education, multicultural education and special education. Theory and practice are considered to enable educators, counselors and others working with gifted students to understand special populations.

Prerequisite(s): EPSY 5105 or equivalent, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6640 - Advanced Curriculum and Programming for Teaching the Gifted and Talented

3 hours Applies principles and knowledge regarding gifted curriculum and programming to the classroom experiences of unique groups of gifted and talented learners. In addition, alternative and unique curriculum and programming issues for special populations of gifted students are examined.

Recommended: EPSY 5105, EPSY 5120, and EPSY 5130, or equivalents.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EPSY 6650 - Developing Psychosocial Skills in Gifted and Talented Individuals

3 hours A review of social and emotional needs and issues in the gifted and talented, the psychosocial skills necessary for the development of talent, theories of social and emotional development with an emphasis on differing developmental trajectories, and asynchronous development among the gifted and talented.

Prerequisite(s): EPSY 5105 or equivalent, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

Electrical Engineering

EENG 5110 - Photonics and Optical Engineering

3 hours The nature of light and its properties, basic geometrical and physical optics, optical system and design considerations.

Prerequisite(s): Graduate standing.

Meets with EENG 4110.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5210 - Machine Learning for Electrical Engineering Applications

3 hours Begins with a quick tour of machine learning concepts such as classification, regression analysis, clustering, supervised and unsupervised learning, and neural networks. Then, it addresses how machine learning concepts can be applied to Engineering Applications. In particular, focuses on signal processing and wireless communications applications in domains such as Cognitive Radios, 5G networks, and Biomedical Signal Processing.

Recommended: Graduate standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 2620 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5330 - Environmental Systems

3 hours Simulation of ecological and environmental models; populations, communities, and ecosystems; hydrology and weather; pollutant transport and fate; applications to sustainability.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5340 - Environmental Monitoring

3 hours Sensors, instruments, and real-time systems to monitor environmental systems. Integration of monitoring and modeling to forecast environmental changes.

Recommended: Graduate standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5350 - Renewable Electrical Power Systems

3 hours Electrical power systems, increasing efficiency, and integrating renewable power generation. Relations to environmental systems, impact, monitoring and prediction of renewable sources.

Prerequisite(s): Graduate standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 3410 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 3410 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5450 - Principles and Applications of Micro-Electro-Mechanical-Systems (MEMS)

3 hours Provides an introduction to conventional micro-electro-mechanical systems (MEMS), where the course starts with an overview of the semiconducting properties of silicon, the workhorse of the microelectronics industry. The impact of continued miniaturization on transistor performance is highlighted according to Moore's Law. Moving from Silicon as an electronic material, its mechanical properties are discussed which has been pivotal in the creation of the field of MEMS. A review of microfabrication technology conventionally used to form MEMS structures and devices using batch-fabrication is provided, which includes topics such as: photolithography, etching, physical vapor deposition, chemical vapor deposition, surface micromachining, and bulk micromachining. Soft materials and thick film processes are also discussed that have been key enablers for microfluidics and BioMEMS. The practical applications of MEMS for sensors and actuators are highlighted, where electrostatic, thermal, piezoelectric and magnetic transduction schemes are used for actuation and sensing, including for RF wireless systems and bio-related applications for Lab-on-Chip (LOC). Students gain a broad perspective in the area of miniaturized systems for sensors and actuators. The laboratory modules are intended to reinforce the concepts discussed in the lectures, with practical hands-on learning exercises. The lectures and accompanying lab modules help cultivate interdisciplinary perspectives with hands-on exercises developed for the students.

Recommended: PHYS 1710, and CHEM 1410/CHEM 1430 or CHEM 1415/CHEM 1435 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5460 - Advanced Micro-machining Processes and Application

3 hours Provides a comprehensive study of nano/microfabrication techniques and their applications across power generation, radiofrequency (RF) technology, and biomedical fields. Students gain a thorough understanding of the fundamental concepts and processes involved in nano/microfabrication, including advanced lithography, precision metallization, selective etching, and intricate molding techniques. Students explore the design and function of various nano/microdevices. Key topics include the fabrication and use of microfluidic channels for biological applications, the development of RF antennas for enhanced communication, and the intricacies of MEMS inductors for electronic devices.

Prerequisite(s): Graduate standing.

Meets with EENG 4460.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 2710 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 3520 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 2710 and EENG 3510, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 2710 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Meets with CSCE 3730.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5570 - Wireless Integrated Circuit Design

3 hours Shows how to translate wireless system specification to architectures and building blocks compatible with integrated circuit technology. Student is expected to understand the analysis and design of wireless systems including the circuits, blocks and architectures as demonstrated by the course project.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5580 - Power Electronics

3 hours Aims to present the use of electronic devices to control and convert electric power. The basic principle of power conversion techniques and their applications are introduced. Students obtain the fundamental knowledge to simulate and model different power electronics converters.

Prerequisite(s): Graduate standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 2620 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 2620 and MATH 3680 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 2620, EENG 3910 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5640 - Computer Vision and Image Analysis

3 hours Introduction to computer vision and image processing, image geometry and photogammetry, 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: MATH 1710, MATH 1720, MATH 2700 or equivalent; or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5720 - Embedded Controller Organization

3 hours Fundamentals of embedded system organization including CPU architectures, memory systems, basic input/output, and software development for embedded systems in assembly and C.

Prerequisite(s): Graduate standing.

Meets with EENG 4720.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5740 - Digital Circuit Design Techniques

3 Hours Study of modern digital circuit implementation technologies, with emphasis on Field-Programmable Gate Arrays (FPGAs). Traditional and computer-based digital synthesis techniques for combinational and sequential circuits are covered. Complex systems, such as reaction timers, processors and buses, are built from simpler circuits. A modern hardware description language, such as Verilog or VHDL, is used throughout the course.

Prerequisite(s): Graduate standing.

Meets with EENG 4740.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 3810 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: EENG 3810 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5840 - Information Theory

3 hours Information measures and their properties; entropy, relative entropy and mutual information. Information source models. Lossless data compression: the Kraft inequality, Shannon-Fano and Huffman codes. Typical sequences, asymptotic equipartition property, lossy source coding. Discrete memoryless channels: capacity, channel coding theorem. The additive Gaussian channel. Source coding under a fidelity constraint: rate distortion function and rate distortion theorem.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5860 - Network Protocols and Systems

3 hours Fundamentals of communication networks. Layered communication among networked systems, protocols for communication among network layers including application, transport, network, data link, and physical layers. Socket programming and IP Routing algorithms. Introduction to network security.

Recommended: Graduate standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5890 - Directed Study

1–3 hours Directed study and independent research of topics in electrical engineering. Students prepare a plan for study of a topic and a plan for evaluation of study achievements. Open to students with graduate standing who are capable of developing problems independently.

Prerequisite(s): Consent of instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5900 - Special Problems

1–3 hours Individualized instruction in theoretical or experimental problems in electrical engineering. A report is required defining the problem and a solution.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 5940 - Advanced Topics in Electrical Engineering

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 6940 - Individual Research

1–6 hours To be scheduled by the doctoral candidate engaged in research.

Prerequisite(s): Consent of instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

EENG 6950 - Doctoral Dissertation

3, 6 or 9 hours To be scheduled only with consent of instructor. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): Consent of instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

Elementary Education

EDEE 5101 - Student Teaching in EC through Grade 6

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDEE 5102 - Student Teaching in EC through Grade 6

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDEE 5105 - Internship 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.

Recommended: Admission to Teacher Education Program; probationary teaching certificate.

Grade is pass/no pass.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDEE 5115 - Internship 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.

Recommended: Admission to Teacher Education Program; probationary teaching certificate.

Grade is pass/no pass.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Same as EDCI 5810. Same as EDSE 5810.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Open only to resident students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Open only to resident students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDEE 5960 - Education Institute

1–6 hours For students accepted as participants in special institute courses.

Same as EDCI 5960.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDEE 5970 - Education Institute

1–6 hours For students accepted as participants in special institute courses.

Same as EDCI 5970.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

Emergency Management and Disaster Science

EMDS 5010 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 5110 - Disaster Research Methods

3 hours Provides an overview of research methods in emergency management and disaster science, including the major goals of empirical research, research design, and the relationship between theory and research. Topics include qualitative and quantitative methods of data collection, levels of measurement, descriptive statistics, thematic coding, and ethics of research.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 5120 - Applied Statistics in Disaster Science

3 hours Introduces students to a variety of statistical analyses used in the study of disaster science. Focus is on the practical application of a variety of statistical analyses including bivariate analysis, correlation and various forms of regression analysis techniques. Emphasis is placed on the appropriateness of these techniques in research as well as the interpretation and presentation of these data analyses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 5620 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 5630 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 5640 - Community Recovery and Resilience

3 hours Provides an overview of theoretical frameworks and empirical methods used to study disaster recovery and resilience. Topics include spatial and temporal models of recovery, economic and housing recovery, index and scorecard construction, adaptive versus inherent resilience, and risk governance. Special focus is given to the challenges of recovery and resilience measurement as well as the ethics of sustainable long-term recovery.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 5650 - International Disaster Relief

3 hours Focuses on the complexities and theoretical perspectives of disaster response and recovery on an international level. Students learn about the interaction between humanitarian aid and politics, and the overall efficacy of humanitarian aid in disasters. Topics include: theoretical applications in humanitarian aid, convergence behaviors, neoliberalism, types of organizations active in international disasters (both NGOS and governmental agencies) and disaster mythologies.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 5800 - Seminar in Emergency Management and Disaster Science

3 hours Topics address current theoretical and methodological issues in the emerging area of emergency management and disaster science.

May be repeated for credit for a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 5900 - Special Problems

1–6 hours Conference course open to advanced students to facilitate independent research under the direction of the instructor.

Prerequisite(s): Consent of department chair.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 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 graduate school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 5960 - Directed Reading in Emergency Management and Disaster Science

3 hours Provides students with readings that enhance their knowledge about key theories and concepts in the areas of hazards, disasters and emergency management. These readings are chosen with the intention of helping students prepare for their comprehensive exams in EMDS.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

EMDS 6800 - Seminar in Emergency Management and Disaster Science

3 hours Topics address current theoretical and methodological issues in the emerging area of emergency management and disaster science.

May be repeated for credit as topics vary for a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

Engineering Management

EMGT 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): Graduate standing or consent of department.

Same as MEEN 5020.

EMGT 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): Graduate standing or consent of department.

Same as MEEN 5030.

EMGT 5040 - 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. Formal development of the process of designing a product, including ideas generation, engineering development, modeling and analysis, and project planning and management.

Prerequisite(s): MFET 4190 (or equivalent) or consent of department.

Same as MEEN 5130.

EMGT 5050 - Project Management for Engineers

3 hours Study of the planning, organization and management of successful engineering projects. Topics include project management principles, communication with project owners, functional organizations, suppliers and clients, and tools for managing projects to reach quality outcomes.

EMGT 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): Graduate standing or consent of department.

EMGT 5070 - Management in Human and Societal Development

3 hours Covers the scope and nature of human knowledge and how it is incorporated into knowledge based organizations. Provides students with the opportunity to explore the purpose of inquiry and the wide spectrum of intellectual resources available. Also helps students to recognize linkages among disciplines and ways in which they can create personal contributions to organizations.

EMGT 5080 - Engineering Ethics

3 hours Study of the theory and the practice of professional engineering ethics using a multi-disciplinary and cross-cultural approach. Topics include overview of the profession of engineering with an emphasis on professionalism and professional obligations; ethical decision-making, corporate social and professional responsibility and corporate citizenship; standards of professional conduct in dealing with various stakeholders including shareholders, employees, customers, the community, government, and the environment.

EMGT 5110 - Renewable 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.

Same as MEEN 5110.

EMGT 5120 - Energy and Environmental Sustainability

3 hours An overview of sustainability themes related to energy and the environment. Key aspects of energy production and consumption, renewable energy sources, energy efficiency, and the impacts of energy use on the environment. Students explore the geopolitical and social implications of various energy sources and technologies and learn to develop environmental impact assessments of major energy systems and emerging technologies. An overview of the U.N. Sustainable Development Goals and implementation is provided. Through team-based case studies and practical exercises, students develop the skills needed to design and implement sustainable energy solutions.

Prerequisite(s): Consent of instructor.

Same as MEEN 5120.

EMGT 5130 - Energy: The Fundamentals

3 hours Concept of energy and energy conversion; fossil fuels: coal, oil and natural gas; thermal power plants; energy distribution; direct energy conversion; nuclear energy; renewable energy: hydroelectric power, solar energy and photovoltaics, wind energy, tidal energy, geothermal energy, biomass fuel, hydrogen energy and fuel cell; energy storage and battery; and future technologies.

Prerequisite(s): Consent of instructor.

Same as MEEN 5000.

EMGT 5140 - Energy: A World Perspective

3 hours Role of energy in the growth of civilization, living conditions and economy; energy, environment and sustainability; energy issues: developing countries - versus - developed countries and under-developed countries; energy: security, economy and world politics; carbon issues; role of renewable energy; indigenous approaches; and future energy issues.

Prerequisite(s): Consent of instructor.

Same as MEEN 5240.

EMGT 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): CNET 3190 (or equivalent) or consent of department.

EMGT 5220 - Building Information Modeling

3 hours 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): CNET 4170 (or equivalent) or consent of department.

EMGT 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): CNET 4170 (or equivalent) or consent of department.

EMGT 5240 - Heavy Civil Construction Management

3 hours Study of the management of heavy civil construction projects, including transportation and utility projects. Topics include basic design techniques, construction methods, and special considerations for management, scheduling and estimation.

EMGT 5250 - Sustainable and Lean Construction

3 hours Study of the application of sustainability and lean principles to construction. Topics include LEED certification and accreditation, reduction of waste, and project logistics and streamlining considerations.

EMGT 5260 - Integrative Construction Management

3 hours Integrative course that addresses the principles and practices of project and business management in construction and development. Case study is included to emphasize real constraints and specialty operations within the built environment.

Prerequisite(s): Consent of instructor.

EMGT 5890 - Directed Study in Engineering Management

1–3 hours Study by individuals or small groups. Plan of study must be approved by supervising faculty. Written report is required.

May be repeated for credit for a maximum of 3 hours.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 5145 - Form and Theory: Prose

3 hours Rhetorical criticism of prose fiction to show how short stories and novels achieve effect.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 5310 - Studies in Rhetorical Theory

3 hours Detailed study of narrowly conceived topics exigent to contemporary rhetorical theory, history and practice.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 5410 - Studies in the British Renaissance

3 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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 Chesnutt 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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary. ENGL 5550 is required for all new teaching fellows. Offered every fall.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 5580 - Advanced Writing Center Theory and Practice

3 hours Advanced writing-intensive seminar designed to provide theoretical background, research training and practical strategies to prepare students for writing pedagogy.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 Chesnutt. Possible topics of study include theology, Constitutional law, antebellum slave and Southern culture, transatlantic abolition movements, Reconstruction, migration and nationalism.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credits as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 5740 - Advanced Studies in Literature and Film

3 hours Advanced investigation of the relationships between literature and film (or other media forms). Possible areas of focus include adaptation/remediation studies, genre studies, and narrative studies.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 5750 - Methods of Historical Research

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 5760 - Scholarly and Critical Writing

3 hours Examination of the writing strategies entailed in preparing successful seminar papers, conference presentations and scholarly articles.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 5900 - 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 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 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 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 5930 - Research Problems in Lieu of Thesis

3 hours (0;0;6) Composition of an original scholarly paper 20 to 25 pages in length. Project must be approved by instructor of course and major professor.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 6810 - Topics in Critical Theory

3 hours Study of one or more related major strains of critical, literary or cultural emphasis.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 6820 - Topics in Cultural Studies

3 hours Cultural studies approaches to literature, including visual culture, film, history, philosophy, politics, gender and sexuality.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 6900 - Special Problems

1–3 hours Conference course open to doctoral candidates doing independent research under the direction of the instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 6910 - Special Problems

1–3 hours Conference course open to doctoral candidates doing independent research under the direction of the instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 6941 - Directed Research

1–12 hours Doctoral research of an independent nature.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 6942 - Directed Research

1–12 hours Doctoral research of an independent nature.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

ENGL 6944 - Directed Research

1–12 hours Doctoral research of an independent nature.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

Ethnomusicology

MUET 5020 - Anthropology of Sound

3 hours Examines sound from a cross-cultural perspective by opening up a dialogue about alternative sonic practices which challenge many taken-for-granted notions about contemporary theories of sound.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUET 5030 - Music Cultures of the World

3 hours (3;1) Offers an examination of world music traditions from a perspective that emphasizes music as an integral part of society and culture. Provides culturally sensitive pedagogical strategies for engaging and teaching the world's music cultures.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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 Itui Forest to the worldwide explosion of Afro Pop.

Meets with MUET 3050.

Open to majors of all fields. No formal musical training is needed to successfully complete this course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUET 5090 - Music of India and Pakistan

3 hours (3;1) Introduces many genres and styles of music (including classical, folk, popular, and religious) from South Asia, with emphasis on music from India and Pakistan. Students learn about its history, performance practice, cultural significance, and social politics in addition to learning songs/compositions in many styles. No musical experience is required; students from all majors are welcome.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUET 5210 - Seminar in Ethnomusicology

3 hours Selected topics in ethnomusicology: current theoretical and practical issues in the discipline.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUET 5230 - World Music Analysis

3 hours Analytical approaches to world music; theoretical and practical issues in transcription; development of new paradigms for transcription, analysis and graphic representation of music.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUET 5500 - Introduction to Ethnomusicology

3 hours General overview of the discipline of ethnomusicology, including major contributions to the field, history, methodology and practical applications. Case studies are used to illustrate specific theoretical problems encountered in ethnomusicological research.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUET 5617 - African Music and Movement

1 hour Study of selected African drum music and development of related traditional movement skills through studio performance. Movement will be compared and contrasted with various African dance styles, while exploring their cultural basis, recreational and social uses, and artistic and educational values.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUET 5900 - Ethnomusicology Special Problems

3 hours Special problems in ethnomusicology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUET 6000 - Proseminar in Ethnomusicology

3 hours Comprehensive study of social thought about the field of ethnomusicology from 19th-century comparative musicology to contemporary studies of global and popular music.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUET 6010 - Current Issues in Ethnomusicology

3 hours Investigative research into current issues in ethnomusicology.

May be repeated for credit as topics vary up to a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Event Design and Experience Management

EDEM 5600 - Sustainability in the Event Industry

3 hours Introduces the concepts and terms related to sustainable events. Includes economic, environmental, and social impacts of events; event sustainability management; sustainability communication; procurement, and waste and venue management.

Meets with EDEM 4600.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

Finance

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): Financial Accounting (ACCT 2010 or equivalent) and Statistics (DSCI 5180 or equivalent).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 5210 or equivalent (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FINA 5240 - Fixed Income Securities

3 hours Covers fixed-income securities and derivatives, including corporate debt instruments, Treasury securities, residential mortgaged-backed securities, interest rate swaps, and credit default swaps. A primary focus is on fixed-income valuation and risk management techniques through the integration of modern information technology (e.g., the Bloomberg Terminal) and analytical tools.

Recommended: FINA 5210 or equivalent (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FINA 5250 - Python and Data Analytics for Finance

3 hours Financial data analytics using Python. No previous coding experience is needed. Begins by introducing Python for finance, data collection, financial analysis, and other skills to provide a foundation in quantitative finance.

Recommended: FINA 5170 (can be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FINA 5310 - Advanced Topics in Financial Management

3 hours Considers the application of risk, return and net present value concepts in the context of corporate decision-making. In addition to a discussion of the implications of market efficiency and agency problems on corporate decisions, the core issues of dividend policy and capital structure are examined in detail. Students learn option valuation techniques and apply these to real options found in the corporate setting.

Prerequisite(s): FINA 5170 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FINA 5320 - Financial Management in the Energy Enterprise

3 hours Includes aspects of corporate finance from the energy perspective such as capital budgeting, asset management, financial decision-making and risk management, energy project financing, and evaluation of the use of derivatives to hedge selected outcomes (including use of options, forward contracts, futures contracts and swaps). Reserve-based lending, borrowing-based determinations, project economics, feasibility studies, risk analysis, and cash flow projections are also covered.

Prerequisite(s): ACCT 5700 and FINA 5040X .

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FINA 5330 - Sustainable Finance

3 hours This course provides (1) conceptual and theoretical foundations for corporate Environmental, Social and Governance (ESG) policies and actions and investors' preferences regarding such policies and actions and (2) how such policies and actions affect firm performance, investor reactions, and portfolio risk and return. ESG issues have assumed an increasingly important role for corporations, investors, and society as a whole. The hope is that after taking this course you will be able to incorporate what you learn in both your professional career and personal life.

Prerequisite(s): FINA 5310 or equivalent (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FINA 5340 - Mergers and Acquisitions

3 hours Covers Mergers and Acquisitions (M&A) and more generally aspects of the broader market for corporate control. A primary goal is to explore the rationale for firms to acquire or be acquired, and the associated value effects. In addition to revisiting financial approaches to valuing deals, covers aspects of deal structure that can affect the gains from, and risks in, M&A. In addition, explores aspects of the broader market for corporate control, including the roles of private equity and active shareholders.

Prerequisite(s): FINA 5310 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 foreign exchange risk and the use of hedging tools and techniques.

Prerequisite(s): FINA 5170 or equivalent (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FINA 5650 - Contemporary Issues in Finance

3 hours Current topics as selected by the instructor. May include cases and/or lecture format.

Prerequisite(s): Will depend on topic or by consent of instructor.

May be repeated for credit as topics change.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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, and FINA 5310, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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. The 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FINA 6940 - Individual Research

1–12 hours Individual research for doctoral candidates.

Prerequisite(s): Approved applications for special problems/ independent research/dissertation credit must be submitted to the RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 school. 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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Financial Planning

FIPL 5100 - Fundamentals of Personal Financial and Insurance Planning

3 hours Designed to prepare students to begin the journey of becoming a financial planner. It is an introduction to the financial planning process, insurance planning, financial statements, cash flow management, financial strategies and debt management, economic concepts, the time value of money, education planning, client psychology, behavior finance, investment planning, and income tax strategies. Designed to fulfill the 3-hour fundamentals education requirement for the Accredited Financial Counselor (AFC®) and the Certified Financial Planner (CFP®) certification.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FIPL 5610 - Financial Behavior, Ethics, and Planning Capstone

3 hours

Financial planning program capstone course. Covers client financial behaviors CFP Board Code of Ethics. and student construction of a full financial plan from scratch as required by the CFP® Board of Standards.

Prerequisite(s): FIPL 5100, FIPL 5770, ACCT 5130 and FINA 5170 with a C or better.

Corequisite(s): FIPL 5780.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FIPL 5770 - Seminar in Retirement Planning and Employee Benefits

3 hours Explores retirement planning concepts and employee benefits common among employers. Topics covered include pension plans, profit-sharing plans, individual retirement arrangements (IRAs), Keogh plans, tax implications and regulations, group life, group medical, group disability income insurance plans, buy-sell agreements for businesses, cafeteria plans, social security integration, fringe benefits, and other benefit programs.

Prerequisite(s): FIPL 5100 or consent of department/program advisor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

FIPL 5780 - Seminar in Estate Planning

3 hours Designed to prepare students to assist individuals and households with their 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): FIPL 5100 or consent of department/program advisor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

General Music

MUGC 5020 - History and Literature of the Wind Band

3 hours Examination of the historical development of the wind band and analysis of major wind-band literature.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 5040 - Vocal Pedagogy and Diction

3 hours Advanced vocal pedagogy techniques and diction in multiple languages.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 5050 - Beginning String Pedagogy and Technique

3 hours Exploration of various string pedagogy methods and concepts with a focus on beginning set-up in heterogenous string groups.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 5060 - Early Childhood/Elementary Music

3 hours Examination and application of pedagogical techniques suitable for teaching music to students in early childhood.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 5070 - Intermediate String Pedagogy and Technique

3 hours Principles of playing and teaching string instruments at the intermediate level. Focus is on developing technique in a heterogeneous orchestral setting, as well as in solo literature.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 5080 - Advanced String Pedagogy and Technique

3 hours Advanced string pedagogy and techniques with an emphasis on teaching strings in middle and high schools.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 5400 - Creativity in the String Classroom

3 hours Examination of creativity and eclectic styles as related to orchestra classes in K-12 settings.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 5930 - Research Problem in Lieu of Thesis

3 hours Recommended: MUMH 5010.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 6951 - Dissertation Recital

1–3 hours First dissertation recital.

Prerequisite(s): Consent of major professor.

Open only to DMA students in performance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 6952 - Dissertation Recital

1–3 hours Second dissertation recital.

Recommended: MUGC 6951. Consent of major professor.

Open only to DMA students in performance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 6953 - Dissertation Recital

1–3 hours Third dissertation recital.

Recommended: 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUGC 6954 - Dissertation Recital

3–9 hours Recommended: 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Geography

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 and applications.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 associated phenomena.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 groundwater depletion.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5170 - Field Methods

3 hours Training in field techniques used in human and physical geography. Students learn to identify, collect, map, and record human and environmental data. Weekly outdoor exercises covering multiple methodological techniques are coupled with classroom overviews. Emphasis is on becoming a competent field researcher.

Meets with GEOG 4170.

May not receive credit for both GEOG 4170 and GEOG 5170.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5185 - Statistical Research Methods in Geography

3 hours (3;1) Application of fundamental statistical techniques to research in geography, including human geographic, physical geographic and archaeological topics, emphasizing construction of geography research papers and proposals that require the use of statistics.

Prerequisite(s): Consent of department. Not open to students who have completed GEOG 4185.

Meets with GEOG 4185.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5190 - Spatial Statistics and Geographic Data Analysis

3 hours Recording the location of scientific, business and social data is now routine, and what can be learned from spatial data is becoming increasingly important. This course introduces three types of spatial data and reviews a range of statistical methods to explore these data with a focus on their conceptual and applied aspects. Topics include formal spatial data structures, spatial weight, geovisualization and visual analytics, spatial autocorrelation, cluster detection and spatial interpolation. An important aspect of the course is to learn and apply open-source software tools, including Python, R and GeoDa.

Prerequisite(s): Consent of department. All participants are expected to have knowledge of elementary statistics (e.g., GEOG 5185) and to be familiar with programming (e.g., python, R; GEOG 5560). No extensive GIS background beyond ArcGIS basics is needed.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5195 - Advanced Geospatial Data Analytics

3 hours Develop and implement the computational and data infrastructure needed to support data analytics. Understand exploratory data analysis (EDA) and exploratory spatial data analysis (ESDA) methods and appropriate ways of applying them to a variety of unstructured datasets. Use geovisualization techniques to communicate and interpret information learned from data.

Meets with GEOG 4195.

Not open to students who have completed GEOG 4195.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Meets with GEOG 4220.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5230 - Location Intelligence: Advanced Business GIS Concepts and Applications

3 hours Survey of the geographic concepts and applications that support business decision-making. Examines the context for application of geographic methodologies and explores the analytical techniques that relate to the needs of businesses operating across the global economy.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5245 - International Development

3 hours Critical engagement with classical, neo-classical, Marxist, post-structural, post-colonial and feminist theories of development and their policy implications in the Global North and South.

Meets with GEOG 4245.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5250 - Climatology

3 hours Description and analysis of world climates; major classifications, controls, regional distribution and change.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5260 - Advanced Oceanography

3 hours The interaction of geology, chemistry, physics, climatology, environmental science and biology as they apply to the oceans. Theoretical aspects of oceanography and regional case studies of specific coastal and marine systems. Includes human impacts, such as climate change, El Niño patterns, coastal development, and global fisheries.

Meets with GEOG 4260; not open to students who have completed GEOG 4260.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5300 - Globalization, Conflict and Resistance

3 hours Engagement with cultural, economic and political theories of globalization and its policy implication in the Global North and South. Exploration of case studies of conflicts arising from, and social movements in response to, globalization.

Prerequisite(s): Graduate standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5350 - Geomorphology

3 hours Processes of landform analysis. Glacial, desert, fluvial and other settings are reviewed along with basic processes of construction, erosion and weathering.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5420 - Critical Resource Geography

3 hours Examines political economy of human and natural resources and their implications for our environment and global climate change. Includes case studies in a variety of geographical scales. Requires completion of an individual project and advanced readings in topics related to resource and climate change.

Prerequisite(s): Consent of department.

Meets with GEOG 4420.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5510 - GIS for Applied Research

3 hours Introduces basic geography and Geographic Information System (GIS) concepts and techniques to enable comprehensive analyses of geospatial data. Integrates data from multiple sources to address research in a variety of disciplines. Facilitates geospatial analyses and mapping for integration into other university courses and research projects.

Basic computer skills are mandatory.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5525 - LiDAR Data Analysis in GIS

3 hours Overview of LiDAR principles and data processing methods. Focus on LiDAR data analytical skills in a GIS environment through exercises and individual research project on topics related to forestry/vegetation mapping and measurement, urban environments, and geosciences.

Prerequisite(s): GEOG 3500, GEOG 5510 or equivalent.

Meets with GEOG 4525.

May not receive credit for both GEOG 5525 and GEOG 4525.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5530 - Remote Sensing and Digital Image Analysis

3 hours In-depth analysis of image processing including image composition, enhancement and interpretation, and the principles and practices of photo interpretation and remote sensing for use in a variety of disciplines, as in environmental and ecological science. Students conduct independent research project on an application area of digital image analysis.

Prerequisite(s): GEOG 5510 or equivalent.

Meets with GEOG 4530.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5540 - Enabling Business Intelligence Using Enterprise GIS

3 hours Focus on the computational infrastructure needed to gather geospatial and business intelligence. Develop solutions to clarify, streamline, and/or improve processes for the collection, management, and utilization of geospatial data.

Meets with GEOG 4540.

May not receive credit for both GEOG 5540 and GEOG 4540.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 data models, project planning, raster-based data manipulation and analysis, 3-dimensional (3D) analysis, network analysis and other advanced topics in spatial 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): Consent of department.

Meets with GEOG 4550.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5560 - Application Development with Python Programming

3 hours

Developing customized computer applications for efficiently processing and managing data is vital to fulfill needs that are not met by existing, off-the-shelf software. Examines Python programming concepts, input and output, logic structures, data structures, and object-oriented programming. Python applications are developed through a series of mini-projects covering a variety of tasks including data extraction from online sources, data manipulation and management in relational database management systems, and graphing and visualization.

Meets with GEOG 4560.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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): GEOG 3500 or GEOG 5510 or consent of department.

Meets with GEOG 4570.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5580 - Advanced GIS Methods in Health

3 hours Focuses on the application of spatial analysis and geographic information system (GIS) methods in public health. Disease mapping methods including kernel density estimation and other geostatistical approaches; cluster detection methods; location modeling approaches for evaluating placement of facilities; the spatial analysis of environmental risk factors; and GIS approaches in public health surveillance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5680 - Epidemiological Applications of GIScience

3 hours Focuses on the application of emerging methods in Geographic Information Science (GISc) to extract spatial and temporal trends in health data. Students will learn to use various statistical methods and tools, including cluster and hotspot analysis, geographically weighted regression, and a variety of other exploratory and confirmatory spatial analysis tests.

Prerequisite(s): GEOG 5580.

Meets with GEOG 4680.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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): GEOG 1710 or GEOL 1610, or equivalent, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5710 - Ecosystem Science: Principles and Applications

3 hours General principles governing the flow of water, energy, and nutrients through ecological systems. Examines the interactions between organisms and their physical environment within ecosystems. Applies ecosystem structure, function, and linkages to urban environmental problems and resource management issues through case studies and projects.

Meets with GEOG 4710.

May not receive credit for both GEOG 4710 and GEOG 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5800 - Research Design and Geographic Applications

3 hours Themes in geographical research, application of scientific method in spatial problem-solving and analysis.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5900 - Special Problems

1–3 hours Research by graduate students in fields of special interest.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5920 - Research Problems in Lieu of Thesis

3 hours Research-based independent study. Project must be approved by major professor. Requires submission of research report.

Prerequisite(s): Must have completed 12 additional hours toward the Master of Science degree in applied geography, or consent of department.

Non-thesis option only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOG 5960 - Geography Institute

3 hours For students accepted by the university as participants in special institute courses.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

Geology

GEOL 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

GEOL 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

Health Informatics

HINF 5025 - Legal and Ethical Issues in Health Informatics

3 hours A broad introduction to the laws, regulations, and principles governing ethical health informatics (HI) and health information management (HIM). Covers the key laws, regulations and cases in eight domains: 1) health policy, 2) health data privacy and security, 3) bioethics, 4) human subjects research topics: discrimination, inequity, and protections, 5) managed health care and government contracting, 6) antitrust and anti-kickback, 7) intellectual property and pricing, 8) e-discovery and anti-spoliation in litigation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

HINF 5204 - Health Information Terminology and Standards

3 hours Provides concepts and practical examples of terminologies and ontologies used in health and related domains (i.e. CPT, RxNorm, SNOMED CT, Gene Ontology) as well as established standards (i.e. HL7, FHIR) for health data and information exchange. Tools and methods (i.e. RDF, OWL, and SPARQL) to utilize knowledge graphs and ontologies are presented.

Prerequisite(s): INFO 5365 or INFO 5637 or consent of the instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

HINF 5365 - Information Systems in Healthcare

3 hours Overview of the health care environment and health information stakeholders, major information systems used in health care and research settings, and perspectives on the technology and management of health information systems.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

HINF 5506 - Applications of Artificial Intelligence in Health

3 hours The basic concepts related to artificial intelligence (AI) in health and the state-of-the-art applications of AI in health are covered. Various digital collections (such as electronic health record (HER), medical image, medical device records, scientific literature, social media texts) and the core technologies (such as machine learning, natural language processing, data mining, computer vision, pattern recognition) that have been applied to health are introduced. Applications of AI in health, including precision medicine, drug discovery, drug delivery, smart diagnostics, medical imaging processing, remote patient monitoring, AI-assisted surgery will be presented. Issues related to security and privacy considerations in AI for health as well as ethical and biases will be discussed. Future directions are presented.

Prerequisite(s): None; knowledge of data mining preferred.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

HINF 5631 - Searching for Evidence in Health

3 hours Learn about evidence-based practice and how to integrate it into your work as an information professional. Introduction to strategies for finding and critically appraising research publications to use as evidence to support decision-making. Applications of evidence-based practice will be covered, such as health, business, education, and librarianship. Students will apply evidence-based practice principles to a real- world question.

Same as INFO 5631.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

HINF 5637 - Introduction to Health Informatics

3 hours Overview of health informatics and its subfields and history. Relationship of key information science concepts to health informatics. Application of artificial intelligence and data science techniques to health informatics. Introduction to major health information systems and evidence-based healthcare. Exploration of future trends in the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

HINF 5638 - Consumer Health Informatics

3 hours Focuses on how health consumers can be empowered to improve their health outcomes through the use of information and communication technologies. Theories related to health behavior and information-seeking in order to design health information systems are explored. The relationship among health information literacy, information technologies, and practice of healthcare are presented.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

HINF 5639 - Population Health Informatics

3 hours Focus on how public health data and information is generated, collected, transferred, and shared and the information needs of public health professionals. An overview of population health information systems and tools is provided along with the role of policy and its impact on community health. The role of informatics in population health practice is examined.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

HINF 5770 - Introduction to Health Data Analytics

3 hours Introduction to key concepts and principles of health data analytics. Topics covered include the life cycle of health data analysis, such as data acquisition, data preprocessing, data integration, and descriptive statistics. In addition, the basics of Python and its libraries for data processing and statistical analysis will be introduced. After taking this course, students can take a second course, Application of Health Data Analytics, that focuses on health research methods, statistical inference, and machine learning.

Same as INFO 5770.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

HINF 5771 - Applications of Health Data Analytics

3 hours Presents advanced topics of health data analytics by focusing on applications and practices. Topics include probability, statistics, regression, classification, clustering, evaluation, and machine learning algorithms such as deep learning. Prepares students to preprocess, analyze, visualize data, and use advanced statistical tools to make decisions on health risk factors, outcomes, and costs, among others. Using Python and its libraries for data processing, machine learning is introduced.

Prerequisite(s): HINF 5770 and consent of department. Students who did not take HINF 5770 can register with consent from the instructor and the HI program director.

Same as INFO 5771.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

HINF 5955 - Health Informatics Capstone Project

3 hours The capstone project provides a practice-based, problem-solving experience to demonstrate competency in health informatics and data science, project management, leadership, and professionalism. The project provides an opportunity to apply and synthesize concepts learned throughout the program.

Prerequisite(s): Must be taken in the student's last semester of course work.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

Health Promotion

HLTH 5100 - Research Perspectives in Kinesiology, Health Promotion and Recreation

3 hours Research techniques and their application to the research process in kinesiology, health promotion and recreation.

Same as KINE 5100. Same as RESM 5100.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 6131X . Same as PSYC 6135.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated for maximum of 6 hours credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Corequisite(s): HLTH 5320 is taken in conjunction with HLTH 5310.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Corequisite(s): HLTH 5320 is taken in conjunction with HLTH 5310.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Same as KINE 5510.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

Health Sciences

HLSC 6400 - Health Sciences: Theory and Practice

3 hours Focuses on critically evaluating health theories and models, and strategies for improving the health, wellbeing, and resilience of communities. Students explore ethical and legal responsibilities related to healthcare.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSC 6410 - Health Disparities and Social Justice

3 hours In-depth examination and discussion of the theories of justice, social determinants of health and disability, and learn about community-based participatory research and narrative methods that may be used to address social injustices and public health inequities in health services research doctoral programs.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSC 6500 - Research Methods and Design

3 hours Focuses on social science policy and applications research for community and health services. Covers conceptualization and operationalization, research and evaluation design, sampling, survey design, data collection, data analysis, evaluating significance and hypothesis testing, and reporting of findings.

Prerequisite(s): Should be taken during the first year of doctoral studies.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSC 6510 - Health Sciences: Statistical Research Methods I

3 hours Introductory course in statistics for students interested in doing research in the health sciences. Students develop skills in conducting basic quantitative statistical analyses using statistical software, such as SPSS, interpreting the output and drawing appropriate conclusions, and reporting the results in a narrative format. Students are introduced to epidemiology and the use of statistical methods for determining the distribution and determinants of health-related states in populations.

Prerequisite(s): Admission to the doctoral program in health sciences or related doctoral program; or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSC 6520 - Health Sciences: Statistical Research Methods II

3 hours Advanced course in statistics for students interested in doing research in the health sciences. Students apply the knowledge gained in previous research design and statistical analysis courses and develop skills in conducting health care research by applying complex research designs and using advanced statistical techniques. Students learn qualitative and mixed-methods research procedures, as well as various data collection methods.

Prerequisite(s): Admission to the doctoral program in health sciences or related doctoral program; or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSC 6760 - Grant Proposal Writing in Community Development

3 hours The process for community development requires many strategies for evoking desired changes. Grant proposal writing is increasingly associated with new paradigms for creating changes in our environmental, technical, governmental, and social capacities and relationships. Applications extend to problem-solving in a development context in pursuit of the common good. This course provides the skills needed to conceive, prepare and submit successful proposals for external funding of innovative human service projects. As part of the course, each student develops a proposal designed to help a community program respond to a specific population need.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSC 6880 - Analysis and Writing for Reporting and Publication

3 hours Advanced research class featuring interpretation and reporting of research. Emphasizes detailed interpretation of findings, hypothesis testing and dealing with hypotheses not supported, further analysis suggested by preliminary findings, presenting research findings (in written or oral format), drawing conclusions, detailing implications for practice or policy, and considering requirements of a reporting or publication venue. Student activity includes hands-on follow-up of a pre-existing research or evaluation project.

Prerequisite(s): HLSC 6500.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSC 6900 - Special Problems in Health Sciences

1–3 hours Individual instruction 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): Consent of instructor.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSC 6950 - Doctoral Dissertation

3–9 hours Twelve credit hours required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing the qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

Health Services Administration

HLSV 5300 - Information Systems for Healthcare Management

3 hours Overview of entire subject of computer and data applications in clinical and integrated services. Examination of management and electronic information systems across the continuum of long-term care and larger systems of care, plus their interface with complex regulatory and reimbursement systems. Primary issues include data security, storage and retrieval, management analysis, reporting, and transmission and interfacing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5450 - Health Services Administration

3 hours With the help of case studies, reviews the evolution of management in the healthcare industry, and provides management theory, principles, methods and tools for managers in a variety of healthcare delivery settings. Explores key roles in healthcare organizations, as well as project planning and execution, managing change, personnel management and ethics in the healthcare environment.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5500 - Healthcare Quality Management

3 hours Provides a framework, strategies and practical approaches to help healthcare leaders to learn, teach and lead quality improvement efforts. In four progressive stages, focuses first on the foundation of quality improvement in the healthcare industry. Next, on quality improvement tools measures and their application; third on quality culture and leadership; and finally, emerging trends in healthcare quality management. Considers the statistical tools for quality improvement, the role of the physician in quality improvement, health information technology as a quality improvement asset, medication safety, value-based insurance and purchasing, and quality care delivery in population health.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5550 - Health Insurance and Managed Care

3 hours Understanding the health insurance sector is essential to understanding the business side of U.S. healthcare. This course provides an overview of the issues related to the management, design, regulation and evaluation of managed care plans. Covers both private and public insurance plans, such as Medicare and Medicaid. Describes the many changes to health insurance markets that have resulted from the Affordable Care Act (ACA). Other topics include: the history of managed care, health benefits coverage, provider networks, utilization management and quality management.

Prerequisite(s): HLSV 5400 or 6 hours of HLSV classes.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5710 - Theories and Measures for Health and Wellness

1–3 hours Examines commonly used population health and wellness definitions, constructs and indicators. Age-related changes in health in the lifecycle and macro and micro theories of health are included. Economic consequences and implications for public policy are also discussed.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5720 - Human Resources Management

3 hours Addresses the complexities of managing human resources in the dynamic healthcare environment. Students are exposed to key concepts, laws and issues related to human resources management. Topics covered include: workforce planning, job analysis and design, workforce diversity, performance management, compensation practices and employee benefits.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5730 - Healthcare Policy and the Regulated Marketplace

3 hours Provides an overview of health policy and its impact on the healthcare marketplace. Students examine how health policy affects the triple aim of cost, quality and access. Comparisons are made across states to demonstrate where each state resides on a continuum of free markets vs. regulatory oversight, as well as the number of uninsured. Students examine the impact of the Affordable Care Act (ACA) on increasing access to care and preventive medicine. In every case, the impact of these policies is illustrated through clinical vignettes.

Prerequisite(s): HLSV 5400 or 6 hours of HLSV classes.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5740 - Financial Issues in Health Services Administration

3 hours Presents a broad overview of healthcare finance and focuses on tasks that are essential to the operational management of healthcare services, including estimating costs and profits, planning and budgeting, analyzing new equipment purchases, using metrics to monitor operations, and working with financial statements. Designed for individuals seeking basic skills in healthcare financial management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5820 - Marketing Health Services

3 hours Reviews the legal, regulatory and economic forces that shape the marketing of health services in today's environment. With the integration of real work organizational examples, students explore the evolution of healthcare marketing from strategies based on advertising and promotion to current strategies that incorporate research, education, and the responsibility to understand the market in which healthcare organizations operate, the customers served by such organizations, and the customer's needs, wants, behaviors and motivations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5860 - Healthcare Economics

3 hours Introduces the concepts and tools of microeconomics, such as supply and demand, production functions, and risk management. These economics tools and theories can be applied in a multitude of contexts, such as to explain physician decision-making, consumer behavior, and the formulation of health policy at both the Federal and state level. Also examines the "triple aim"—of patient experience, population health, and cost—and the inherent tradeoffs among them. Emphasis is on those economic tools and concepts that are most useful and relevant to healthcare managers and executives.

Prerequisite(s): HLSV 5400 or 6 hours of HLSV classes.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5880 - Healthcare Law and Ethics

3 hours Provides an overview of the contemporary legal and ethical issues facing healthcare organizations today. Examination of the legal foundations of decision making in the healthcare arena and exploration of the ethical management of complex dilemmas in the delivery of patient care. Primary issues explored include the differences between state and federal legal systems; healthcare providers as legal entities; government regulations that impact public health, the quality of care, cost containment and the privacy of personal health information; the laws associated with government payment programs like Medicare and Medicaid and the determination of fraud and abuse; and legal issues associated with emergency treatment, the right to refuse care and physician assisted suicide.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

HLSV 5940 - HLSV Capstone

3 hours Satisfactory course completion requires a comprehensive research project covering the student's field of specialization. The project is designed to demonstrate the student's mastery of the discipline and ability to apply knowledge acquired throughout the program to solve a real-world problem in the student's area of specialization under faculty supervision.

Prerequisite(s): Should be taken in one of the final two semesters of the program after all other Health Services Administration core courses have been completed.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

Higher Education

EDHE 5100 - Introduction to Effective College Teaching

3 hours Application of current research, theory and practice to course design and teaching methods. Development of skills in course design, development of assessment tools and instructional delivery methods.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDHE 5610 - Finance and Budgeting in Higher Education

3 hours Introduction to major elements of budgeting and finance in higher education. Designed to comprehensively address the budget process in colleges and universities, as well as the impact of budget activities on all areas of planning and operations within a higher education institution.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDHE 5620 - Student Risk Management in Higher Education

3 hours Legal aspects and risk management of student-related issues in higher education. Topics include, but are not limited to, federal and state laws and their legal implications as they relate to areas such as student rights and responsibilities, privacy, freedom of speech, academic freedom, due process and harassment.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Open only to resident students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDHE 6000 - Proseminar in Higher Education

3 hours Orients entering doctoral students to the study of higher education. Acquaints graduate students with higher education as an interdisciplinary field of study that bridges practice, theory, and empirical research. Enhances students' abilities of critical reading, critical thinking and analysis, writing, and inquiry.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDHE 6030 - Practicum, Field Problem or Internship

3–6 hours Supervised professional activities in post-secondary teaching, research or administration.

Registration is on an individual basis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDHE 6050 - Learning Theory in Higher Education

3 hours Study of major learning theories with applications to postsecondary instruction. Includes an examination of the learning processes and current research on learning.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

This should be the first course taken in the sequence when beginning the community college cognate.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDHE 6065 - Community College Administration

3 hours Examination of the context for and operation of community college administration with emphasis on governance and administration at the local and state levels.

Prerequisite(s): EDHE 6060.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDHE 6070 - The Effective College Instructor

3 hours Review of research, theory and profiles of effective college instructors and best practices in college teaching. Comparative analysis of research on skill requirements of instructors in community colleges and senior institutions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDHE 6075 - Economic Development and Higher Education

3 hours Exploration of the role of higher education institutions in economic development. Examines basic aspects of human capital theory along with local, state and federal resource development policy and the intersections with educational training, as well as the impact of educational institutions on the economy.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDHE 6080 - Community College Leadership

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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): EDHE 6060.

This should be the last course taken in the sequence when finishing the community college cognate.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 contacts and contracts, and book publishing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDHE 6730 - Organization and Administration of Student Affairs

3 hours Principles and techniques of organization and administration applied to the student affairs 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 affairs administrator; the effects of organizations on individual and group behavior; and specific administrative skills applied to the student affairs subsystem and to the programming needs of the institution. Applications to the chief student affairs officers at both 4-year universities and community colleges.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5040 - Studies in Modern European History

3 hours Extensive readings and study in one of the topical areas of modern European history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5061 - Historiography of Stalinism (1917-1953)

3 hours The history and historiography of Stalin's Russia (1920s to 1950s), with an emphasis given to scholarly work conducted since the opening of the Soviet archives in the 1990s.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5062 - Everyday Life in the Soviet Union (1917-1991)

3 hours Extensive readings and study of the history of everyday life in Soviet Russia (the 1920s –1980s). Emphasis given to the study of economic shortages, propaganda, the cult of leadership, surveillance, fears and beliefs, and popular opinion, as well as the connection of "big" historical narratives to microhistory.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5063 - Russian Spies, KGB and Surveillance: From the Tsars to Putin

3 hours The history of the Russian State Security Service from the 19th century to the present. Emphasis is given to the discussion of theoretical and historiographical works, as well as collections of documents, primary sources, and memoirs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5065 - The Art of War: Theory and History

3 hours Key theorists whose ideas shape the ways historians write about war. Emphasis given to understanding the relationships between military history and military thought.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5066 - History of World War I

3 hours History of World War I. Emphasis given to the war's military, political, social, cultural and economic factors, as well as the war's legacy and effect on modern memory.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5070 - World War II

3 hours Historiography of World War II, highlighting the diversity of historical approaches to the war, as well as its global nature.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5080 - Seminar in Modern European History

3 hours Research seminar in modern European history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5100 - Seminar in United States History

3 hours Research seminar in United States history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5110 - Studies in United States History

3 hours Extensive readings and study in United States history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5125 - History of Military Revolution

3 hours The historiography of "Military Revolution" in military history and associated scholarly fields.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5130 - Studies in World History: Latin American or Asian

3 hours Extensive readings and study in either Latin American or Asian history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5150 - Seminar in World History: Latin American or Asian

3 hours Research seminar in either Latin American or Asian history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5155 - Texas Mexican History

3 hours History of Mexican-origin people in Texas, emphasizing a range of approaches, methods, and interpretations developed in the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5160 - Mexican Americans since 1800

3 hours History of Mexican-origin people in the United States since 1800, emphasizing the critical study of race and historical representation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5165 - Women and Gender in the Americas

3 hours Advanced readings and discussions of scholarship on the histories of women and gender in both North and South America.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5173 - Food, Labor and Politics in the Americas

3 hours History of the production and distribution of cooked, served, and consumed food with an emphasis on the politics of labor and historical representation in both North and South America.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5191 - Modern Middle Eastern History

3 hours History of the modern Middle East with an emphasis on important topics and debates in the current literature of the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5192 - Israeli History

3 hours History of the nation of Israel with an emphasis on important topics and debates in the current literature of the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5193 - Gender and Postcolonialism in Modern Middle Eastern History

3 hours History of the modern Middle East with an emphasis on postcolonial theory using gender as a critical category of analysis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5194 - World Histories of Pop Music

3 hours History of modern pop music from around the world with an emphasis on historical events that shape music and analyzing the impact that popular musical forms and performers have had on world historical events.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5195 - Modern Egyptian History

3 hours History of modern Egypt with an emphasis on the most important recent work in the field and engaging contemporary political and social issues.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5201 - Slavery and its Legacies

3 hours Advanced readings and discussions of scholarship on the history of slavery in the Americas and its ongoing legacies.

Previously taught as a topics course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5219 - The Holy Dead

3 hours The tradition of pilgrimage and the Christian cult of the saints, from late Antiquity through the end of the Middle Ages, with comparisons to the modern era.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5220 - Studies in United States Military/Diplomatic History

3 hours Extensive readings and study in either United States military or diplomatic history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5221 - Debating Medieval Europe

3 hours European history of the Middle Ages and the historiographic trends currently shaping the study of Medieval Europe.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5230 - Seminar in United States Military/Diplomatic History

3 hours Research seminar in either United States military or diplomatic history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5240 - Studies in European Military/Diplomatic History

3 hours Extensive readings and study in either European military or diplomatic history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5250 - Seminar in European Military/Diplomatic History

3 hours Research seminar in either European military or diplomatic history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5260 - Seminar in Near East/African History

3 hours Research seminar in Near East/African history.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5270 - The American West

3 hours History of the American West emphasizing settler colonialism and the shaping of the American nation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5275 - Environmental History

3 hours Theory and methods that emphasize the interactions of communities and their biophysical worlds at different historical moments.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5279 - Indigenous Research Methods

3 hours Advanced readings and discussions on applications of Indigenous research methods in historical scholarship.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5300 - Warfare During the Age of Enlightenment and Revolution

3 hours History of warfare during the periods of the Enlightenment and French Revolution, from 1715-1800, emphasizing the interconnected development and evolution of military thought and the art of waging war on operation, strategic, and tactical levels.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5302 - Warfare in the Age of Napoleon

3 hours Readings course that focuses on an intensive study of the characteristics of Napoleonic warfare.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5310 - Gender and Sexuality in Early Modern Europe

3 hours Advanced readings on the historical complexities of gender and sexuality in early modern Europe, with an emphasis on preparing students to conduct research in the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5385 - Nazi Germany

3 hours History of Nazi Germany with emphasis on the rise of Nazi ideology, Hitler's role, militarism, and the long-term effects of Nazi rule on German society and European politics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5386 - Nazi Germany at War

3 hours History of Nazi Germany during the Second World War, emphasizing the study of the German "way of war," economic preparations for war, and military participation in war crimes and other crimes against humanity.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5390 - The Holocaust and Atrocities

3 hours History of the Holocaust highlighting the diversity of critical scholarly approaches to the Nazi-perpetrated genocide, as well as atrocities committed by other World War II belligerents.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5420 - Research Seminar in Local History

3 hours Research and writing of local history.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5444 - Historical Teaching and Scholarship on Race

3 hours Advanced readings, lectures, and discussions concerning race, decolonization, and the democratization of teaching and research in the discipline of history.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5463 - United States LGBTQ History

3 hours Examines and analyzes the ways historians have written about lesbian, gay, bisexual, transgender, and queer history in the United States, including same-sex couplings in early America, the emergence of gay and lesbian identities in the late-19th century, and the modern roles of capitalism, government and other social, political, and cultural forces in the evolution of LGBTQ communities.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5465 - U.S. Gender and Sexuality History

3 hours History of gender and sexuality in the United States with an emphasis on critical theories and research methods.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5490 - The American Revolution

3 hours History of the American Revolution, emphasizing the forces that shaped transatlantic relationships during the Revolutionary era.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5491 - Historiography of American Exceptionalism

3 hours History and critical study of the concept of American exceptionalism in American historiography, emphasizing the work of both American and international scholars.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5495 - U.S. Food History

3 hours Major topics in U.S. food history with a focus on food as a mechanism for the construction of social, political and cultural identities.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5500 - Oral History Theory and Methods

3 hours Extensive readings and study of the history, theory, and methods of oral history. Emphasis is given to discussions of best practices in recording, editing, archiving, and presenting interviews; legal and ethical concerns; the overlaps and divergences of history and memory; and how oral history is used in museum exhibitions, plays, documentary works, podcasts, digital projects, and other media. Students also record and transcribe their own oral history interviews for the permanent collection of the UNT Oral History Program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5555 - History Pedagogy Lab

3 hours Advanced disciplinary training in historical pedagogy for students seeking professional development for instructional careers in higher education history departments and allied disciplines.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5560 - Modern China

3 hours Major topics in the history of China from the 18th century through the early 21st century, emphasizing the politics of historical representation in relation to capitalism, communism, and democracy.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5565 - Military History of Modern China

3 hours Study of English-language scholarship on strategy, military force and war in China from the 17th through the early 21st century.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5575 - The Cold War in East Asia

3 hours History of the Cold War in East Asia, emphasizing the profound effects of global competition between the Soviet Union and the United States on military conflict and everyday life in Korea, Vietnam, and other nations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5643 - The U.S. Army in the Nineteenth Century

3 hours History of the development of the United States Army in the 19th century from an ineffective national defense force to an effective agency for international expansion.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5700 - Texas History

3 hours A review of the historical literature concerning the development of Texas from its frontier beginnings to an urban state, focusing on social, political, and economic topics within a chronological framework.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5940 - Fundamentals of Historical Scholarship

3 hours Introduction to research and writing skills that are demanded of professionals in the historical discipline in the 21st century.

Required for all beginning MA/MS students and BA-PhD students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5950 - Master's Thesis

3–9 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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 5980 - Teaching of College History

3 hours Examination of the philosophies and techniques of teaching history at the college and university level.

Open to all graduate students and required of all history teaching fellows at their first opportunity to take it. This course is in addition to other degree requirements.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6000 - The Historian as Historical Subject

3 hours Focuses on the critical study of historical methods and patterns of professionalization.

Required of all PhD students in history.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6065 - Seminar on the History of Modern Warfare

3 hours Research seminar broadly focused on themes and topics related to the history of modern warfare, preparing students to conduct their own research in the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6070 - Seminar on the History of World War II

3 hours Training in research methods and approaches unique to the study of the history of the Second World War, preparing students to conduct original research in the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6125 - Seminar in Warfare and State Formation

3 hours Research seminar focused on the historical relationships between warfare and state formation, with an emphasis given to engaging state of field scholarship in military history, political history, and other fields.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6150 - Seminar in Mexican American History

3 hours Research seminar preparing students to conduct their own original research and writing in the field of Mexican American history.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6261 - Seminar in Middle Eastern History

3 hours Research seminar in Middle Eastern history that prepares students to pursue their own research projects, culminating in a formal research paper and presentation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6262 - Seminar on Race, Gender, and Decolonization

3 hours Research seminar preparing students to utilize analytical categories of race, gender, and decolonization to pursue their own research projects, culminating in a formal research paper and presentation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6270 - Seminar on the History of the American West

3 hours Research-based seminar on the history of the American West. Students are introduced to major sets of primary sources in western history and then guided in individual research projects in which they write an article-length manuscript of historical scholarship.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6275 - Seminar on Nature and Culture in America

3 hours Research seminar in American environmental history, with an emphasis on using a variety of traditional and nontraditional historical sources to explore historical relationships between nature and culture.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6277 - Seminar on History, Memory and Memoir

3 hours Research seminar focused on the challenges of using memoir and autobiography as historical sources. Students each research and write a paper based on a manuscript or published personal history from any period or area to enable the class to assess how the genre's conventions changed over time and varied by culture.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6278 - Seminar on Modern America

3 hours Research seminar focused on interpreting modern American history using a variety of traditional and nontraditional historical sources.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6279 - Seminar in Cultural History

3 hours Research seminar focused on training students in the methodologies of cultural history, with an emphasis on using a variety of nontraditional historical sources.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6300 - Seminar on Warfare during the Ages of Enlightenment and Revolution

3 hours Research seminar on warfare during the Ages of Enlightenment and Revolution, 1715-1800, preparing students to conduct original research using 18th-century historical sources.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6301 - Seminar on Military and Diplomatic History 1648-1914

3 hours Research seminar on warfare and diplomacy from 1648 to 1914, preparing students to conduct original research that engages state of the field work in the military history of European expansion, colonialism, and empire.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6302 - Seminar on Warfare During the Age of Napoleon

3 hours Research seminar on the history of Napoleonic warfare preparing students to conduct original research using European sources from the era.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6310 - Seminar on Gender and Sexuality in Early Modern Europe

3 hours Research related to gender and sexuality in early modern Europe using original sources.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6365 - Modern Germany Seminar, 1517 to the Present

3 hours Research seminar providing students with an opportunity to explore original topics concerning modern German history in a sophisticated, comprehensive manner and accommodating diverse methodological approaches.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6390 - Seminar on the History of the Holocaust and Atrocities

3 hours Research seminar preparing students to read and critically interpret primary texts on topics related to the Holocaust or other atrocities perpetrated by any of the World War II belligerents.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6402 - Seminar in Modern U.S. Political History

3 hours Research seminar in modern U.S. political history focused on historical approaches that center the significance of political activities in modern America.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6470 - U.S. Gender and Sexuality History Seminar

3 hours Research seminar focused on the history of gender and sexuality in the United States, preparing students to conduct original research in the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6477 - Seminar in Social History

3 hours Research seminar that introduces students to main aspects and subfields of "social history." Common readings encourage students to consider how social history scholarship and methods connect with their research topic.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6490 - Seminar in Early American History

3 hours Research seminar in the history of early America, with emphasis given to the colonial, revolutionary, and pre-Civil War eras.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6575 - Seminar on Warfare in Asia and the Pacific

3 hours Graduate research seminar on the history of warfare in Asia and the Pacific, with emphasis on the modern era (19th-21st centuries).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6643 - Seminar on United States Army in the Nineteenth Century

3 hours Preparation for writing a research paper on the United States Army in the 19th century, when it evolved from an ineffective defense force into an effective agency for international expansion.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6700 - Seminar in Texas History

3 hours Instruction in writing and presenting an academic paper on a topic in Texas history, incorporating a structured approach that includes assessment during research, writing, and presentation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6900 - Special Problems

1–3 hours Research by doctoral students in the fields of special interest.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6910 - Special Problems

1–3 hours Research by doctoral students in the fields of special interest.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

HIST 6940 - Individual Research

3 hours Doctoral research of an independent nature.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

Hospitality Management

HMGT 5150 - Casino Management

3 hours Principle and practice of casino business. Topics include the history of gambling, organizational structure, types of casino games, casino operation, casino marketing, casino accounting, and gaming control regulations.

Prerequisite(s): Must be 18 years old.

Meets with HMGT 4150.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5500 - Technology and Innovation in Hospitality, Event and Tourism

3 hours Designed to familiarize students with the strategic use of information technology (IT) in the hospitality and tourism fields. Topics include the unique needs for and characteristics of IT in the aforementioned industries, as well as management, operations, and impacts of IT on organizations and the industry as a whole.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Taught at CATIE in Costa Rica.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Taught at CATIE in Costa Rica.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 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.

Taught at CATIE in Costa Rica.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 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.

Taught at CATIE in Costa Rica.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5535 - Socio-Cultural Contexts of Sustainable Tourism Development

3 hours Examines social and cultural elements that contribute to the complexity of sustainable tourism development and management. Emphasis is placed on understanding the tourist, considering the tourist-host relationship, and the socio-cultural and socio-economic impacts of travel and tourism. Discussing challenges and considerations from the micro- to macro-scale, addresses how environmental and economic realities shape the socio-cultural approach in the practice of sustainable tourism development.

Recommended: HMGT 5530.

Taught at CATIE in Costa Rica.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5580 - Digital Strategies in Hospitality, Event and Tourism

3 hours Examines some of the most dramatic changes encountered by the hospitality, event and tourism industries. Facing these challenges, the course fosters in-depth discussion of digital innovations and the strategic use of technologies in the hospitality, event and tourism industries. Topics include theoretical foundations of innovation and digital strategies, consumer behavior in a digital environment, new technology trends and innovation disruptions, social media and digital marketing, virtual and hybrid events, interacting and engaging consumers virtually, and making technology-related decisions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5585 - SMART Destination

3 hours Focuses on managing destination in the tourism and hospitality industry in a competitive manner through scientific data-driven methods. Emphasis includes big data, demand analytics, experience analytics, geoanalytics, web and social media analytics, benchmarking analysis and impact analysis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5630 - Advanced Convention and 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5640 - Global Healthy Sustainable Foods

3 hours Focuses on the relationship between our food choices and the global food system to reflect on how climate change affects our meals. Food security is an integral part of a healthy lifestyle and eating patterns are altered when available, accessible foods are impacted by global changes in food production. Topics include analysis of the global food supply, strategies for mitigating reliance on limited plant and animal food sources and adapting our eating patterns for healthy choices in a changing environment.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5650 - Strategic Marketing of Events

3 hours Introduces the concepts used to design and implement a successful event marketing strategy and assess applicable event marketing strategies to the event management industry (e.g., meetings, festivals, sporting events, community celebrations, cultural events, conventions, conferences, etc.). Teaches students to incorporate hospitality facilities into event marketing for optimal results. Discusses a practical insight into the unique characteristics of the event marketing industry and their impact on the strategic approach to the marketing of events, including experiential marketing, marketing communication tools, branding, and city marketing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5790 - Field Experience in Hospitality and Tourism

3 hours Arranged.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5900 - Special Problems in Hospitality and Tourism

1–3 hours Arranged.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5910 - Special Problems in Sustainability

1–3 hours Arranged.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 5920 - Problem in Lieu of Thesis

3 hours No credit given until problem in lieu of thesis is completed.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HMGT 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 school. Continuous enrollment required once work on thesis has begun.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

Hospitality and Tourism Data Analytics

HTAN 5300 - Hospitality and Tourism Data Analytics

3 hours Advanced study of hospitality and tourism data analysis and market study. Emphasis is given on building the ability to analyze and interpret various types of industry data and making executive decisions. Demonstrates advanced hospitality and tourism data analytics with real-world industry data to enhance students' critical thinking, analytical expertise, and problem-solving skills with the use of Excel and data visualization tools.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HTAN 5310 - Business Analytics in Hospitality, Event and Tourism

3 hours Offers an in-depth exploration of the core principles and advanced methodologies within business analytics in hospitality, event, and tourism management. Students develop the skills necessary to engage in data-driven decision-making and problem-solving, utilizing insights generated through business analytics processes. Covers essential theories and practices related to data analytics, including data management, analysis and interpretation, and data visualization.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

HTAN 5500 - Multivariate Data Analysis Techniques in Hospitality, Event and Tourism

3 hours Extends the concepts in the univariate analysis to multivariate and data analysis. Students learn modern techniques of multivariate analysis, including topics such as multiple regression, MANOVA, and logistic regression. Provides a hands-on introduction to analyze and interpret the data in the hospitality, event and tourism industry.

Prerequisite(s): CMHT 5400 or ADTA 5130.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

Industrial Distribution

INDS 5110 - Industrial Operations Management

3 hours Industrial Operations Management offers a comprehensive exploration of advanced concepts, methodologies, and strategies essential for optimizing organizational processes and improving overall efficiency in an industrial setting. Covers key areas in industrial operations management such as process optimization, business process flow, inventory management, quality control, and strategic decision-making. By integrating theoretical frameworks with real-world applications through project-based learning with industry partners in the classroom, students develop the analytical skillset necessary to excel in the dynamic field of industrial operations at the managerial level.

INDS 5120 - Industrial Logistics and Supply Chain Management

3 hours Industrial Logistics and Supply Chain Management provides an in-depth exploration of advanced concepts, strategies, and methodologies essential for the management of industrial manufacturing and global supply chain operations. Includes key strategic and logistical functions of supply chain management such as aggregate planning, demand management, facility location modeling, and component commonality. By integrating theoretical frameworks with real-world case studies and project-based learning with industry partners in the classroom, students develop a nuanced perspective on the complexities and challenges inherent to contemporary supply chains.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $6.70

INDS 5130 - Industrial Procurement and Contract Management

3 hours Industrial procurement involves managing a delicate balance between decreasing product costs and establishing cooperative supply chain relationships. Industrial Procurement and Contract Management offers an in-depth exploration of the strategies, tactics, and principles essential for effective negotiations and the management of strategic procurement processes in the complex landscape of global manufacturing. Through the use of case studies and project-based learning with industry partners in the class, students develop contract management skills to distribute risk and maximize total profit for the benefit of all supply chain partners.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $6.70

INDS 5140 - Industrial Design Process and Management I

3 hours This course exposes students to the processes and concepts that lead to innovative and creative problem solving within the realm of industrial design using established frameworks such as growth thinking, design thinking, and systems thinking. This course prepares students by providing grounding in established concepts needed to move products from problem recognition to manufacturing and mass production phase of the product lifecycle management framework. Participants will engage in a series of projects, critiques, and discussions to develop a comprehensive understanding of managing the industrial design process.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $6.70

INDS 5150 - Industrial Design Process and Management II

3 hours This course builds upon the foundational concepts introduced in Industrial Design Process and Management I. Through a series of complex projects, this course prepares students to handle various aspects of industrial distribution problems with a focus on efficiency and effectiveness within the product lifecycle management. Students will deepen their understanding of innovative and creative problem-solving principles and expand their skillsets by applying these principles within the domain of industrial distribution.

Prerequisite(s): INDS 5140.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $6.70

INDS 5160 - Capstone in Industrial Distribution

3 hours The Capstone in Industrial Distribution is a semester-long culminating experience that allows students to demonstrate knowledge gained in the Master of Science in Industrial Distribution program by performing each phase of the product life cycle management (PLM) framework. In collaboration with multiple industry partners, students solve a real-world problem through the design, testing, prototyping, evaluation, and planned mass production and distribution of a product. The product, as well as the implementation plan, are presented to a panel of industry experts and academics and evaluated on a variety of criteria, including but not limited to aesthetics, profitability, feasibility, and sustainability.

Prerequisite(s): INDS 5110, INDS 5120, INDS 5130, INDS 5140, INDS 5150.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $6.70

Information Science

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5001 - School Librarianship

3 hours Introduction to school librarianship with an overview of the profession including the various roles of the school librarian: information specialist, instructional collaborator and program administrator. Exposure to and an understanding of Intellectual Freedom, 21st century learning and resources, and the new face of school librarianship.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5030 - Seminar in Foundations, Trends and Perspectives

3 hours Foundation topics in library and information sciences. Special perspectives and aspects within the field and related areas. Background developments and social contexts. Major trends, issues and problems of present and historical interest. Individual investigations of special aspects and topics.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5041 - Cognitive Science for Information Professionals

3 hours Introduce modern cognitive science and review historical development of the field. Explore core concepts in cognitive science, including attention, consciousness, perception and memory. Synthesize core concepts into discussions on major research areas in cognitive science, such as problem solving and reasoning. Discuss influence of cognitive science on library and information science, including information behavior and mental models.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5050 - Trends and Practices in School Librarianship

3 hours Identification and analysis of trends and current issues in school libraries including library automation systems and their management, collaborative teaching and inquiry learning, and the school library learning environment.

Recommended: INFO 5208, INFO 5340, INFO 5420, INFO 5430, INFO 5720.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5080, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5085 - Research Skills for Thesis and Dissertations

3 hours Designed to provide an understanding of the research process through developing the research question; the purpose of the research study; the significance of the study to the field; the proposed research design: limitations, setting and participants; operationalize terms; and the final deliverable is the literature review. Students finish the course with the beginnings of a literature review and are prepared to begin writing articles for publication, master's thesis, or dissertation work.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5090 - Practicum and Internship in the Field Study

3 hours The internship/practicum course provides students with practical and general training experiences in areas related to their course of study. Designed to give students an opportunity to apply what they learned, expand and enhance their knowledge, and gain work experience in related areas. Course requirements enable students to make the connection between theory and practice and further develop students' analytical and interpersonal skills.

Prerequisite(s): Consent of department's advisor.

Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5092 - Museum Archive Professional Internship

3 hours Internship is focused on museum archive projects used to gain valuable work experience and increase knowledge in the field of the major. Students will seek a position in a museum, cultural center, or library with special collections that might lead to further competency and permanent employment.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5191 - Practicum 1 for School Librarians

1 hour In the first semester practicum course for school librarians, students work with a field supervisor to complete 1 formal observation and 3 informal observations in compliance with the Texas Administrative Code. In addition, students select a school librarian mentor to work with and guide them as they log practicum hours. Students and mentors complete practicum training to learn the details regarding the 160-hour practicum experience. Students work with a mentor to accumulate a minimum of 50 practicum hours in a school library setting. The tasks and hours completed in the practicum are documented using the Practicum Task Checklist/ Timesheet combined form.

Prerequisite(s): INFO 5001.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5192 - Practicum 2 for School Librarians

1 hour In the second semester practicum course for school librarians, students work with a field supervisor to complete 1 formal observation and 3 informal observations in compliance with the Texas Administrative Code. Students continue working with a mentor to accumulate a minimum of 50 additional practicum hours in a school library setting. The tasks and hours completed in the practicum are documented using the Practicum Task Checklist/ Timesheet combined form. Students also take the official school librarian practice exam.

Prerequisite(s): INFO 5191.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5193 - Practicum 3 for School Librarians

1 hour In the third semester practicum course for school librarians, students work with a field supervisor to complete 1 formal observation and 3 informal observations in compliance with the Texas Administrative Code. Students continue working with a mentor to accumulate an additional 60 practicum hours in a school library setting to complete the 160-hour practicum experience. The tasks and hours completed in the practicum are documented using the Practicum Task Checklist/Timesheet combined form. In addition, students are required to take and pass the School Librarian (150) TExES certification exam and complete and pass the ePortfolio Capstone Project.

Corequisite(s): INFO 5192.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5205 - Information Indexing, Abstracting and Retrieval

3 hours Analysis of indexing and retrieval systems. Manual and machine indexing and abstracting. Computer-based systems. File organization and maintenance; information representation and coding; storage and retrieval technology; natural language processing; thesaurus construction; searching strategies. Systems design, operation and evaluation.

Corequisite(s): INFO 5200 or INFO 5210 and INFO 5710, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5200 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5208 - Learning Resources Organization

3 hours Organization of print and non-print collections, including descriptive cataloging, AACR2, Resource Description and Access (RDA), Dewey Decimal Classification, Library of Congress and Sears Subject Headings and MARC records.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5210 - Introduction to Cataloging and Classification

3 hours Descriptive and subject cataloging to represent multiple forms of information resources in bibliographic databases. Cataloging models, standards and codes (Functional Requirements for Bibliographic Records, Resource Description and Access, Anglo-American Cataloging Rules 2, Machine Readable Cataloging); creation and application of name and subject access points using authority records (Functional Requirements for Authority Data, Library of Congress and OCLC authority databases); principles of subject analysis and representation, subject heading construction, and subject classification (Library of Congress subject headings, Library of Congress Classification System); use and maintenance of online bibliographic utilities and cataloging tools and resources.

Prerequisite(s): INFO 5200 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5200. INFO 5208 or INFO 5210 preferred, but not required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5220 - Advanced Cataloging and Classification

3 hours Advanced cataloging to represent various types of information resources in bibliographic databases to adequately support information user needs. In-depth study of library metadata models (FRBR, FRAD, FRSAD, LRM, and BIBFRAME), standards and codes (RDA; MARC and BIBFRAME element sets), controlled vocabularies and authority databases (e.g., Library of Congress authority files via OCLC Connexion Authorities, LC Linked Data portal). Identity management, including creation of authority records and their application in bibliographic records. Advanced principles of subject and genre analysis and representation, subject heading and/or subject string construction, and subject classification, with LCSH, LCGFT, FAST, and LCC Classification System. Use of professional metadata creation and metadata management tools (OCLC Connexion Client, Classification Web, MarcEdit, etc.). Issues of quality and future directions in development of library cataloging and classification.

Prerequisite(s): INFO 5210 or equivalent introductory cataloging and classification course focusing on RDA cataloging in MARC.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5222 - Music Cataloging

3 hours Bibliographic description of music resources (primarily scores and audio recordings) utilizing Resource Description and Access and Machine Readable Cataloging; construction and application of name, title, and subject access points; music subject analysis using Library of Congress Subject Headings, Library of Congress Genre/Form Terms, and Library of Congress Medium of Performance Thesaurus; music subject classification using Library of Congress Classification System.

Recommended: INFO 5210.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5223 - Metadata for Information Organization and Retrieval I

3 hours Representation and organization of textual information resources and pictorial works and images, as well as collections of these resources, using key item-level and collection-level metadata schemes (Dublin Core DCTERMS, MODS, VRA Core, Dublin Core Collections Application Profile), data content standards, data value standards (various controlled vocabularies, etc.), and data encoding standards (with the focus on XML). Introduction to various other metadata schemes, tools, and technologies for representing and organizing information resources and collections in the digital environment. Exploration of metadata implications for retrieval of information resources and collections.

Prerequisite(s): INFO 5200 or INFO 5208, or equivalent, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5224 - Metadata for Information Organization and Retrieval II

3 hours Current trends and advanced topics in metadata theory and practice for information professionals and researchers. Examination of metadata functionality in supporting user tasks and information needs, including general and unique needs of specific user communities. Exploration of metadata interoperability, its implications for digital repositories, and the ways to achieve metadata interoperability goals. Discussion of metadata transformation principles and utilization of existing tools and technologies for metadata transformation. Exploration of metadata quality and the ways in which it affects retrieval of information resources; evaluation of metadata records using metadata quality control frameworks. Examination of Linked Data tools and techniques applicable to digital library metadata. Application of RDF and JSON as syntaxes for metadata encoding. Exploration of existing and emerging standards, metadata schemes, and controlled vocabularies for representing materials in specialized digital archives.

Prerequisite(s): INFO 5223 or INFO 4223, or equivalent introductory metadata course, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5210 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5230 - Documents and Records Management

3 hours Management of documents and records in all media formats including paper, digital and multi-media. Operations in preparation, dissemination, organization, storing and retrieval with emphasis on control and utilization. Preservation and security problems; retention, transfer and disposal. Planning and supervising documents and records management programs. Recognize the various standards. Understand the legal environment that surrounds documents and records management and their responsibilities in terms of the law.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5240 - Archival Arrangement and Description

3 hours Overview of the theoretical and methodical principles of archival arrangement and description. Emphasis placed on practical issues related to arrangement and description of physical and electronic records, in addition to best practices. Course work includes mock arrangement and description exercises, review of professional literature and relevant technology instruction.

Prerequisite(s): INFO 5371.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5297 - Introduction to Special Materials Preservation

3 hours Introduction to the processes, standards and best practices governing special materials preservation work in a present-day special library setting. Provides the opportunity for direct, hands-on training and experience through the process of assessing the preservation needs of collection materials and performing preservation treatments on-site in the Library's preservation studio. The types of items and materials typically found in the collections of special libraries (such as recorded sound, moving images (film and video), electronic devices, photographs, artifacts, paper dolls, maps, etc.) are examined, along with the methods used for preserving them, and the supplies, tools, and equipment commonly used in preservation work. The historical implications of legacy media formats and the manufacturing processes that went into their production are considered along with a basic knowledge of how these histories influence the decisions made, the priorities established, and the supplies used.

Recommended: INFO 5295.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5300 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5300 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5307 - Knowledge Management Tools and Technologies

3 hours Introduction to knowledge management technologies; Internet and web technologies; knowledge management processes and corresponding technologies; collaboration tools and technologies; meta data and ontologies; information and knowledge portals; KM readiness and IT infrastructure; evaluation and selection criteria for knowledge management tools.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5310 - Marketing and Customer Relationships for Information Professionals

3 hours Demonstrates marketing and customer relationship management and their importance for libraries and information centers, principles of marketing, public relations, and outreach. Marketing mix, development and implementation of marketing and customer relationship strategy, mission statement. Market segmentation, the role and characteristics of the users of information services, user needs, groups of users. Service concepts, principles and techniques in meeting users' information needs. Evaluation of effectiveness in meeting customer service standards, assessment and measurement instruments in user analysis. Emphasis on the marketing and customer services in virtual environment with the use of social media and networking.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5315 - Competitive Intelligence

3 hours Covers the nature of competitive intelligence and the role it plays in business. Specific focus is given to ethical and legal concerns, the difference between data, information and intelligence. Areas of instruction include ethics and legal restrictions, data gathering, analytical methods, the nature of competition, the nature of strategy, how to properly advise the decision makers of intelligence findings, and how to participate in the decision-making process.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5325 - Topics in Rural Libraries

3 hours Covers topics on concepts, theories and techniques on rural librarianship; resources available to support and assist staff and managers working in small and rural libraries; as well as real-world problems and advanced topics of rural public libraries.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5330 - Academic Libraries

3 hours Trends and development of university, college and community college libraries; their organization, management, technologies, and functions and services. Individual investigation of major issues and topics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5340 - Learning Resources Centers and Services

3 hours Introduces the attitudes and competencies necessary to manage and provide effective leadership in a school library media program. Examines the roles and functions of school libraries. Investigates current topics relevant to the management of services in school libraries.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5345 - School Library Program Development

3 hours Strategies for developing leadership skills as librarians work collaboratively with school and community stakeholders to promote the goals of the library media program. The process for engaging stakeholders in program development, assessment of services, and creation of policies and procedures. The use of evidence-based practice to develop, implement, evaluate, and advocate for library programs and services.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5347 - Digital Citizenship

3 hours Investigates best practices for the use of technology in schools and libraries. The nine elements of digital citizenship are examined extensively: digital access, digital commerce, digital communication, digital literacy, digital etiquette, digital law, digital rights and responsibilities, digital health and wellness, and digital security.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5350 - Library Partnership and Community Outreach

3 hours Covers basic skills to build collaboration among libraries and community units they serve. Designed for students interested in outreach, marketing and community-centered library practice.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5365 - Health Librarianship and Informatics

3 hours Overview of health librarianship and its relationship to informatics. Management of health sciences libraries and services provided to a diverse range of clientele. Roles of health information professionals/librarians in a variety of healthcare settings and informatics activities.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5369 - Seminar in Special Types of Libraries and Information Systems

3 hours Intensive study of selected types of special libraries, information systems and related organizations; their development, administration, resources, functions and services. Individual investigation of selected types of libraries and information systems, and of related issues and trends.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5371 - Archives and Manuscripts

3 hours Examination of the major organizing concepts which guide modern archival and manuscript practices. Students utilize archival history and theory to understand the purpose of archives in society. Practices such as appraisal, arrangement and description, preservation, outreach, ethics, and management are examined in an archival context.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5375 - Archival Appraisal

3 hours Appraisal theory and techniques are used by archivists to determine the "archival value" of records, manuscripts and photographs. An archivist's determinations in the appraisal process significantly affect what materials are kept or discarded by archival repositories. Explores the history of archival appraisal, the factors that archivists use to determine the value of records, how appraisal decisions are influenced by institutional missions and the long-term effects of different appraisal methods on the historical record.

Prerequisite(s): INFO 5371.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5380 - Contemporary Issues in Archival Science

3 hours Advanced investigation of contemporary archival topics from a theoretical and applied perspective. Investigates the evolving archival multiverse, activism in the archival sphere, truth and reconciliation archives, personal archiving, participatory archive initiatives, and community-based archives.

Recommended: INFO 5371.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5381 - Cultural Heritage Stewardship

3 hours Students engage with the topic of cultural heritage stewardship from several different perspectives. We speak to local artists, museum archivists, collection curators, researchers, and others engaged with this work. Students read case studies and watch documentaries on various aspects of cultural heritage stewardship which are discussed as a class. As a final assessment, students create a grant proposal for a cultural heritage site of their choosing to ensure that students are equipped with a key skill needed to work at a cultural heritage institution.

Recommended: In order to be successful in this course you will need to: 1) Cite sources, giving credit to where you obtain information. 2) Network with others and utilize tact when offered differing perspectives. 3) Make the commitment to spend at least 10 hours a week reading the assignments, reflecting on the material covered, and participating in other activities throughout the course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5383 - Digital Cultural Heritage

3 hours An introduction to digital archival practices with a focus on viewing cultural heritage institutions and working with collections. Scholarship on standards and practice are contextualized and featured with case studies from a global perspective. This approach allows students to freely explore a myriad of digital archives and the distinct and common practices of each institution, while also detailing the significance of archival materials in multifaceted societies. Each class session offers students an opportunity to apply their learnings to work with collections under the guidance of the instructor. Students are involved in tasks such as conducting an assessment, appraisal, digitization or data migration, arrangement and description for digital objects, and contributing the final results to a cultural heritage resource.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5385 - Community Language Archiving and Curation for Information Professionals

3 hours Theory and practice of community language archiving and curation in the digital environment. Developing and managing a community language archive to support community user needs and language revitalization. Digital content management for community language archives. Metadata element sets and data value standards for community language archives. Preservation and access issues for community language archives. Dissemination and use of community language archive content. Evaluation of community language archive services.

Prerequisite(s): INFO 5200/INFO 5208 or consent of department.

Corequisite(s): INFO 5000, INFO 5600.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5200 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5405 - Collection Development and Analysis in School Libraries

3 hours Study of principles and practices in collection development and management of a school library, with emphasis on evaluation techniques, collection analysis and integration of digital resources. Individual investigation of selected problems and practices.

Recommended: INFO 5200 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5420 - Literature for Youth in School Libraries

3 hours Survey of children's and young adult literature, focusing on awards, genre, multi-cultural and multi-ethnic literature. Involves a wide range of reading, evaluation and development of program skills for school library settings.

Recommended: INFO 5001.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5421 - Literature for Youth in Public Libraries

3 hours Survey of children's and young adult literature, focusing on awards, genre, multi-cultural and multi-ethnic literature. Involves a wide range of reading, evaluation and development of program skills for public library settings.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5427 - Inclusive Materials for Children and Youth

3 hours Study of inclusive materials which meet the recreational, informational and educational needs of children and young adults in a diverse society.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5440.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5442 - Digital Storytelling

3 hours Digital storytelling is a method of combining images, text, music and the spoken word to create a story presentation that supports teaching, learning, self-expression, marketing, and other communication and community-building objectives. Students study storytelling tenets and apply the developmental and technical aspects of creating a digital storytelling presentation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5443 - Storytelling in Knowledge Transfer

3 hours Storytelling is an inherent form of communicating and of learning. This makes it a powerful tool for knowledge management strategies, particularly that of knowledge transfer. Students explore how theoretical and practical tenets of storytelling are used to realize knowledge management and knowledge transfer goals of creating, capturing and sharing tacit organizational knowledge.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5446 - Library Program Development with Learning Sciences

3 hours Learning sciences is an interdisciplinary field that works to further understanding of learning across settings, in both formal and informal environments. Students explore theories of human development and learning, current research into the learning lives of people in a variety of situations, and methods of improving services through design-based implementation research. By the end of this course, students are able to identify and apply effective tools and practices to support learners of all ages in pursuing their goals via library programs and services.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5500 - Foundational Principles in Knowledge Management

3 hours Includes the data, information, knowledge, intelligence continuum, forms and sources of knowledge, challenges and best practices to preserve it in organizations. Covers the knowledge market, including players, dynamics and pathologies, and theories and principles of knowledge management. Various perspectives of knowledge management are presented with emphasis in the knowledge management process: knowledge generation, knowledge codification and knowledge transfer. Includes the relationship between organizational enablers for sharing and managing knowledge: management, information and technology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5503 - Knowledge Management Processes and Practices

3 hours Approaches to implementing knowledge management. Application examples with focus on people-process-technology issues: enterprise knowledge portals, communities of practice, after action reviews, knowledge café, benchmarking and best practices, organizational learning, and incentive programs. Success stories and lessons learned from industry. Roles, responsibilities and competencies of KM professionals.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5600 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5600 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5600 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5600 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5631 - Searching for Evidence

3 hours

In this course, you will learn about evidence-based practice and how you can integrate it into your work as an information professional. The course will introduce you to strategies for finding and critically appraising research publications to use as evidence to support decision-making. Applications of evidence-based practice will be covered, such as health, business, education, and librarianship. Students will apply evidence-based practice principles to a real- world question.

HINF 5631.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5634 - Disaster/Emergency Management for Information Professionals

3 hours Introduction to disaster planning for information agencies; meeting the disaster/emergency information needs of first responders, clinicians, victims, public health professionals, and the public; and developing outreach programs for those impacted by disasters/ emergencies.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5635 - Genomics and Translational Medicine for Information Professionals

3 hours Explores basic concepts of genomics and translational medicine, and explores the role that information professionals have to play in providing genomic information to researchers, clinicians, and the lay public. Students examine the information needs of researchers, clinicians and health consumers in regard to genomic information and identify major genomic information resources. Students explore basic bench science, clinical and consumer issues related to genomics and examine future trends in genomics, personalized medicine, translational medicine and team science.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5636 - Community-Based Health Information

3 hours Introduction to consumer and public health information services and programs and their impact on community health. Emphasis on health information literacy, searching for evidence, evaluation of health information resources for consumers, healthcare providers, and public health personnel. Trends in community health information. Intended for students working in health-related environments such as health care services, libraries, and industry.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5637 - Medical Informatics

3 hours Informatics in healthcare. The framework of modern healthcare and the role of information. Organization of medical knowledge. Key health information resources used in decision-making. Information systems and technology and its applications to healthcare settings and health information settings including libraries.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5600 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5600 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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): INFO 5600 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5670 - Seminar in Information Resources and Services in Special Fields

3 hours Intensive study of resources and services in selected special fields. Problems in subject specialization.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5680 - Seminar in Information Resources and Services for Special Clienteles

3 hours Intensive study of resources and services in selected special clienteles and classes of users. Problems in client specialization.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5685 - Information Resources and Services in Culturally Diverse Communities

3 hours Seminar in information resources, methods and services for diverse communities. Issues in the provision of information services to diverse communities. Study of the needs and cultural milieu of these communities. Materials and methods for serving these groups.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5709 - Data Visualization and Communication

3 hours Introduces principles and techniques for data visualization for creating meaningful displays of quantitative and qualitative data to facilitate decision-making. Emphasis is placed on the identification of patterns, trends and differences among data sets.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5710 - Information Technology

3 hours Mechanisms of information processing, information transfer and applications of computers to library and information center functions. Policy issues relating to technology in information delivery. Includes application of the following technologies in libraries and information centers: major computer operating systems, database management systems, computer graphics, Internet resources, telecommunications, computer networking, etc.

Not to be taken for master's credit toward library and information sciences degrees.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5717 - Networked Data Modeling and Processing

3 hours Designed to meet the needs of data modeling, analysis, presentation, and access on the Internet and other networked environments. Focuses on issues relating to design and implementation of database-driven web systems. Students develop a thorough theoretical understanding of such systems and related issues, and obtain hands-on experience with data collecting, modeling, integration, and retrieval through working on a semester-long team project.

Prerequisite(s): INFO 5707.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5720 - Instructional Materials Production and Use

3 hours Introduces concepts and techniques for designing, evaluating and producing instructional materials in libraries and learning environments. Incorporates instructional design with technology to support learning. Involves the completion of hands-on multimedia projects using web-based tools.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5731 - Computational Methods for Information Systems

3 hours Introduces computational methods that facilitate information analysis, management, and presentation in information systems. Students learn effective computer programming skills and analytical tools to process real-world data. Problem-oriented and project-based, allows students to explore interesting research ideas or implement useful information management applications.

Recommended: Basic programming knowledge and experience, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5735 - Usability and User Experience Metrics

3 hours Focuses on the usability of web-based information systems and the significance of user experience (UX) in the lifecycle of information system development. Students learn a set of key techniques (heuristic evaluation, persona development, card-sorting, and usability testing) for formative and summative usability evaluation of web-based applications on computer interfaces, tablets and smartphones. Both theoretical knowledge and practical skills are discussed, including methods to: identify usability problems and user requirements; select appropriate usability method and UX metrics for investigating usability issues; design UX; set up and data collection; analyze and visualize data; and conduct and convert usability issues and user preferences into technical reports. User experience research and design is essential to the User-Centric Design process and to the success of all types of organizations, from libraries and schools to hospitals and corporations. Enriches the student's skill set for a wide range of career options.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5737 - Information and Cyber-Security

3 hours Introduces students to various technical and administrative aspects of information and cyber-security. Provides the foundation for understanding the key issues associated with protecting information and knowledge assets as well as determining the levels of protection and response to security threats. Deals with intrusion and privacy issues as well as reporting and managing incidents. Students are exposed to a wide range of security activities, case studies, lessons learned, methods and methodologies of dealing with security threats.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5740 - Introduction to Digital Libraries

3 hours Introduction to conceptual, practical and technical issues for developing and managing digital libraries. Theoretical foundations; technical infrastructures; digital objects (including born-digital objects and digitized objects); digital collection; organization and representation of information; user and service evaluation; and social, cultural and policy issues are discussed.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5741 - Digital Humanities

3 hours Examines the field of digital humanities, which lies at the intersection of technology, literature, history, philosophy, art and cultural heritage. Focuses on investigating underlying key concepts, perspectives, emerging trends, and practical application of tools and technologies in digital humanities.

Recommended: INFO 5740 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5742 - Web Archiving

3 hours The web is a fundamental component of nearly all modern interaction. Preserving content from the web and providing long-term access to preserved content presents an interesting set of challenges for Information Scientists. Develop knowledge and skills related to the standards, tools, and processes of web archiving. Learn the mechanics of web archiving and its relation to familiar concepts like collection building and appraisal, access and use, and ethics. This course provides hands-on experience working with different projects and tools, and is designed for anyone interested in the topic without any need for prior experience in web archiving.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5745 - Information Architecture

3 hours Introduction to the basic concepts and components of information architecture within the context of end-user and organizational needs. Provides the student with an understanding of the intellectual technologies necessary to design and implement effective and cost-efficient information systems such as digital libraries, database systems, and a range of other web-accessible resources, as well as collaborative computer systems in organizational environments. Students conduct a collaborative term project to design and implement a real-world system integrating the knowledge and skills learned on organization of information, visual design, human interface and usability issues.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5760 - Leadership in Technology

3 hours Serves as a catalyst and action plan for collaboratively implementing school reform using technology. Participants are empowered with the knowledge, skills and dispositions necessary to effectively implement the products of the course work.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5770 - Introduction to Health Data Analytics

3 hours Introduction to key concepts and principles of health data analytics. Topics covered include the life cycle of health data analysis, such as data acquisition, data preprocessing, data integration, descriptive statistics, and statistical inference. In addition, principles of health research methods and the basics of Python and its libraries for data processing and statistical analysis are introduced.

HINF 5770.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5771 - Applications of Health Data Analytics

3 hours Presents advanced topics of health data analytics by focusing on applications and practices. Topics include probability, statistics, regression, classification, clustering, evaluation, and machine learning algorithms such as deep learning. Prepares students to preprocess, analyze, visualize data, and use advanced statistical tools to make decisions on health risk factors, outcomes, and costs, among others. Using Python and its libraries for data processing, machine learning is introduced.

Recommended: INFO 5770 and consent of department. Students who did not take INFO 5770 can register with consent from the instructor and the HI program director.

HINF 5770.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5777 - Virtual Reality and its Applications

3 hours Introduction of virtual reality (VR) hardware and software with an opportunity to apply this knowledge to applications including information science, libraries/digital libraries, education, healthcare, visualization, education, healthcare, visualization, and games. Applies cutting-edge VR technology currently available in academia and industry. Topics include input devices, output devices, computer graphics principles for VR, geometric modeling principles for VR, human factors in VR, data visualization in VR, and traditional and emerging applications in VR. Learn the value of visualization and how to best leverage visualization methods in VR. Design, model, and program the VR environment by developing a complete VR application as a group project.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5810 - Data Analysis and Knowledge Discovery

3 hours Introduces the student to data analysis, data mining, text mining and knowledge discovery principles, concepts, theories and practices. Designed for the aspiring or practicing information professional and covers the basics of working with data from a hands-on and practical perspective. Incorporates lecture, discussion, practice of learned concepts, and readings.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5814 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5815 - Topics in Digital Imaging for Information Professionals

3 hours Designed to provide each student in the digital image management program of study an opportunity to be involved with the production of digital images; the creation, maintenance and management of digital information databases; intellectual property and copyright issues; the use and management of advanced network and information technologies including web site design and maintenance; and the client markets of libraries, archives, information centers and museums.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5819 - 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): INFO 5711 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5841 - Data Curation and Management

3 hours Introduces fundamental concepts, practices, procedures, processes, and vocabulary for the entire curation lifecycle of data, from creation through appraisal, ingest, and storage, to access and reuse. Covers history and background; concepts and principles; community standards and practices; challenges and issues; and tools and techniques for curating and managing data.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5842 - Digital Curation Tools and Applications

3 hours Covers the technical infrastructure, including systems and services, necessary for digital curation. Focuses on techniques, tools and applications for curating digital materials and data. Topics covered include creating and executing an action plan for archiving digital materials and data, deciding what to store, consolidating multiple file versions, and creating metadata. Explores various digital repositories and their underlying platforms.

Prerequisite(s): INFO 5740 or INFO 5841 (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5843 - Digital Curation: Strategies and Application

3 hours Discusses best practices and strategies as well as technical workflows, tools, services, and preservation repository systems for curating born-digital materials. Provides students an opportunity to acquaint themselves with challenges associated with developing a digital preservation plan and repository, and successful strategies for overcoming those challenges.

Prerequisite(s): INFO 5740 or INFO 5841 (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5844 - Advanced Topics in Digital Curation

3 hours Introduces and surveys a selection of cutting-edge topics in the field of digital curation. Project-oriented along with seminar-type sessions to address real-world problems and issues.

Prerequisite(s): INFO 5740 or INFO 5841 (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5845 - Creating Online Content for Youth Services

3 hours Examines current trends in creating and revising content in online school and public library environments for youth. Exploration of stakeholder needs and multiple literacies in online environments. Application of online information ethics, digital curation and online accessibility. Assessment of online content and usability.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5877 - Advanced Virtual Reality

3 hours An explanation of how to build complex virtual worlds being able to be distributed on the networks. Advanced concepts for real-time animation, 3D interaction, gesture recognition, audio, haptic rendering, augmented reality, extreme reality, collision detection and response, facial communication, voice recognition and synthesis are covered. Students design and develop an interactive, 3-dimensional (3D) game or educational application.

Recommended: INFO 5777 and consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5970 - Advanced Topics Seminar in Information Science I

3 hours Advanced independent examination and evaluation of specific issues and problems in the field of information science. Provides the opportunity to expand knowledge and understanding of existing and emerging topics.

Recommended: 18 hours of course work.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 5980 - Advanced Topics Seminar in Information Science II

3 hours Advanced independent examination and development of specific issues and problems in the field of information science. Builds on the knowledge gained in INFO 5970.

Recommended: INFO 5970.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 6010 - Quantitative Research Methods for Information Science

3 hours Introduces information science scholars to concepts in quantitative research in preparation for conducting independent research. Enables students to critically understand, critique, and develop quantitative research methodology and apply it appropriately to various issues in their chosen field of specialization.

Recommended: INFO 6940.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 6050 - Health Research Methodology

3 hours Introduces students to the research process—basic principles and approaches of conducting health research, formulating research objectives, identifying study questions, selecting and designing, and developing the research protocol.

Recommended: INFO 6940.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 6200 - Theory Development in the Information Sciences

3 hours Focuses on the structural components and research processes related to the origination, construction and evolution of theory in information science, library science and related social science disciplines. Provides students with an awareness of the historical and social conditions that influence a tradition of ideas. Explores the nature of theory from a philosophical and analytical perspective. Students become acquainted with the relationship between creative discovery and the nature of epistemological knowledge.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 6660 - Readings in Information Science

3 hours (0;0;3) 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 and theoretical issues.

Recommended: Course to be taken in the last semester of course work. Reading proposal requires prior approval by instructor (student's major professor) and academic advisor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 6940 - Research Methodology in Information Science

1–12 hours Advanced topics in research methodology. Research proposal development. Directed research study.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

INFO 6945 - Trends and Issues in Information Science

3 hours 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80 (Instructional Fees), $7.75 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Interdisciplinary Studies

INSD 5110 - Introduction to Interdisciplinary Research

3 hours Studies in interdisciplinary research, critical analysis and writing methods across multiple fields of study. Challenges students to embrace the breadth of cross-discipline research and to investigate the fundamental intellectual, philosophical and aesthetic principles which unite the constituent disciplines.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5200 - Digital Social Science

3 hours Designed with specific learning outcomes in mind; applicable to students pursuing the MIS with a Digital Social Science concentration and to students interested in the social dimensions of information technologies. Surveys empirical social science research on major social and political challenges associated with contemporary information communication technologies.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5203 - Social Science Text Mining

3 hours Text mining and text analysis methods for the social sciences. Covers principles of research design and ethics as they apply to text-based research, and major methodologies within social science text mining including topic models and opinion mining.

Prerequisite(s): None. However, experience with social science research methods and research design is preferred.

Same as SOCI 5203.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5210 - Theories of the Information Society

3 hours Provides the intellectual foundations for the Master's in Interdisciplinary Studies degree with a concentration in Digital Social Science. Surveys the most influential social science theoretical frameworks that have been developed 1) to facilitate analysis of the social impacts of information technologies and 2) as new paradigms for conducting empirical research with internet-based data.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5220 - Digital Research Methods

3 hours Provides the methodological foundations for the Master's in Interdisciplinary Studies degree with a concentration in Digital Social Science. Surveys the most widely used contemporary digital social research methods.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5230 - Social Network Analysis

3 hours Concepts and methods of social network analysis. Concepts of social capital, homophily, diffusion, and contagion, and how they can be applied in social scientific research. Network data management and analysis and visualization of network structure and dynamics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5300 - Creating Agile Mindset

3 hours Agile mindset is a thought process that requires the situation understanding, collaboration, learning, while staying flexible to achieve high-performing results. Individuals benefit by combining the agile mindset with flexible processes and tools to rapidly adapt to changes that deliver significant value to their customers.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5310 - Leadership in Program Management

3 hours Organizations need leadership not just in the C-suite but at all levels in the organization to execute the organization vision as well as to build a bench. Leadership in program management is built on the research on the work of leaders that provides concepts, vocabulary, and a model that can be used throughout the organization in the areas of Vision, Alignment and Execution (VAE) to build exceptional leaders.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5320 - Structured Problem Solving

3 hours Structured problem solving is identified as exercising sound reasoning to analyze issues, make decisions and overcome problems. The individuals should be able to ask questions, obtain facts and data to apply frameworks, and design techniques to be able to solve and present complex problems.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5330 - Structuring Enterprise Architecture

3 hours Addresses the strategic decision-making environment by exploring the concepts and principles of establishing a dynamic Enterprise Architecture to allow for enhanced decision-making. Successful establishment of Enterprise Architecture would allow for faster alignment of organizational leaders, enhanced decision making, and improved customer satisfaction.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5800 - Internship

1–6 hours Supervised productive and educationally meaningful work experience in a position related to the student's professional field of study and/or career objective.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5940 - MA Interdisciplinary Capstone Experience

3 hours Unique learn-by-doing course offered in lieu of a project, portfolio, or thesis for candidates of the MA interdisciplinary studies major. Requires a significant project about which students periodically report, highlighting the interdisciplinary nature of their findings and its relevance to their interests and/or career goals. Students and peers discuss how their ongoing effort enriches and advances the human condition. Submission of a final paper and presentations required.

Prerequisite(s): To be taken within the last year of course work, preferably the last term.

Open to all MA students seeking an interdisciplinary capstone course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

INSD 5941 - MS Interdisciplinary Capstone Experience

3 hours Unique learn-by-doing course offered in lieu of a project, portfolio, or thesis for candidates of the MS interdisciplinary studies major. Requires a significant project about which students periodically report, highlighting the interdisciplinary nature of their findings and its relevance to their interests and/or career goals. Students and peers discuss how their ongoing effort enriches and advances the human condition. Submission of a final paper and presentations required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $24.70

International Studies

INST 5500 - International Studies Seminar

3 hours Topic course related to area of specialization in national security, human security and sustainability. Includes article reviews, research paper and exams.

May be repeated for credit as topics vary for a maximum of 9 hours.

INST 5501 - Middle East Politics and Society through Film

3 hours Analyzes socio-cultural, economic and political dimensions of politics in selected countries in the Middle East. Methodological and analytical practices are combined with historical and contemporary knowledge to support original research projects.

Meets with INST 4859.

INST 5503 - Human Security in the 21st Century

3 hours Advanced studies of human security including economic, political, food, environmental, health, community, and personal security with a focus on armed conflict, social and economic inequality, climate change and displacement. Covers cases primarily, though not exclusively, from Africa, Asia and Europe.

Meets with INST 4857.

INST 5510 - Asian Youth: Rising and Transforming in the Digital Age!

3 hours Explores social and political engagement of young people in Asian countries. Addresses challenges and fears, shifting political and social priorities, and methods for taking part in critical societal changes. Fosters a better understanding of Asian youths' perspectives on culture, activism, political and social engagement, and the use of digital media for various purposes.

Prerequisite(s): Must be in the International Studies MA program or in another graduate program at UNT.

INST 5513 - Putin's Russia Seminar

3 hours Investigates Putin regime's political interests, economic miscalculations, and geopolitical concerns, to understand modern shifts in Russian foreign policy. Starts with Boris Yeltsin's departure from the post-Soviet Russian government in the 1990s and continues into the era of Vladimir Putin. Students engage their analytical skills to make sophisticated interpretations of current Russian politics.

Prerequisite(s): Must be enrolled in the International Studies MA program or another graduate program at UNT.

INST 5515 - Refugees: Histories and Contemporary Issues

3 hours Presents an advanced, global, interdisciplinary approach to histories of and contemporary issues around refugees.

INST 5600 - Issues and Policies in International Studies

3 hours Significant issues and theories in global politics and power structures, and global interactions/tensions in the program's three focus areas: International Security and Diplomacy, International Development, and Globalization and Human Security.

Prerequisite(s): Must be in the International Studies MA program.

INST 5700 - International Studies Practicum

3 hours (0;0;3) Experiential learning in the various areas of specialization of the international studies professional master degree, developing specialized career skills and enriching professional competencies.

INST 5900 - Special Problems

1–3 hours

Jazz Studies

MUJS 5120 - Graduate Review of Vocal Jazz Techniques

1 hour Practical study of the basic vocal, interpretive and microphone techniques for the performance of vocal jazz.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5130 - Graduate Review of Vocal Jazz Styles

1 hour Advanced vocal and recording techniques for the jazz studies major with a vocal concentration. Performing and recording with instrumental groups.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5360 - Graduate Review of Jazz Fundamentals

1 hour Study of chords, scales, modes; function and substitution; voicings; and their application to jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5361 - Graduate Review of Jazz Aural Skills

1 hour Study of aural skill in perceiving intervals, chords, scales, progressions and rhythms and their application to jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5362 - Graduate Review of Jazz Theory

1 hour Study of minor, symmetrical, synthetic, blues, and pentatonic scales; polychords; substitution; and their application to jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5363 - Graduate Review of Jazz Keyboard Skills

1 hour Study of harmony, voicings, progressions and their application to jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5370 - Graduate Review of Jazz Improvisation

1 hour Materials and practices for improvising in the jazz idiom. Performances of improvised solos. Includes standards and original works. Improvisation by memory and reading chord symbols.

Prerequisite(s): Consent of division.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5430 - Graduate Review of Jazz History

3 hours Study of the standard narrative of jazz history and jazz repertoire.

Meets with MUJS 4470.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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 other related disciplines.

Recommended: MUJS 5430 or consent of college.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5460 - Jazz Lecture Series

1 hour Contemporary jazz composition, performances and presentations by nationally recognized composers, arrangers and performers.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5470 - Conducting College Jazz Ensembles

3 hours Score study and rehearsal preparation; methods of conducting jazz ensembles at all levels; supervised conducting.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5480 - Pedagogy of Jazz

3 hours Techniques, systems and materials.

Recommended: MUJS 2360 and MUJS 2370, or consent of college.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5490 - Advanced Jazz Improvisation

3 hours Advanced techniques and practices of jazz improvisation.

Recommended: MUJS 3370 with grade of A or B, or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5504 - Jazz Strings

2 hours Applied study of violin, viola, or cello in the jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5530 - Jazz Guitar

2 hours Applied study of guitar in the jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

May be repeated for credit. Fee required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5531 - Jazz Piano

2 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5532 - Jazz Saxophone

2 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5533 - Jazz Voice

2 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5534 - Jazz Composition

2 hours Applied study of jazz composition and arranging for small and large ensembles.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5536 - Jazz Trumpet

2 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5537 - Jazz Trombone

2 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5538 - Jazz Double Bass

2 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5539 - Jazz Drumset

2 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUJS 4620 or consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5610 - Graduate Review of Jazz Arranging I

2 hours Jazz harmony, melody and rhythm applied to modern instrumentation; arrangements written and played.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5620 - Graduate Review of Jazz Arranging II

2 hours Jazz harmony, melody and rhythm applied to modern instrumentation; arrangements written and played.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5630 - Graduate Review of Jazz Arranging III

2 hours Analysis and composition of music for the modern jazz orchestra.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5640 - Graduate Review of Jazz Arranging IV

2 hours Analysis and composition of music for the modern jazz orchestra.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5760 - Jazz Arranging

3 hours Advanced practical study of arranging, focusing on music from jazz and other contemporary jazz-related styles.

Recommended: MUJS 4620 or equivalent.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5800 - Vocal Pedagogy for Non-classical Styles

1 hour Introduction to the science and practice of healthy singing in non-classical music styles, emphasizing jazz, but including other popular styles as well. Includes an overview of the basic anatomy and physiology of the body as it relates to singing, analysis of various professional vocal artist's approaches (successful and unsuccessful), understanding a healthy approach to achieving unification of vocal registers while maintaining speech-like lyric delivery, and other topics relevant to both singing and teaching singing in non-classical music styles.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 5920 - Songwriting

1 hour Outlines various techniques and methods for songwriting, and also serves as a master class environment for the songwriters in the class. Topics include melodic and harmonic construction, lyric writing, the setting of original material, self-editing, and songwriter analysis.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUJS 5430, MUJS 5440, MUJS 5780; or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6020 - Seminar in Jazz Pedagogy

3 hours Survey and analysis of the literature of jazz pedagogy, including original student research.

Recommended: MUJS 5480 or consent of instructor.

Pending approval of the DMA with a major in jazz studies.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6504 - Jazz Strings

3 hours Applied study of violin, viola, or cello in the jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6530 - Jazz Guitar

1–3 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6531 - Jazz Piano

1–3 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6532 - Jazz Saxophone

1–3 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6533 - Jazz Voice

1–3 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6534 - Jazz Composition

1–3 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6536 - Jazz Trumpet

1–3 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6537 - Jazz Trombone

1–3 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6538 - Jazz Double Bass

1–3 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUJS 6539 - Jazz Drumset

1–3 hours Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Journalism

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

JOUR 5130 - International Advertising and Public Relations Study Abroad

3 hours Despite our unconscious ethnocentric bias toward embracing the centrality of U.S. public relations and advertising practices under the umbrella of globalization, we can find more or less different practices outside the United States. Students are introduced to the issues and trends involved with international public relations and advertising. Focuses on language, culture, organizations, and ethical issues pertinent to international and intercultural practices of public relations and advertising.

Prerequisite(s): Consent of school. Application through Study Abroad Office required.

May be repeated for credit as topics vary up to a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

JOUR 5140 - Strategic Persuasion and Media Effects

3 hours Theories about social influence, persuasion, and media effects focusing on source, receiver, message, and medium. Application of theory to industry practice is emphasized.

Prerequisite(s): Consent of school.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Same as MRTS 5460.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

JOUR 5180 - Advanced Public Relations Campaigns

3 hours Research, plan, create, execute and evaluate a multimedia public relations campaign for a designated client.

Prerequisite(s): Consent of school.

Meets with JOUR 4480.

May not receive credit for both JOUR 5180 and JOUR 4480.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Meets with JOUR 4250.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

JOUR 5220 - Advanced Business Journalism

3 hours Research and reporting about publicly-traded and private companies and understanding on how financial markets affect every aspect of news coverage locally, statewide, nationally and internationally.

Prerequisite(s): Consent of school.

Meets with JOUR 4220.

May not receive credit for both JOUR 5220 and JOUR 4220.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

JOUR 5290 - Science, Health and Environmental Reporting

3 hours Explores science, health 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 newswriting.

Prerequisite(s): Consent of school.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

JOUR 5330 - Strategic Social Media

3 hours Exploration of strategic applications, in a collaborative atmosphere, of a variety of social media platforms used for strategic communications and journalism. Students are challenged to bring new ideas to the classroom while adapting social media tools to traditional communications planning and measurement methods. Technical proficiency is increased as well as knowledge of analytical platforms and standards required by businesses using social media.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

JOUR 5730 - Writing, Editing and Publishing for the Literary 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

JOUR 5750 - Advanced Multimedia Storytelling for News

3 hours Expanding the boundaries of non-fiction storytelling through multiple forms of traditional and emerging media. Students gain proficiency with Macintosh software programs, conduct independent research on multimedia skills and techniques, create presentations based on that research, and participate in constructive critique sessions of their own and others' work. Students either complete a research paper on an approved topic or create and execute a lesson plan for class presentation on an approved topic.

Prerequisite(s): Consent of School.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

JOUR 5760 - International News and Media Study Abroad

3 hours Examines international news systems, including print, video and digital media platforms. Students are immersed in the culture of the area and focus their study on a special aspect of the region. Class takes place outside of the United States.

Prerequisite(s): Consent of school. Application through Study Abroad office required.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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. No more than 3 hours may apply toward the master's degree.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Maximum of 6 hours credit in JOUR 5900 and JOUR 5910.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Maximum of 6 hours credit in JOUR 5900 and JOUR 5910.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

Kinesiology

KINE 5000 - Supervision in Kinesiology

3 hours Principles of organization and administration for the supervision of kinesiology programs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5050 - Administration and Supervision of Recreation and Sport

3 hours Principles and procedures involved in the administration and supervision of recreation and sport.

Same as RESM 5050.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5060 - Areas and Facilities for Recreation and Sport

3 hours Design, construction and maintenance of recreation and sport areas and facilities.

Same as RESM 5060.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Same as HLTH 5100. Same as RESM 5100.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5102 - Student Teaching in Kinesiology

3 hours Teaching under supervision. Portfolio is required. Required for those seeking teacher certification.

Recommended: KINE 5100, KINE 5150, KINE 5230, KINE 5700, EDCI 5010, EDCI 5020, EDCI 5030, and EDSE 5004.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5125 - Sport and Exercise Psychology

3 hours Introduces students to the science of psychology in sport and exercise settings. Topics include motivation, mental preparation strategies, arousal-performance relationship, exercise adherence, and exercise and mental health.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5135 - 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 of and adherence to lifetime health and physical activity behaviors among individuals and groups. Students examine how individual and group behaviors are influenced through psychobiological and cognitive-affective approaches.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Same as RESM 5140.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5175 - Social Psychology of Sport

3 hours Introduces students to the effects of social psychological variables on sport, exercise and motor behavior. Topics include social facilitation, social reinforcement, organized youth sports, group social processes and leadership.

Prerequisite(s): KINE 5125 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5185 - 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 5125 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5200 - Professional Development in Kinesiology

3 hours Introduces students to topics surrounding career development. Examines current job trends, the differences between private, academic, and government careers, and how to develop and identify transferable skills required to enter the job market.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5205 - Sport and Exercise Psychology Research Seminar

1 hour (0;1) Introduces graduate students to the research process in sport, exercise and physical activity settings. Topics focus on how to be a professional in the field of sport and exercise psychology, such as preparation for attending professional conferences, writing abstracts and giving presentations.

Same as KINE 6205.

May be repeated for credit as topics vary up to a maximum of 4 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5210 - Administration Issues and Problems in Kinesiology

3 hours Analysis of issues and problems in administering programs in kinesiology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5230 - Professional Preparation in Kinesiology

3 hours Historical development of professional preparation in kinesiology and current guidelines for programs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated for a maximum of 6 hours credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5302 - Sport Performance Analytics

3 hours Online course designed to provide students with skills and knowledge to create testing batteries which can be used to measure performance-related factors in athletes.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5330 - Sport Nutrition and Metabolism

3 hours Exploration of the nutritional principles that are required for exercise and health. Particular emphasis is placed on the role of biochemical production of ATP. It is important that the student has a solid foundation in biology principles of metabolism in order to succeed in this course.

Prerequisite(s): Basic biology, biochemistry, or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5420 - Facilities and Equipment in Kinesiology

3 hours Design, use and maintenance of facilities in kinesiology and sport enterprises.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5450 - Implementing Health/Fitness Programs

3 hours Strategies, procedures and resources used in implementing health/fitness programs in corporate, commercial and clinical settings.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Same as HLTH 5510.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5860 - Practicum, Field Problem or Internship

1–6 hours Supervised professional activities and experiences.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5920 - Research Problems in Lieu of Thesis

3 hours Research dealing with significant problems in physical education.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 5940 - Current Topics in Kinesiology

3 hours Designated capstone course to provide a culminating experience for students majoring in kinesiology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6000 - Supervision in Sport Pedagogy

3 hours Supervision and administration of programs in sport pedagogy including curriculum mapping for accreditation, supervision of instruction, staff and volunteers. Budgets, facilities and online instruction are also covered.

Prerequisite(s): Admission to PhD program in educational psychology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6010 - Seminar in Human Performance and Movement Science

1 hour Weekly seminar series covering a broad range of Human Performance and Movement research and professional development topics. Invited speakers include prominent local, regional, or national researchers.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6030 - Lifespan Motor Development Research and Theory

3 hours Applying research and theory from motor development to encourage physical activity across the lifespan; understand best practices in teaching motor development; an emphasis on extending current research and designing new research projects.

Prerequisite(s): Admission to PhD program in educational psychology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6125 - Sport and Exercise Psychology II

3 hours Provides doctoral level students with an in-depth study of the primary theories and tenets of sport and exercise psychology. Emphasis is placed on developing the written and oral presentation skills to explain sport and exercise psychology concepts to individuals not as familiar with sport and exercise psychology terminology, such as applied practitioners in the fields of education and coaching.

Prerequisite(s): KINE 5125 or equivalent, or consent of instructor.

Same as PSYC 6125.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6135 - Exercise and Health Psychology II

3 hours Students make an in-depth study of health, leisure and exercise behavior change strategies, and how individual and group behaviors are influenced through psychobiological and cognitive-affective approaches. Students apply these sport and exercise psychology theories to improve the initiation of and adherence to lifetime health and physical activity behaviors among individuals and groups.

Prerequisite(s): KINE 6125/PSYC 6125 or equivalent, or consent of instructor.

Same as PSYC 6135.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6150 - Current Topics in Human Performance Psychology

3 hours Current research topics and laboratory techniques with instrumentation to promote currency of thought and measurement technology in the area of Human Performance Psychology.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6175 - Social Psychology of Sport II

3 hours Provides doctoral-level students an opportunity to examine the effects and application of social psychological variables on motor behavior. Topics include social facilitation, social reinforcement, organized youth sports, group social processes, and leadership. Emphasis on gaining experience in developing and presenting materials on these topics to applied practitioners, such as coaches, teachers and other group leaders.

Prerequisite(s): KINE 6125/PSYC 6125 or equivalent, or consent of instructor.

Same as PSYC 6175.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6185 - Applied Sport Psychology II

3 hours Students practice the application and teaching of cognitive-affective and psychophysiological techniques and strategies for enhancing individuals' athletic performance, including imagery, arousal regulation, attentional control, goal setting and self-talk. Students also discuss psychopathology and its assessment, counseling techniques, and practical issues, including ethical considerations and the coach-athlete-organization interface.

Prerequisite(s): KINE 6125/PSYC 6125 or equivalent, or consent of instructor.

Same as PSYC 6185.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6190 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6191 - Measurement in Sport and Exercise Psychology

3 hours Measurement constructs and tools available in sport and exercise psychology and explanation of the controversies associated with each topic area.

It is preferable that students enrolling have a strong understanding of sport and exercise psychology theories and research.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6200 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6205 - Sport and Exercise Psychology Professional Seminar

1 hour (0;1) Provides doctoral students with the opportunity to have professional hands-on experience building research and presentation skills. Topics include mentoring undergraduate and master's students through the research process in sport, exercise and physical activity settings.

Same as KINE 5205.

May be repeated for credit as topics vary up to a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6230 - Professional Preparation in Sport Pedagogy

3 hours Examines research and knowledge on teacher education in physical education and the broader field of sport pedagogy. Acquaints students with empirical and conceptual scholarship of physical education teachers' practices, knowledge and experiences, along with educational policies, procedures and reform movements relative to physical education professional preparation and development.

Prerequisite(s): Admission to PhD program in educational psychology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6700 - Curriculum and Methods in Sport Pedagogy

3 hours Curriculum development using a standards-based approach, at the program, local, state and national levels; evaluation and multiple models; connecting best practice instructional strategies to student learning outcomes; developing expert teachers in multiple settings.

Prerequisite(s): Admission to PhD program in educational psychology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6801 - Studies in Sport Pedagogy

3 hours Intensive study of topics from special issues of pedagogy journals, reports from the Surgeon General, Centers for Disease Control and Prevention (CDC), Institute of Medicine (IOM), or professional organizations. Focus on developing a publishable research manuscript, grant writing and reading original papers related to the report.

Prerequisite(s): Admission to PhD program in educational psychology.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6910 - Independent Research

1–9 hours Doctoral research of independent nature.

Prerequisite(s): Consent of faculty; consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 6941 - Current Topics in Sport Pedagogy

3 hours Examines current research on teaching, teachers and curriculum in physical education. Acquaints students with empirical and conceptual scholarship related to the teaching process, teachers' experiences, and the development of curriculum in physical education settings. Provides a culminating course experience for students concentrating on sport pedagogy.

Prerequisite(s): Admission to PhD program in educational psychology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

KINE 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 school. Doctoral students must maintain continuous enrollment in this course.

Prerequisite(s): Consent of faculty; consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

Language and Literacy Studies

EDLL 6030 - Practicum, Field Problem or Internship

3 or 6 hours Supervised professional activities in literacy/language arts education.

Registration is on an individual basis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: 6 hours completed in 6000-level research methods courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLL 6070 - Literacy Policy

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 policy development are included.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDLL 6090 - Cognition and Reading

3 hours Analysis of the process of reading in relation to the physiological, perceptual, cognitive and affective domains.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated once as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

Learning Technologies

LTEC 5000 - Performance Assessment in Workforce Learning and Performance

3 hours Focuses on preliminary performance assessment of Human Resource Development (HRD) in workplace learning and performance setting. Covers all aspects of performance assessment in the corporate and educational environments. Includes strategies such as performance discrepancies, resource availability, expectation clarification, rewards, environment, and knowledge and skills deficiencies.

Recommended: LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5010 - Computer Tools for Learning

3 hours Application of computer software tools in learning environments. Study of computer application packages and their utilization in the classroom.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5020 - Computers in Learning Technologies

3 hours Analysis of computer use and applications programming in learning environments. Topics include software and hardware evaluation, planning computer education curricula and facilities.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5040 - Online Design and Pedagogy

3 hours Focuses on the theory and process of design and pedagogy as they relate to online instructional delivery and systems.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5100 - Foundations of Workforce Learning and Performance

3 hours Introduces students to the basic concepts and models of Human Resource Development (HRD) and career technical education (CTE) in workforce learning and performance (WLP) settings. Includes basic foundations and practices of organization development, career development, and performance improvement in corporate and education settings.

Prerequisite(s): LTEC 5030, LTEC 5300; Can be taken concurrent with LTEC 5030 and LTEC 5300; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 5030, LTEC 5300; Can be taken concurrent with LTEC 5030 and LTEC 5300; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 5030, LTEC 5300; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Recommended: LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 5030, LTEC 5300; Can be taken concurrent with LTEC 5030 and LTEC 5300; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Corequisite(s): LTEC 5030 and LTEC 5300.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Recommended: LTEC 5030, LTEC 5300, LTEC 5210 and LTEC 5220; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5220 - 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.

Corequisite(s): LTEC 5030 and LTEC 5300.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5240 - 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.

Recommended: LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 5030, LTEC 5300, and LTEC 5220; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Recommended: LTEC 5030, LTEC 5300 (can be taken concurrent with LTEC 5030 and LTEC 5300; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5320 - Contemporary Issues in Workforce Learning and Performance

3 hours Prepares students to be informed consumers of data and information from the areas of Human Resource Development (HRD) and career technical education (CTE) in workforce learning and performance (WLP) settings. Issues with study design and implementation are analyzed and critiqued.

Recommended: LTEC 5030, LTEC 5300, LTEC 5210 and LTEC 5610; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5340 - Capstone I in Workforce Learning and Performance

3 hours Provides an opportunity for students to develop a workforce learning and performance (WLP) improvement project using human performance technology models and related theories. Students learn how to apply survey design to solve real-world performance problems in corporate and educational settings. This is a field-based practicum course.

Recommended: EPSY 5210 and LTEC 5320.

This course should be taken in the last 15 semester hours of the program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5360 - Internship/Practicum

3 hours Students learn how to apply learning technologies in real-world based projects in corporate and educational settings. This is a field-based practicum course.

Recommended: LTEC 5210.

Scheduled during last resident registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5400 - Data Communications and Networking for Next Generation Learning

3 hours Study and analysis of past and currently-emerging telecommunication technologies and their application to learning technologies. Topics include history of telecommunication, digital and wireless communications, computer networks, and distance learning.

Prerequisite(s): LTEC 5030, LTEC 5300; Can be taken concurrent with LTEC 5030 and LTEC 5300; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5410 - 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.

Recommended: LTEC 5030, LTEC 5421, LTEC 5420, or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 5030, LTEC 5300; can be taken concurrent with LTEC 5030 and LTEC 5300; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5421 - 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.

Recommended: LTEC 5030, LTEC 5300, LTEC 5210 and LTEC 5420; or consent of department.

Meets with LTEC 3261.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Recommended: LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 5030, LTEC 5300; Can be taken concurrent with LTEC 5030 and LTEC 5300; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5460 - Computer Networks for Learning 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): LTEC 5030, LTEC 5300; Can be taken concurrent with LTEC 5030 and LTEC 5300 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 5030, LTEC 5300; Can be taken concurrent with LTEC 5030 and LTEC 5300 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Recommended: LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5500 - Computer Applications and Graphics

3 hours Skills and methods necessary to implement and utilize computer applications and graphics within instructional and information systems and technology. Methods for managing files across platforms; utilization of multiple graphics software applications; utilization of various technologies including print media, web, 3D, mobile and interactive systems.

Recommended: LTEC 5020.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 5030, LTEC 5300, and LTEC 5210; or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 5030, LTEC 5300; Can be taken concurrent with LTEC 5030 and LTEC 5300 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5580 - LTEC Capstone: Integrated Portfolios

3 hours Intended for students in the last semester of MS LTEC program. Aids students to produce a professionally viable portfolio and associated online materials that can be used to seek a position or advancement in the instructional design, training, or workforce development field. Students reflect on prior academic and professional performance, make presentations highlighting elements of their portfolio, engage in peer reviewing, use relevant social media tools, and prepare for job interviews.

Prerequisite(s): Consent of department.

LTEC majors must take this course during the last 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Recommended: LTEC 5020, LTEC 5030, LTEC 5421, LTEC 5111.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5601 - Introduction to Learning Analytics

3 hours Provides an introduction to learning analytics with a focus on Python programming and Exploratory Data Analysis (EDA) in educational contexts. Tailored for students interested in applying data-driven techniques to understand and improve learning processes. Learn the fundamentals of Python programming, including data manipulation and visualization, while working with real-world education datasets. Through hands-on projects, explore patterns in student performance, engagement, and learning behaviors, gaining practical skills relevant to educational research and decision-making.

LTEC 5602 - Predictive Modeling in Learning Analytics

3 hours Explores predictive modeling techniques in the context of learning analytics, focusing on how machine learning can be applied to educational data to inform decision-making and improve student learning outcomes. Emphasizes the unique challenges and opportunities in analyzing student performance, engagement, and learning behaviors. Learn and apply various machine learning algorithms and techniques, including multiple regression, logistic regression, decision trees, and random forests, to real-world education datasets. Through hands-on exercises and case studies, develop the skills to build, interpret, and evaluate predictive models tailored to educational research and policy.

Prerequisite(s): LTEC 5601.

LTEC 5603 - Text Mining and Natural Language Processing in Learning Analytics

3 hours Focuses on text mining and Natural Language Processing (NLP) techniques specifically applied to learning analytics. Emphasizes analyzing educational text data, such as student feedback, discussion forums, and learning materials, to extract insights that inform teaching and learning. Explores sentiment analysis, topic modeling, and advanced text analysis using Large Language Models (LLM) and Generative AI (GAI). Through hands-on projects with education-related datasets, develop practical skills in processing and interpreting unstructured text data to enhance student learning experiences and educational decision-making

Prerequisite(s): LTEC 5601.

LTEC 5604 - Dashboard Design in Learning Analytics

3 hours Capstone course focuses on the design, development, and deployment of interactive dashboards for learning analytics. Integrate concepts from previous courses to create data-driven visualizations that address real-world educational challenges. Using various Python frameworks, build dynamic dashboards that communicate insights from Exploratory Data Analysis (EDA), predictive models, and text analysis in meaningful ways for educators, administrators, and policymakers. Equips students with the technical and design skills necessary to translate complex learning analytics into actionable insights through interactive applications.

Prerequisite(s): LTEC 5602 or LTEC 5603.

LTEC 5610 - Analysis of Research in Learning Technologies

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): LTEC 5030, LTEC 5300; Can be taken concurrent with LTEC 5030 and LTEC 5300 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5640 - Organization Development, Technology and Change

3 hours Study of organization development theories, models and practices. Emphasis on learning as an organization development intervention. Examines the role of technology in organization development, learning and the change process. Investigates organizational issues and the need to assess, plan, and manage change to position the organization to function more effectively at the individual, group, and organizational levels through exploration of change interventions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5650 - Technology Entrepreneurship

3 hours Study of entrepreneurial concepts, standards, practices, and creative processes adopted by high-performing entrepreneurial enterprises with an emphasis on technology and innovation. Explores knowledge of the business process while integrating theory and technology with real world situations such as identifying market opportunities, funding techniques, risks, change, and barriers of start-up businesses. Create technology-based venture plans to enhance learning and development to meet academic and business and industry needs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5660 - Project Management for Performance Improvement

3 hours Explores the project life-cycle of defining, planning, executing and delivery. Students learn and apply the processes and methods of project planning, management and evaluation through a simulation activity. The use of technology applications is addressed to improve human performance and manage stakeholders.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5670 - Distributed Leadership

3 hours Provides an overview of the primary evolutionary trends in leadership for students to gain an understanding of what leadership is and how it is relevant for today's workplace. Students delve into the concept of leadership as a collective/social construct rather than an individual construct. Distributed leadership is then introduced to students providing specific perspectives on leadership and leadership development at each of the four different levels of analysis (individual, teams, multiteam systems, organizational).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5701 - Foundations of Artificial Intelligence in Education

3 hours Provides a comprehensive introduction to the principles and technologies behind generative AI and its applications in educational settings. Explore foundational concepts, including machine learning, neural networks, large language models, and prompt engineering. Emphasis is placed on how these technologies are used to create interactive and adaptive learning experiences. Through case studies, practical exercises, and prompt-engineering techniques, gain hands-on experience with generative AI tools for educational content creation, assessment, and personalized learning.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5702 - Evaluation of Generative AI Tools in Education

3 hours Investigates the transformative potential of Generative AI (GenAI) in educational contexts, emphasizing the analysis and evaluation of existing GenAI applications. Explores the theoretical frameworks that inform the use of GenAI in education, providing students with the tools to critically examine the efficacy, usability,

and impact of various GenAI tools and platforms. Through a combination of lectures, case studies, and hands-on evaluations, explore how GenAI applications can enhance teaching and learning experiences and become better equipped to analyze and assess GenAI solutions in diverse educational settings to inform best practices and drive innovation.

Prerequisite(s): LTEC 5701.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5703 - Ethical and Social Impacts of AI in Education

3 hours Provides a comprehensive examination of the ethical and social implications of artificial intelligence in education. Students analyze the historical context, current challenges, and future trends related to AI technologies in educational settings. Through critical exploration and discussion, learners engage with ethical dilemmas, social impact, and cultural considerations inherent in AI applications such as adaptive learning systems, smart tutors, and personalized learning environments. Emphasizes the importance of a thoughtful, informed approach to AI integration in education, preparing students to navigate and influence the evolving landscape of AI technologies.

Prerequisite(s): LTEC 5701.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5704 - Generative AI Technologies for Learning and Performance

3 hours Explores the design, development, and implementation of Generative AI-powered chatbots to enhance learning and performance in educational settings. Provides a comprehensive overview of the underlying technologies, including natural language processing (NLP) and machine learning, while focusing on practical applications for improving student engagement, personalized feedback, and instructional support. Through hands-on projects and case studies, gain experience in building effective chatbot systems that facilitate meaningful interactions and promote learner success.

Prerequisite(s): LTEC 5702.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5800 - Studies in Learning Technologies

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5801 - Studies in Learning Technologies

1–3 hours Organized classes specifically designed to accommodate the needs of students and the demands of program development not met by the regular offerings. Short courses and workshops concerned with specific topics are organized on a limited-offering basis, to be repeated only upon demand.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5810 - Studies in Learning Technologies

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5900 - Special Problems

1–3 hours Independent study and research.

Prerequisite(s): Consent of department and instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5901 - Special Problems

1–3 hours Open to graduate students who are capable of developing a problem independently.

Open only to resident students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5910 - Special Problems

1–3 hours Independent study and research.

Prerequisite(s): Consent of department and instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5911 - Special Problems

1–3 hours Open to graduate students who are capable of developing a problem independently.

Open only to resident students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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 school.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 5960 - Institute for Learning Technologies

1–6 hours For students accepted as participants in special institute courses.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6000 - Philosophy of Computing in Learning Technologies

3 hours Examination of the philosophical underpinnings of use of computers in learning technologies: why we are interested in this technology; what we hope to accomplish; intended and unintended changes that occur by its use.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6011 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6021 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6031 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6040 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6121 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6171 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6181 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6200 - Message Design in Learning Technologies

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

Recommended: LTEC 5420 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6220 - Theory of Learning 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6230 - Advanced Production Design for Learning Technologies

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): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6240 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6250 - Learning 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6260 - 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): LTEC 6230.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6270 - Developing Funding Opportunities in Learning Technologies

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6280 - Project Planning and Evaluation in Educational Technology

3 hours Provides students with fundamental knowledge and skills in the theory and practice associated with evaluating educational technology programs, projects, products, practices and policies. Examples of effective methods and approaches are elaborated for multiple contexts, including educational technology efforts in K-12, higher education, business and industry, research, government, and non-profit organizations. Focus is on efforts involving educational technologies although students can apply their knowledge and skills to projects and programs that may be more directly relevant to their specific interests and needs. Topics include formative and summative evaluation, needs assessment, logic models, fidelity of implementation, impact studies, and ethical issues in evaluation. A variety of qualitative and quantitative methods involved in evaluation are presented. Students are required to critique a representative evaluation report and to develop and submit a detailed evaluation plan for a project or program of their choosing. This is a graduate course and requires regular participation in discussions and other course-related activities.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6310 - Digital Game-Based Learning

3 hours Provides an overview of digital game-based learning. Major topics include educational benefits of digital games, game analysis, game design, constructionist gaming and gamification. Engages students in various authentic tasks, including creating an informative and persuasive infographic on the educational benefits of digital games, analyzing a digital learning game, designing a 3D game-based learning environment, and designing a learning activity that engages students in game design. In addition, students are expected to conduct a literature review on a topic of their interest. Each of the major assignments involves peer feedback and reflection.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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.

This course should be taken in the last 15–18 semester hours of the program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6501 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6505 - Introduction to Quantitative Research in Learning Technologies

3 hours Introduces the basic concepts of quantitative data analysis and statistical computing using R, an open-source programming language and environment for statistical computing and graphics. Focus is helping students learn R and various R packages that allow them to visualize and analyze their data to answer research questions. Topics include basics of R and tidyverse, levels of measurement, descriptive and inferential statistics, basic parametric and non-parametric tests frequently used in learning technologies research such as correlation, Chi-square test, independent/paired t test, ANOVA, ANCOVA, and multiple regression.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6511 - Analysis of Research in Learning Technologies

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): LTEC 6501 or consent of advisor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 6501.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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): LTEC 6511.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6515 - Advanced Research: Scaling Methods

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): LTEC 6511.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6516 - Advanced Research: Computer Mediated Discourse Analysis

3 hours Covers the role of digital communicative acts in education and provides students with the experience of using CMDA to analyze data toward a goal of future publication and research.

Prerequisite(s): LTEC 6512.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6700 - 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.

Recommended: Minimum of 15 hours in the program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6701 - Practicum, Field Problem or Internship

3 hours Supervised professional activities in vocational education. Registration is on an individual basis.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6800 - Special Topics in Learning Technologies

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6900 - Special Problems in Learning Technologies

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): Consent of department or major advisor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 6910 - Special Problems in Learning Technologies

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): Consent of department or major advisor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LTEC 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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Recommended: Doctoral candidate (passed qualifying exam).

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

Linguistics

LING 5020 - Studies in Historical Linguistics

3 hours The scientific study of how languages change over time to understand language relationships and to reconstruct earlier stages of languages.

Recommended: LING 5300 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5030 - Linguistics and Languages of South Asia

3 hours Linguistic survey of the languages included in the five language families of South Asia. Topics include language contact, language change, and the spread of cultural and linguistic practices.

Recommended: LING 3070, LING 5040 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5045 - Introduction to Linguistics for NLP

3 hours An introduction to core principles in linguistics, with a particular focus on developing skills and knowledge relevant for computational linguistics and natural language processing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Recommended: LING 3070 or LING 5040.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5070 - Research Design in Linguistics

3 hours Provides an introduction to research methods in linguistics and applied linguistics/ESL with a focus on empirical research and the social and behavioral aspect of language science. Covers a range of techniques for conducting linguistic research including language data elicitation, data compilation, and data mining.

Should be taken during first term/semester of study if possible.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5075 - Quantitative Research Methods in Linguistics

3 hours Provides an introduction to research design and statistical methods used to analyze data in linguistics and applied linguistics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5300 - Phonology I

3 hours Introduction to phonological theory and analysis based on cross-linguistic evidence. Topics can include: phonological representations including features, syllables and metrical structure; phonological processes; phonological typology and universals; issues in computational phonology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5305 - Morphology

3 hours Core concepts of word structure and different theories of word formation are used to analyze data from a variety of languages. Students consider the relation of morphology to language change.

Prerequisite(s): LING 5040, LING 3070.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5310 - Syntax I

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5315 - Annotation through Squibs

3 hours Teaches morphological and syntactic analytical skills using existing corpora of unusual language data as described in grammar sketches, i.e., squibs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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; computational approaches to sociolinguistic themes.

Prerequisite(s): LING 3070 or LING 5040.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Recommended: LING 4080 or LING 5080 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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 3070 or LING 5040.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5360 - Studies in Descriptive Linguistics

3 hours Intensive study of a selected topic on linguistic structure, such as psycholinguistics, sociolinguistics or typology.

Recommended: LING 3070, LING 5040, or consent of instructor.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5370 - ESL Writing Pedagogy

3 hours Analysis of the cognitive process and product of ESL/EFL writing related to pedagogy.

Recommended: LING 5080.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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 3070 or LING 5040.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Recommended: LING 3070 or LING 5040.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5400 - Tools and Methods for Lexicography and Language Analysis

3 hours Creation of language documentation outputs, dictionaries, text collections and language description using lexicographic tools and endangered language data. Includes the use of automated language annotation and acoustic analysis.

Recommended: LING 3070, LING 5040 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5405 - Programming for Linguistics

3 hours Introduction to programming in linguistic contexts, focusing on one or more programming languages that can be used in a variety of settings. Specific topics include computational database creation, automating research tasks, handling linguistic data types, and extracting data from websites, books, databases, etc.

Meets with LING 4135.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5410 - Foundations of Computational Linguistics

3 hours Introduction to the computational analysis of language, focusing on core methods in modelling language and linguistic data. Combination of theory and implementation.

Prerequisite(s): LING 3070, LING 5040, LING 5405, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5412 - Advanced Models of Language

3 hours Advanced course in creating models of language focusing on topics such as AI models, evolutionary models, and simulation models. Methods used include Deep Learning, clustering algorithms, agent-based models, and machine translation.

Prerequisite(s): Consent of Instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5415 - Special Topics in Computational Linguistics

3 hours Seminar-style discussion of advanced/specialized topics in computational linguistics. Students design and execute scientific research in the field of CL/NLP.

Prerequisite(s): Consent of Instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5530 - Semantics and Pragmatics I

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Recommended: LING 3070 or LING 5040.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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 3070 or LING 5040.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Recommended: LING 3070 or LING 5040.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Recommended: LING 3070 or LING 5040.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Recommended: LING 3070 or LING 5040, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 5990 - Graduate Research Seminar in Linguistics

3 hours Designed to guide graduate students through the process of developing a high-quality research paper by providing in-depth support for each stage of academic research.

Recommended: Student must be in their last semester of course work with a minimum GPA of 3.0.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6000 - Tools for Language Technology

3 hours Introduction to hardware and software used in computational linguistic research.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6010 - Morpho-Syntax

3 hours Examines the internal structure of words and rules of word formation and the structure of phrases and clauses.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6020 - Syntax II

3 hours A data-driven introduction to the study of syntax through the investigation of a diverse array of the world's languages, including but not limited to English. Emphasis is on formulating syntactic arguments framed in current-day theory.

Recommended: LING 5310.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6030 - Semantics and Pragmatics II

3 hours Linguistic meaning and its role in communication. Examines how meaning emerges at the word, sentence, constructional and utterance levels.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6040 - Introduction to Statistical Methods in Computational Linguistics

3 hours Research and techniques for describing language using statistical and/or probabilistic models of natural language from a computational perspective.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6050 - Phonology II

3 hours New developments in phonological theory based on current advances in language documentation and description and language typology.

Recommended: LING 5300.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6060 - Data Analysis in Human Language Technology (HLT) I

3 hours Introduction to the study of computational methods, computer programs, and electronic devices specialized for analyzing, producing or modifying texts and speech.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6100 - Language Data Preservation and Dissemination

3 hours Students learn to use specific software and advanced technologies for language documentation, digital language archiving and annotation standards.

Recommended: LING 5400 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6110 - Linguistic Variation

3 hours Examination of the sources of linguistic variation, at the mechanisms of linguistic change, and how change spreads through a speech community.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6120 - Annotation Standards

3 hours Methods, techniques and tools used in (semi)-automatic annotation of texts and multimedia documentation.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6130 - Natural Language Processing

3 hours Introduction to the field of computational linguistics–natural language processing (NLP). Topics include linguistic and statistical approaches to language processing in the three major subfields of NLP: syntax (language structures), semantics (language meaning), and pragmatics/discourse (the interpretation of language in context).

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6140 - Data Analysis in Human Language Technology (HLT) II

3 hours Advanced study of computational methods, computer programs, and electronic devices specialized for analyzing, producing or modifying texts and speech.

Recommended: LING 6060.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6150 - Semantic Ontologies

3 hours Examination of linguistic resources on the web and the development of translation toward the creation of multilingual tools.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6160 - Linguistic Models

3 hours Introduction to the fundamentals of contemporary probabilistic models in the study of language.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6200 - Practicum/Internship

3 hours Supervised professional activities in computational linguistics. During class meetings, student review practicum experiences and analyze issues associated with a career in the profession.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6514 - Seminar on Advanced Research Topics in Linguistics

3 hours Students examine and analyze advanced research topics in linguistics. The range of research analysis topic(s) to be covered is determined by the instructor.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6800 - Topics in Linguistics

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): Consent of department.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6900 - Special Problems

3 hours Independent study and research in fields of special interest. Conferences with professor in the fields are also included. Problems must be approved in advance by the instructor and the department chair.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

LING 6950 - Doctoral Dissertation

3 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 school. 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $13.80

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 and 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 5400 - Upstream Logistics and Supply Chain Management in the Energy Industry

3 hours Provides an understanding and develops the critical thinking skills necessary for managing the logistical activities and processes employed in the oil and gas industry. The unique activities performed during exploration and production of oil and gas fields requires a thorough understanding to facilitate problem-solving, process improvement, and the management of inter-firm relationships. Many of these activities, business practices and process are to confront time, delivery, or spatial challenges not encountered in other industries. Examines these activities and the leading edge processes employed by logistics professionals to drive performance improvement and shareholder value across the upstream oil and gas supply chain.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 5570 - Complex Logistics Systems Management

3 hours Introduces students to the principles and processes of complex systems engineering and management, so they may be able to identify an operational need together with a marketing, business and technological opportunity that can lead to the creation of a system that addresses this need.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 5580 - Logistics Systems Reliability and Maintainability

3 hours Defines a support infrastructure (SI), its comprising resources, and its necessity for the proper operation and support of a system design. Focuses on three system design characteristics: reliability, maintainability and supportability. Students will have a firm understanding of how to holistically evaluate a system design.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 5590 - Life Cycle Affordability

3 hours Introduces fundamental principles in economics, engineering and logistics that serve as the basis for defining and understanding the affordability of a system over its life. Focuses on defining, understanding and modeling life-cycle affordability for large-scale, complex systems.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 5830 - Industrial Distribution and Logistics Analysis

3 hours Application of logistics decision-making skills as they apply to inventory, transportation, and warehouse management problems; utilizing CSCMP case studies. Stresses hands-on application of analytical tools useful in logistics; analysis of the characteristics of logistics system elements and their interrelationships within a company; developing skills to analyze technical logistics problems; and developing executive-level communications skills leading to the concise statement of problems and proposed solutions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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): LSCM 5830, OPSM 5840, OPSM 5850.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 5870 - Integrated Supply Chain Management

3 hours The distribution and logistics imperative is to achieve cost containment while delivering customer satisfaction. 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): LSCM 5860.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6001 - Guidance for Research, Education Effectiveness and Networking Workshop - Logistics Systems

3 hours Focuses on issues in logistics research with three major objectives: 1) to learn to proactively address possible "fatal" mistakes in research design by being mindful of common mistakes related to developing research questions, propositions and hypotheses; defining the population and selecting the sample; and choosing qualitative or quantitative methodology, 2) to become aware of emerging research methods and trends including designing mixed-method studies, meta-analysis and bibliometric analysis, and 3) to become familiar with cross-disciplinary and cross-national/cultural research approaches. Students use hands-on and self-directed training materials for self-learning, and sharing their learning with other students in a highly interactive, professional and friendly environment. Research active faculty present their research to guide students for publishing in leading journals. Overall, students learn to design and execute state-of-the-art logistics research targeted at leading journals. The workshop also exposes students to manuscript reviewing skills and how to navigate the journal review process.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6002 - Workshop in Logistics Pedagogy

1 hour Focuses on issues in logistics pedagogy with three major objectives: 1) to expose students to different types of instruction to shape their teaching style, 2) to develop a well-thought-out statement of teaching philosophy, and 3) to discuss and critique the latest innovations in pedagogy including flipped classrooms, use of cases, leveraging industry speakers, and employing live projects. Students interact with instructors to learn to apply techniques for lesson planning and course administration, for managing a classroom, and for setting quiz and examination questions. Overall, students obtain skills to maximize student learning in an efficient manner. These skills are key to becoming an effective instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6003 - Workshop in Logistics Practice

1 hour Focuses on issues in logistics practice with two major objectives: 1) to expose students to the latest issues in logistics practice through interaction with academics and practitioners, and 2) to learn to develop research questions that are both theoretically relevant and have a strong managerial appeal. Current topics include multi-channel sourcing, changing growth patterns in the logistics industry, complexity and dynamism of information technology solutions, sustainability, supply chain complexity, risk and resilience in supply chains, and supply chain finance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6010 - Theoretical Foundations of Logistics

3 hours Provides a review of published research in the disciplines associated with logistics and physical distribution (movement and storage). Traditional and emerging concepts in managing the role of movement and storage (time-place utility) of goods from an integrated perspective are described through an investigation of the extant literature. Students lead in the investigation, analysis, and discussion of critical issues in managing the functions and trade-offs among competing logistics and operational within and between firms. Focus of the course is topical and spans a broad variety of methodological approaches.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6011 - Logistics Theory

3 hours Understanding of the history of logistics, theoretical definitions of logistics and controversies in logistics thought. Investigation, analysis and discussion of significant issues in the field of logistics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6020 - Evolution of Supply Chain Theory

3 hours Critically evaluates the characteristics and methodologies used to study physical, financial, information, and behavioral flows that occur within supply chains. This in-depth analysis of supply chain management (and related marketing channels research) studies the environments, structure, and management related to marketing, logistics and transportation, purchasing and operations systems management with an interorganizational research perspective.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6021 - Consumer Behavior for Logistics

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6031 - Logistics Strategy

3 hours Review of research in logistics strategy. Seminar topics include theories of competition and logistics 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6041 - Supply Chain Strategy

3 hours Survey of concepts and research methods of interorganizational systems. Supply chains are studied from multiple context and theoretical perspectives including the following: institutional design and structure, transaction cost economics, operations and logistics cost economics, exchange behaviors and strategies, supply chain relationship types, and evaluation of supply chain performance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6051 - Systems Theory and Experimentation

3 hours Provides an in-depth investigation and analysis of logistics and supply chain research based upon the systems view of the firm and the supply chain. Engineering, business and complex adaptive approaches to systems theory are explored as a framework for logistics and supply chain related business research. Systems theory is used to examine the efficacy of product and service dominant logics of exchange. To increase vibrancy and currentness research, faculty and industry experts in the area of systems theory and supply chain management will guest lecture and lead seminar discussions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6061 - Game Theory

3 hours Drives students to learn game theory, agency theory and contract theory. The intent is to understand how these theories are relevant to logistics and supply chain management (LSCM). Once the students have an appreciation for the theory, the course then focuses on how these theories are instantiated into mathematical models. Articles from top-tier LSCM journal provide the basis to illustrate how theory and mathematical modeling is woven together to create publishable manuscripts. Students use analytical tools such as Matlab and SPSS to replicate and solve the models described in the journal articles. The overall pedagogical approach is that of discovery learning, learning by doing, and learning through discussion and debate.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6071 - Operations Research for Logistics

3 hours Focuses on operations research (OR) techniques published in top-tier OR journals and their applications in leading logistics and supply chain management journals. Deterministic (e.g., mathematical programming) and stochastic (e.g., reliability theory and queueing theory) techniques are studied with a focus on delineating between optimal and heuristic techniques (e.g., genetic algorithms and simulated annealing). Real-world, industry problems and supporting data are used to further validate the application of OR techniques to the discipline of logistics and supply chain management. Analytical tools such as MatLab and SPSS are used. The overall pedagogical approach is that of discovery learning, learning by doing, and learning through discussion and debate. Review of published research in the disciplines associated with the modeling and analysis of logistics and physical distribution (movement and storage) systems. Literature chosen for analysis includes both the theoretical background and practical application of the most common analytical tools used in optimizing various characteristics of logistics systems. Two basic modeling approaches are investigated: closed form or analytical (optimization) and simulation (sensitivity to parameters) in pursuit of both “exact” and “heuristic” solutions. Focus is methodological; however, it spans a broad variety of topical areas.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 6600 - Seminar in Logistics Issues

1–3 hours Investigation, analysis and discussion of significant issues in logistics.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

LSCM 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 school. 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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MGMT 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.

Must be taken in the student's last term/semester of course work. Restricted to G. Brint Ryan College of Business majors.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MGMT 5230 - Management Consulting

3 hours Introduces students to the management consulting profession with primary focus on required skill sets. The course works to prepare students to apply consulting approaches and skills

in experiential projects with UNT corporate partners and in the profession.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MGMT 5260 - Workforce Planning and Employment

3 hours Review of the basic elements of employee performance with analysis of the factors involved in strategic workforce planning and employment decisions. Emphasis on examining legal and ethical concerns and identifying appropriate selection methods. Blends theory and practice so the student may better understand the policies and procedures required for the talent acquisition, selection, and retention of a diverse workforce.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MGMT 6010 - Management Scholar Development Seminar

3 hours Focuses on doctoral student skill development critical to successful scholarship in management. Devoted to examining conceptual and substantive issues in the context of management scholarship. Students explore a variety of topics, including developing a manuscript, reviewing manuscripts, navigating an academic career and ethical considerations.

Designed for doctoral students in the Department of Management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MGMT 6020 - Research Proposal Seminar

3 hours Teaches scholarly writing skills, especially for research proposals. Designed for management students, this course would also benefit all business doctoral students who wish to sharpen their research design and writing skills.

Prerequisite(s): Doctoral student standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MGMT 6030 - Seminar in Strategic Management

3 hours Examination of the theoretical and empirical research on the question of why some firms outperform others. Includes the study of formulation and implementation issues from economic, organizational and other perspectives and prepares the student for participation in research within the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MGMT 6040 - Research Methods Practicum

3 hours Students develop and refine the research method skillset developed in their first 2 years as a PhD student. This core skillset provides a necessary foundation to understand how and why we 'know' things in organization science. This seminar is intended to help the student 1) prepare for the methods section of the comprehensive exam and 2) consider which methods to employ in the dissertation.

Prerequisite(s): Doctoral student standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MGMT 6050 - Contemporary Issues in Macro-Oriented Management Research Seminar

3 hours Examination of emerging theoretical and empirical streams within macro areas of management research including strategic management, organization theory, and entrepreneurship. The readings, assignments, and seminar discussions assist students in becoming macro area researchers. Contact current instructor for specific topics to be covered.

Prerequisite(s): Doctoral student standing.

Generally offered every other academic year.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MGMT 6060 - Contemporary Issues in Micro-Oriented Management Research Seminar

3 hours This seminar examines theory and empirical research from contemporary topic areas in organizational behavior and human resource management, with a secondary focus on micro-oriented research methodologies including scale validation, experience sampling methodologies, and meta-analysis. Contact current instructor for specific topics to be covered.

Prerequisite(s): Doctoral Student Standing.

Generally offered every other academic year.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MGMT 6880 - Seminar in Entrepreneurship

3 hours A critical review of a variety of topics in and approaches to entrepreneurship research. Focuses on select topics and explores them from theoretical and empirical perspectives. Readings are selected to provide an overview of the seminal pieces, current research, and representative research questions that can be starting points for future explorations. Opportunities to explore the multidisciplinary nature of entrepreneurship research and to consider the role of disciplines that provide context for entrepreneurship are also covered.

Designed for doctoral students in the Department of Management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may 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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 school.

Prerequisite(s): Approved applications for special problems/ independent research/dissertation credit must be submitted to the RCOB 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Recommended: DSCI 5180 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MSCI 6010 - Seminar in Business Administration

3 hours Covers one or more special fields.

May be repeated for credit, and two or more sections may be taken concurrently.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MSCI 6710 - Econometrics Methods in Decision Sciences

3 hours Designed to offer doctoral students a rigorous foundation in applied econometrics with a specific focus on decision sciences/operations and supply chain management. Covers the theoretical underpinnings of econometric methods, advanced statistical techniques, and their application in operations and supply chain management. Equips students with the tools to conduct empirical research using econometric models and interpret and critique empirical findings.

Prerequisite(s): BUSI 6220.

Recommended: DSCI 5180.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MSCI 6720 - Behavioral Research in Decision Making

3 hours Emphasis is focused on both the experimental design and analysis aspects of behavioral research in decision making context. Topics include reviews and insights from psychology, behavioral economics and system dynamics. Application areas include behavioral experimentation research in inventory management, forecasting, buyer-supplier relationship, sourcing, transportation networks, retail operations and service areas including healthcare, project management and product development.

Prerequisite(s): BUSI 6220.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MSCI 6740 - Theory and Application of Mathematical Modeling and Optimization

3 hours Introduction to the foundations of mathematical modeling and optimization in management science and operations management context. Topic areas include inventory management, supply chain network design, transportation, and service operations. Covers linear and integer programming along with heuristic development.

Prerequisite(s): DSCI 5210 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 school. 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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Marketing

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 and oral presentation of their analysis. Oral presentations may be made using electronic media. Groups may be required for casework.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5200 - Consumer Behavior

3 hours In a marketplace increasingly characterized by enduring consumer relationships, marketers must be acutely aware of the individual and organizational characteristics that foster consumer responses. The identification of changing trends in consumer behavior as applied to domestic and global markets is critical for competitive success in today's dynamic markets and environments. Students are introduced to models of consumer behavior in consumer exchanges.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5240 - Marketing Metrics for Managers

3 hours Metrics for assessing the financial implications of marketing decisions in the areas of market segmentation, market targeting, positioning and in the evaluation of marketing plans. Intensive case analysis using real-world data is the primary pedagogical method.

Prerequisite(s): MKTG 5150 or MKTG 3650 or equivalent.

Students who have previously completed the undergraduate MKTG 3700 Marketing Metrics at UNT must substitute another online course in place of MKTG 5240. Contact the RCOB Graduate Programs Office to identify the possible choices and receive approval.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5250 - Advanced Marketing Research and Analytics

3 hours Use of advanced marketing research and analytics in making marketing decisions (e.g., segmentation, market targeting, market positioning, marketing planning). Emphasis is on using advanced qualitative and quantitative analysis techniques. Enhances students' knowledge and skills in data-based decision-making, advanced qualitative and quantitative analysis, multivariate statistics, and marketing intelligence in the context of marketing applications. Uses hands-on experiential learning methods to impart and strengthen the required skills and knowledge.

Prerequisite(s): MKTG 5150 (must be completed), DSCI 5180 (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5400 - Product Planning and Brand Management

3 hours Focuses on issues related to product/brand management, an important marketing management 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 analysis 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5450 - New Product Development

3 hours Focuses on issues related to new product development. Includes topics such as the 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 analysis 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5550 - Decision Making in Global Markets

3 hours The first half of the 21st century is characterized by significant shifts in the manufacturing, distribution and consumption of products and services. As transitional and emerging economies mature, foreign entry, global 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 the internal resources of a firm necessary for coping with these opportunities and threats form the core topics of the course. Particular emphasis is given to the market entry and expansion strategies available to multi-national and global marketers.

Prerequisite(s): MKTG 5150.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5560 - Retail Strategy

3 hours Critical inquiry into the disruptive forces that impact retailing and supply chain management in an omnichannel environment. Examines the competing experiences and expectations in retail marketing channels in a globally-connected, technology-enabled marketplace. Special emphasis is afforded to the following topics: retail valuation; retail patronage; assortment planning and inventory optimization; predictive modeling; and strategic implementation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5600 - Emerging Issues in Strategic Marketing

3 hours Investigation, analysis and discussion of selected emerging problems, methods, and 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5620 - Marketing in a Digital Age

3 hours Addresses issues related to high-technology marketing in the contemporary business environment. Course is a guide to integrating electronic resources into the marketing process. Includes the following broad topic areas: electronic commerce and traditional marketing, electronics marketing resources, implementing an e-commerce strategy, and special topics.

Prerequisite(s): MKTG 5150.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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, salesforce recruiting, training and sales performance analysis.

Prerequisite(s): MKTG 5150.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5750 - Services Marketing

3 hours Focus is on the integration and application of marketing concepts to services marketing. Course with particularly focuses on the analysis and formulation of marketing strategies for service organizations and the identification and application of the services marketing mix.

Prerequisite(s): MKTG 5150.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 service offerings.

Prerequisite(s): MKTG 5150.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5800 - Internship in Marketing

1–3 hours Supervised work experience in a position related to the student’s career objectives 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5875 - Marketing Rights and Responsibilities

3 hours Critical assessment of the ethical and social management implications in deploying 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 5910 - Special Problems

1–3 hours Course provides a unique opportunity for the student to learn by solving real-world marketing problems by engaging with a business or other organization. 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; written and oral communication, and teamwork.

Prerequisite(s): MKTG 5150, MKTG 5250. Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6001 - Guidance for Research, Education Effectiveness and Networking Workshop - Marketing

3 hours Focuses on issues in marketing research with three major objectives: 1) to learn to proactively address possible “fatal” mistakes in research design by being mindful of common mistakes related to developing research questions, propositions and hypotheses; defining the population and selecting the sample; and choosing qualitative or quantitative methodology; 2) to become aware of emerging research methods and trends including designing mixed-method studies, meta-analysis and bibliometric analysis; and 3) to become familiar with cross-disciplinary and cross-national/cultural research approaches. Students use hands-on and self-directed training materials for self-learning, and sharing their learning with other students in a

highly interactive, professional and friendly environment. Research active faculty present their research to guide students for publishing in leading journals. Overall, students learn to design and execute state-of-the-art marketing research targeted at leading journals. The workshop also exposes students to manuscript reviewing skills and how to navigate the journal review process.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6002 - Workshop in Marketing Pedagogy

1 hour Focuses on issues in marketing pedagogy with three major objectives: 1) to expose students to different types of instruction to shape their teaching style, 2) to develop a well-thought-out statement of teaching philosophy, and 3) to discuss and critique the latest innovations in pedagogy including flipped classrooms, use of cases, leveraging industry speakers, and employing live projects. Students interact with instructors to learn techniques for lesson planning and course administration, for managing a classroom, and for developing quiz and examination questions. Overall, students obtain skills to maximize student learning in an efficient manner. These skills are key to becoming an effective instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6003 - Workshop in Marketing Practice

1 hour Focuses on issues in marketing practice with two major objectives: 1) to expose students to the latest issues in marketing practice through interaction with academics and practitioners, and 2) to learn how to develop research questions that are both theoretically relevant and have strong managerial appeal. Current topics include marketing practices encompassing the service dominant logic, branding, brand image, segmentation and positioning, consumer preferences and buying decisions, consumer value co-creation, and relationship marketing, corporate social responsibility and cause-related marketing, industrial marketing and B2B marketing, retailing and franchising, global and multinational/multicultural marketing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6010 - Seminar in Marketing Thought

3 hours Understanding the history of marketing, theoretical definitions of marketing, and controversies in marketing thought. Particular emphasis on investigation, analysis, and discussion of significant issues in the field of marketing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6030 - Marketing Strategy I

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6040 - Marketing Strategy II

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 among contemporary, globally distributed enterprises.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6050 - Systems Theory and Experimentation

3 hours Provides an in-depth investigation and analysis of logistics and supply chain research based upon the systems view of the firm and the supply chain. Engineering, business and complex adaptive approaches to systems theory are explored as a framework for logistics and supply chain related business research. Systems theory is used to examine the efficacy of product and service dominant logics of exchange. To increase vibrancy and currency in research, faculty and industry experts in the area of systems theory and supply chain management guest lecture and lead seminar discussions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6060 - Game Theory

3 hours Drives students to learn game theory, agency theory and contract theory. Intent is to understand how these theories are relevant to marketing. Once students have an appreciation for the theory, the course then focuses on how these theories are instantiated into mathematical models. Articles from top-tier marketing journals provide the basis to illustrate how theory and mathematical modeling is woven together to create publishable manuscripts. Students use analytical tools such as MATLAB and SPSS to replicate and solve the models described in the journal articles. The overall pedagogical approach is that of discovery learning, learning by doing, and learning through discussion and debate.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6070 - Seminar in Consumer Psychology

3 hours Explores concepts, theories and research methods relevant to understanding consumer psychology. The objective is to provide doctoral students with an introduction to behavioral science approaches to the study of consumers and consumer psychology, and the opportunity to develop skills relevant to the conduct of behavioral research in marketing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 idiothetic research approaches, qualitative research methods, and qualitative research designs (including but not limited to ethnography, narratives, focus groups, face-to-face interviews, content analysis, and case studies). Assesses the philosophical bases of metrics: auditability, bias, truth value, consistency and critical interpretations of data metrics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6600 - Seminar in Marketing Issues

3 hours Investigation, analysis and discussion of significant issues in marketing.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6900 - Special Problems

1–3 hours Research by doctoral students in fields of special interest. Includes projects, research studies, intensive reading, and conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/ independent research/dissertation credit must be submitted to the RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6910 - Special Problems

1–3 hours Research by doctoral students in fields of special interest. Includes projects, research studies, intensive reading, and conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/ independent research/dissertation credit must be submitted to the RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

MKTG 6950 - Doctoral Dissertation

3, 6 or 9 hours To be scheduled only with consent of department. Twelve hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing the qualifying examination for admission to candidacy.

Prerequisite(s): Approved applications for special problems/ independent research/dissertation credit must be submitted to the RCOB Graduate Programs Office prior to registration.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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): ENGR 3450 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5060 - Materials Selection and Performance

3 hours Integration of structure, properties, processing and performance principles to formulate and implement solutions to materials engineering problems.

Recommended: MTSE 5100 or MTSE 3000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5101 - Fundamentals of Materials Science and Engineering - II

3 hours This course covers the following in detail: metal alloy processing and classification; ceramic structure, properties, and processing; polymer processing and applications; composite material principles, classification, preparation and properties; corrosion degradation mechanisms, electrochemical reactions, and protection methods; electrical properties of metals, semiconductors, and dielectrics; thermal properties of metals and non-metals; magnetic material fundamentals, properties and applications; optical material fundamentals, properties and applications.

Recommended: MTSE 5100 (may be taken concurrently) or MTSE 3000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 3000 or ENGR 3450 or MTSE 5100.

Same as MEEN 5190.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5410 - Polymer Reliability

3 hours Reliability of polymers and polymer-based composites (PPCS); flexible, semirigid, rigid, elastromeric, 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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: MTSE 5400.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5440 - Thermal Analysis

3 hours Differential scanning calorimetry; thermogranvimetric metric 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 5620 (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5630 - Introduction to Nanotechnololgy

3 hours Most relevant concepts of nanomaterials science and engineering, necessary tools to increase student knowledge on nanomaterials, at research and development. Overview of the current status of the nanotechnology as well as introducing the implications of nanotechnology for the future society and environment.

Prerequisite(s): MTSE 1100, MTSE 3010, or ENGR 3450; or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5640 - Additive Manufacturing: Processes and Materials Science Fundamentals

3 hours Additive manufacturing is the formalized term for what used to be called rapid prototyping and what is now popularly called 3D Printing. Fundamentals of additive manufacturing processes are discussed within the context of the traditional manufacturing life cycle. The broad range of additive manufacturing processes, devices, capabilities and materials that are available are also discussed, and the various tradeoffs that must be made in selecting additive manufacturing processes, devices and materials to suit particular product requirements are addressed. Covers some basics of heat and mass transfer associated with AM processes, fundamentals of casting and its relationship to AM, and the broad physical metallurgy of AM processed metals and alloys.

Prerequisite(s): MTSE 3000 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5650 - Principles of Micro-electro-mechanical-systems (MEMS): Materials, Devices and Applications

3 hours

This course is designed to provide an introduction to conventional micro-electro-mechanical systems (MEMS), where the course starts with an overview of the semiconducting properties of silicon, the workhorse of the microelectronics industry. The impact of continued miniaturization on transistor performance is highlighted according to Moore's Law. Moving from Silicon as an electronic material, its mechanical properties are discussed which has been pivotal in the creation of the field of MEMS. A review of microfabrication technology conventionally used to form MEMS structures and devices using batch fabrication is provided, which includes topics such as photolithography, etching, physical vapor deposition, chemical vapor deposition, surface micromachining, and bulk micromachining. Soft materials and thick film processes are also discussed that have been key enablers for microfluidics and BioMEMS. The practical applications of MEMS for sensors and actuators are highlighted, where electrostatic, thermal, piezoelectric, and magnetic transduction schemes are used for actuation and sensing, including for RF wireless systems and bio-related applications for Lab-on-Chip (LOC). Students will gain a broad perspective in the area of miniaturized systems for sensors and actuators. The laboratory modules are intended to reinforce the concepts discussed in the lectures, with practical hands-on learning exercises. The lectures and accompanying lab modules will help cultivate interdisciplinary perspectives with hands-on exercises developed for the students.

Recommended: PHYS 1710. CHEM 1410/CHEM 1430 or CHEM 1415/CHEM 1435 or equivalent.

MTSE 4120.032 (Undergraduate Elective), EENG 4010.012 Topics in EE: MEMS (Undergraduate Students);

EENG 5940 - Advanced Topics in Electrical Engineering: MEMS (for Graduate students).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5700 - Seminar in Materials Science and Engineering

1–3 hours Current topics in materials science and engineering.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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; or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5840 - Invention and Innovation

3 hours Invention and Innovation are the key mantras for technological advantage and competitiveness of engineering companies in the U.S. Yet, in the formal training of graduate students, this aspect is often overlooked. This course is designed to better prepare our graduate students to make major contributions to this global economy. While invention is often a chance *discovery* by a prepared mind, the process of innovation is a progression of engineered *design*. This course formally introduces the science of innovation. New materials and disruptive processes create an enabling environment for exceptional technological breakthroughs. A series of case studies are presented to teach an anatomical approach to analyze materials and process innovations. Students then concurrently apply this approach to create either a new alloy or process innovation during an eight-week stretch of guided learning module. In the last three weeks of the course, the students launch a virtual company and write a business proposal to market their innovation.

Prerequisite(s): Graduate standing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5920 - Research Problems in Lieu of Thesis

3 hours Introduction to research; may consist of an experimental, theoretical or review topic.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5930 - Research Problems in Lieu of Thesis

3 hours Introduction to research; may consist of an experimental, theoretical or review topic.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 school.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 5960 - Materials Science Institute

1–6 hours For students accepted by the university as participants in special institute programs.

May be repeated for credit, not to exceed a total of 6 hours in each course. Laboratory fee required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 5010 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: MTSE 6600, MTSE 6605.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Corequisite(s): MTSE 6620 (may be taken concurrently).

Recommended: MTSE 6600, MTSE 6605.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 6800 - Selected Topics in Materials Science

3 hours Topics from specialized areas of materials science, physics and chemistry.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MTSE 6940 - Individual Research

1–3 hours To be scheduled by the doctoral candidate engaged in research.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 school.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5010 - Introduction to Mathematical Logic

3 hours Introduction to the syntax and semantics of propositional logic and first-order logic. Topics include quantifier elimination, compactness and completeness theorems, Craig's interpolation theorem, elementary submodels, partial recursive functions, Gödel numbering, decidability of theories, Peano arithmetic, Robinson's system and Gödel's incompleteness theorems.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5020 - Mathematical Logic and Set Theory

3 hours Rigorous development of first-order logic, formal syntax and semantics, the completeness and incompleteness theorems, decidable and undecidable theories, and selected topics from model theory and set theory, including ultraproducts, the axioms of Zermelo-Fraenkel set theory, constructible sets, and basic descriptive set theory.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5110 - Introduction to Analysis

3 hours Followed by MATH 5120. These two courses together cover the following material. 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5120 - Introduction to Analysis

3 hours Preceded by MATH 5110. These two courses together cover the following material. 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): MATH 5110 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: FORTRAN programming or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: FORTRAN programming or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: A programming language and consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5310 - Real Analysis

3 hours Lebesgue measure, the Lebesgue integral, modes of convergence, bounded variation, absolute continuity, Dini derivatives, convex functions, the classical Banach spaces, Riesz Representation Theorem.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5320 - Real Analysis

3 hours General measure and integration, signed measures, Hahn decomposition, absolutely continuous measures, Radon-Nikodym theorem, product measures, Fubini's theorem, Hausdorff measures, metric spaces, Baire Category Theorem, general Banach spaces, Hahn-Banach theorem.

Prerequisite(s): MATH 5310 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5410 - Complex Analysis

3 hours Followed by MATH 5420. These two courses together cover the following material. Theory of analytic functions from the Cauchy-Riemann and Weierstrass points of view.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5420 - Complex Analysis

3 hours Preceded by MATH 5410. These two courses together cover the following material. Theory of analytic functions from the Cauchy-Riemann and Weierstrass points of view.

Prerequisite(s): MATH 5410 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: MATH 5110-MATH 5120 and linear algebra.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: MATH 5110-MATH 5120 and linear algebra.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5520 - Modern Algebra

3 hours Groups and their generalizations; homomorphism and isomorphism theories; direct sums and products; orderings; abelian groups and their invariants.

Recommended: MATH 3510 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5530 - Modern Algebra

3 hours Ring and field extensions, Galois groups, ideals and valuation theory.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5600 - Introduction to Topology

3 hours Point set topology; connectedness, compactness, continuous functions and metric spaces.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5610 - Topology

3 hours Followed by MATH 5620. These two courses together cover the following material. Rigorous development of abstract topological spaces, mappings, metric spaces, continua, product and quotient spaces; introduction to algebraic methods.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5620 - Topology

3 hours Preceded by MATH 5610. These two courses together cover the following material. Rigorous development of abstract topological spaces, mappings, metric spaces, continua, product and quotient spaces; introduction to algebraic methods.

Prerequisite(s): MATH 5610 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5710 - History of Mathematics With Technology

3 hours A survey of the development of major mathematical topics, including geometry, algebra, calculus, and set theory. Technological tools are used to investigate theorems and applications of mathematics.

Prerequisite(s): Admission in the mathematics education concentration or certificate program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5720 - Problem-Solving for Secondary Teachers

3 hours A rigorous inquiry into problem solving, focusing on problems from various branches of mathematics, such as algebra, geometry, combinatorics, probability, calculus, and trigonometry; Emphasis on application of problem-solving techniques to courses in secondary school settings.

Prerequisite(s): Admission in the mathematics education concentration or certificate program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5730 - Problem-Solving in Calculus for Teaching

3 hours A rigorous inquiry into mathematical thought processes, covering calculus topics as it relates to teaching calculus at the secondary level: real number system; sequences and series; limit, continuity and differentiation; the Riemann integral; sequences and series of functions; extends understanding of underlying concepts of calculus for teaching.

Prerequisite(s): Admission in the mathematics education concentration or certificate program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5740 - Problem-Solving in Probability and Statistics for Teaching

3 hours Explores essential components of statistical and probabilistic reasoning; extends understanding of underlying concepts of probability and statistics for teaching; examines appropriate use of technology, innovative curricula and materials, and standards.

Prerequisite(s): Admission in the mathematics education concentration or certificate program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5750 - Special Topics in Mathematics Education

3 hours Topic of current interest in mathematics education for secondary teachers.

Prerequisite(s): Admission in the mathematics education concentration or certificate program.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5810 - Probability and Statistics

3 hours Important densities and stochastic processes; measure and integration; laws of large numbers; limit theorems.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5820 - Probability and Statistics

3 hours Markov processes and random walks; renewal theory and Laplace transforms; characteristic functions; infinitely divisible distribution; harmonic analysis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5850 - Bioinformatics

3 hours Introduction to the interdisciplinary field of Bioinformatics. Databases and genome browser tools. Methods and algorithms for biological sequence analysis. Applications to problems in biology and medicine.

BIOL 5815 and CSCE 5815.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 5940 - Seminar in Mathematical Literature

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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 school.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6010 - Topics in Logic and Foundations

3 hours Mathematical logic, metamathematics and foundations of mathematics.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6110 - Topics in Analysis

3 hours Topics may vary from year to year. They include measure and integration theory, complex variables, analytic number theory, automorphic forms, and Diophantine approximation.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6130 - Infinite Processes

3 hours Topics selected from infinite series, infinite matrices, continued fractions, summation processes and integration theory.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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, repellors and Julia sets. Dimension invariants (Hausdorff, box and packing dimension) of these sets.

Prerequisite(s): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6210 - Dynamical Systems Seminar

1 hour Weekly seminar series covering contemporary topics in dynamical systems and ergodic theory. Talks are given by UNT faculty and graduate students as well as by prominent visitors from other institutions. Topics vary weekly.

May be repeated for credit. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

May be repeated for credit. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6610 - Topics in Topology and Geometry

3 hours Point set and general topology, differential geometry and global geometry.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: MATH 5530, MATH 5620.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6710 - Topics in Applied Mathematics

3 hours Optimization and control theory, perturbation methods, eigenvalue problems, generalized functions, transform methods and spectral theory.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6810 - Probability

3 hours Probability measures and integration, random variables and distributions, convergence theorems, conditional probability and expectation, martingales, stochastic processes.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6820 - Topics in Statistics

3 hours Topics may vary from year to year. They include Generalized Linear and Mixed Models, Computational Statistics, Nonparametric Function Estimation, Survival Analysis, Multivariate Analysis, Statistical Machine Learning, Time Series Analysis.

Recommended: MATH 5820.

May be repeated for credit as topics vary for a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

MATH 6940 - Individual Research

Variable credit To be scheduled by the doctoral candidate engaged in research.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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 school.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

Mechanical and Energy Engineering

MEEN 5000 - Energy: The Fundamentals

3 hours Concept of energy and energy conversion; fossil fuels: coal, oil and natural gas; thermal power plants; energy distribution; direct energy conversion; nuclear energy; renewable energy: hydroelectric power, solar energy and photovoltaics, wind energy, tidal energy, geothermal energy, biomass fuel, hydrogen energy and fuel cell; energy storage and battery; and future technologies.

Prerequisite(s): Consent of instructor.

Same as EMGT 5130.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 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): Graduate standing or consent of department.

Same as EMGT 5020.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 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): Graduate standing or consent of department.

Same as EMGT 5030.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5110 - Renewable 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.

Same as EMGT 5110.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5120 - Energy and Environmental Sustainability

3 hours An overview of sustainability themes related to energy and the environment. Key aspects of energy production and consumption, renewable energy sources, energy efficiency, and the impacts of energy use on the environment. Students explore the geopolitical and social implications of various energy sources and technologies and learn to develop environmental impact assessments of major energy systems and emerging technologies. An overview of the U.N. Sustainable Development Goals and implementation is provided. Through team-based case studies and practical exercises, students develop the skills needed to design and implement sustainable energy solutions.

Prerequisite(s): Consent of instructor.

Same as EMGT 5120.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 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): MFET 4190 (or equivalent) or consent of department.

Same as EMGT 5040.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5150 - Thermal Energy Storage Systems and Applications

3 hours Energy and exergy analysis of thermal energy storage systems with focus on applications of thermodynamics, fluid flow and heat transfer. The various technologies of thermal energy storage technologies are investigated. Different methods of thermal energy storage including sensible TES, latent TES, cold TES and seasonal TES are discussed. Numerical modeling and simulation of TES systems and several case studies are examined.

Recommended: MEEN 3120 and MEEN 3210.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5151 - Bioproducts Manufacturing

3 hours Explores the renewable bioproducts for lightweight, energy efficient building and other structural applications and the manufacturing processes of these products. These bioproducts consist of structural panels, structural composite lumber, glued laminated timber (Glulam), wood I-joist, and the natural fiber composites, wood plastic composites (WPC), and others. Characteristics of the bio-based raw materials are discussed. The manufacturing processes of the renewable bioproducts include: lamination, mat-forming, compression molding, resin transfer molding, and extrusion. Students will understand how these engineered bioproducts are designed, processed, and graded, and pros and cons of each product.

Meets with MEEN 4151.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5152 - Mechanics of Composites and Foams for Lightweight Energy Efficient Structures

3 hours Mechanics and failure criteria of anisotropic materials (composites) and cellular solids.

Recommended: ENGR 2332.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5160 - Impact Mechanics of Materials

3 hours Stress wave generation, propagation and interaction with interfaces; uniaxial stress and uniaxial strain waves; formulation and derivation of 1-D stress wave equations in solids; experimental methods for high-rate material behavior characterization; split Hopkinson (Kolsky) bars; dynamic fracture and fragmentation of brittle materials.

Recommended: MEEN 5410 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5170 - Thermal Management

3 hours Comprehensive review of thermal management technologies. Conventional and emerging methods of air cooling, thermo-electrics, heat pipes, microchannels, immersion cooling, jet impingement and spray cooling, vapor-compression refrigeration. Introduction to computational thermal analysis. System-level thermal management architectures for specific applications. Future trends in thermal management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5180 - 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): ENGR 2332 and ENGR 3450.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5190 - Corrosion Engineering

3 hours Eight forms of corrosion including oxidation, uniform corrosion, galvanic corrosion, crevice corrosion, pitting, intergranular corrosion, stress corrosion cracking, flow accelerated corrosion (erosion corrosion), and selective leaching are discussed. Thermodynamics of corroding systems are discussed in terms of Pourbaix diagrams. Advanced electrochemical DC and AC testing techniques such as Potentiodynamic Polarization, Polarization Resistance, and Electrochemical Impedance Spectroscopy for corrosion rate measurements are discussed. Methods to prevent corrosion including applications of protective coatings such as thin films of diamond, diamond like films, as well as recent developments in self-healing coating systems are discussed. Mechanisms of corrosion prevention by cathodic and anodic corrosion inhibitors are discussed. Quantitative discussions on cathodic protection system design method through impressed current are also covered.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: MEEN 3120, MEEN 3210.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5230 - Oil and Gas Engineering

3 hours A comprehensive review of the petroleum industry and petroleum engineering practices, including historical perspectives. Focus on upstream, midstream, and downstream activities, with key topics such as the characteristics of oil and gas reservoirs, reservoir mechanics, petroleum exploration and drilling, formation evaluation, well completions, production processes, surface facilities, and techniques for enhanced oil recovery. A review of fuels, petroleum refining, and engineering processes within petrochemical facilities is provided. Students also investigate the ethical, societal, and environmental considerations essential to petroleum industry operations, as well as the impact of current events on the field.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5240 - Energy: A World Perspective

3 hours Role of energy in the growth of civilization, living conditions and economy; energy, environment and sustainability; energy issues: developing countries - versus - developed countries and under-developed countries; energy: security, economy and world politics; carbon issues; role of renewable energy; indigenous approaches; and future energy issues.

Prerequisite(s): Consent of instructor.

Same as EMGT 5140.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: MEEN 3110 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Recommended: MEEN 3110 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5410 - Advanced Solid Mechanics

3 hours Review of mechanics of materials; deformation and stress measures; constitutive equations; failure theory; introduction to fracture mechanics; bending, torsion, and axisymmetrically/ unsymmetrically loaded members; energy method; elastic stability.

Recommended: MEEN 2332 or equivalent with consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5430 - Optimization in Engineering Design

3 hours Optimal design of mechanical components and systems, including variational formulation for discrete and distributed parameter structures; sensitivity analysis; optimal material distribution and layout; design for criteria of stiffness, strength, buckling and dynamic response; mathematical modeling of design problems for optimization. It is recommended that students enrolling in this course be proficient in MATLAB, linear algebra, and differential equations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5440 - Finite Element Analysis

3 hours (2;1) Weak or variational formulation of differential equations governing one- and two- dimensional problems of engineering; finite element model development and analysis of standard problems of solid mechanics (bars, beams, and plane elasticity), heat transfer and fluid mechanics; time-dependent problems; computer implementation and use of simple finite element codes in solving engineering problems.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5450 - Applications of Electron Microscopy and Failure Analysis

3 hours 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): ENGR 3450 (or equivalent) or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5460 - 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 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5470 - Geothermal Heat Pumps

3 hours Introduction to the fundamental principle, calculation and design methods of various geothermal heat pump systems. The whole building energy modeling of geothermal heat pumps system. Prediction of long-term performance of ground loop heat exchanger Annual energy consumption and Electric Peak demand. Borehole field configurations.

Meets with MEEN 4470.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5480 - Energy Materials

3 hours Addresses how advanced materials make possible efficient energy harvesting (solar cells) and energy storages (batteries, supercapacitors). In particular, solar cell operational parameters, semiconductor materials, and advanced photovoltaic and batteries are discussed. Also introduces some principles for device applications and advanced materials for future energy technologies such as solar cell principle, charge transport in semiconductor, and the basic mechanisms of rechargeable batteries.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5510 - Manufacturing Process for Biocomposites

3 hours Focuses on the manufacturing of biocomposite materials. Enables the students to understand different manufacturing processes (such as lamination, mat-forming, extrusion, etc.) as well as to understand the resulted biocomposite products using the renewable materials, such as wood, agriculture stems and other bioresources.

Prerequisite(s): Statics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5520 - Manufacturing Concepts for Mechanical Engineers

3 hours Major manufacturing processes, their capabilities, analysis and their relationship with fundamental principles in mechanical engineering. Perform engineering analysis of conventional and non-traditional manufacturing processes. Understanding of application of fundamental principles from mechanical engineering courses in mechanics, materials, design and thermo-fluids to analyze manufacturing processes. Integration of core mechanical engineering principles to design of manufacturing processes and systems. Study to interpret product requirements and manufacturing process capability data in order to select suitable manufacturing process and apply process of optimization techniques.

Recommended: ENGR 2332, MEEN 3130, or equivalents.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5600 - Feedback Control of Dynamical Systems

3 hours Introduces the fundamental principles of modeling, analysis and control of dynamic systems. Topics include: mathematical modeling of dynamic systems, including mechanical, electrical, fluid and thermal systems; Laplace transform solution of differential equations; transfer functions and system responses in time and frequency domain; control systems design; state space based analysis and design of control systems; and computer simulation for modeling and control system design (Matlab/Simulink).

Recommended: MEEN 3230.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5610 - Sensors and Actuators

3 hours Sensors and actuators are important for a variety of applications, such as control systems, robotics, mechatronic systems and biomedical devices. Covers the fundamental physical principles, characteristics and applications for various types of sensors and actuators including thermal, mechanical, electrical, electromechanical and optical sensors. Recent research developments in MEMS and nanotechnology based sensors also are introduced.

Recommended: ENGR 2405 (or EENG 2610).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5620 - Energy Harvesting Technologies and System Design

3 hours Energy harvesting is the conversion of ambient energy present in the environment into electrical energy. Energy harvesting system has a wide range of applications, including energy efficiency enhancement for a system, embedded power source for wireless sensor networks, embedded power for biomedical devices. Introduces the design of energy conversion and storage systems from mechanical energy. Major topics include: vibration energy harvesting using piezoelectric materials, vibration energy harvesting using electromagnetic technique, thermoelectric energy harvesting, energy harvesting circuits, storage of harvested energy and selected applications of energy harvesting systems.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5640 - Applied Engineering Vibration

3 hours Review of elementary mechanical vibrations; analysis of multidegree of freedom (MDOF) systems; modal analysis of complex systems; Lagrange's method; vibration and damping analyses of continuum systems—beams and plates; mathematical techniques to model and design complex dynamic systems; numerical integration of vibration systems. Introduction to the application of engineering vibrations for engineering technologists including topics of harmonic motion, resonance, transient and random excitation, applications of Fourier analysis and convolution methods. Analysis and application of multidegree of freedom discrete systems.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5740 - Robotics and Automation

3 hours Robotics, mechatronics, and manufacturing automation. Robot modeling, kinematics, kinetics, sensors and actuator, trajectory planning, vision, artificial intelligence, classical and modern feedback control. MATLAB is used for project-based learning.

Prerequisite(s): MEEN 2240, MEEN 3230, or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5750 - Automotive Manufacturing Processes and Production Systems

3 hours Manufacturing processes, sheet metal forming processes, metal casting processes, material removal processes, manufacturing processes for plastic and composite materials, joining methods, automation of manufacturing processes and operations, computer integrated manufacturing systems, product design and manufacturing of CAD/CAM/CIM, CNC machines, fundamentals of assembly line concepts (manual and automated), fundamentals of manufacturing systems (group technology, cellular manufacturing, flexible manufacturing systems), manufacturing process quality control, inspection and quality methods, lean six sigma in manufacturing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5770 - Computational Fluid Dynamics

3 hours Provides an introduction to computational fluid dynamics and heat transfer. Aim is to teach the fundamentals of the computational approach to study fluid flow problems and to provide a deeper understanding of the physical models and governing equations of fluid dynamics. Also presents an opportunity to learn the basic skills of programming solutions to differential equations related to fluid mechanics problems. The structure and performance of commercial software for applications in analysis and design of thermo-fluid systems are also discussed.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

May be repeated for 6 credit hours, but a maximum of 3 credit hours can apply to major.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 of the student's supervisor and/or consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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 of the student's supervisor and/or consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 5920 - Cooperative Education in Mechanical and Energy Engineering

1–3 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.

May be repeated for credit up to a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 6000 - Advanced Computational Fluid Dynamics

3 hours Adaptive numerical integration; finite difference, finite volume, finite element, boundary element and spectral methods; structured and unstructured solver development; advanced methods to solve linear systems arising from discretization of partial differential equations; stochastic methods; high-performance computing topics including cache optimization and parallel algorithm development.

Prerequisite(s): MEEN 5140 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 6050 - 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 6100 - Advanced Heat and Mass Transfer

3 hours Fundamental conservation equations are established in the beginning. Based on the fundamental equations, students learn laminar velocity and temperature fields, laminar boundary layer, turbulent flows, natural convection and mass transfer. As a case study, heat and mass transfer issues in chemical vapor deposition are discussed.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 6150 - Multiphase Transport Phenomena

3 hours Fundamentals of transport phenomena in multiphase systems including boiling, evaporation, melting and solidification, sublimation and vapor deposition, condensation, two-phase flow, and interfacial sold-liquid-vapor phenomena. Starting with the governing equations with localized and averaging formulations and also including discussions of applications to energy systems, electronic cooling and material processing.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 6200 - Theory of Elasticity

3 hours Analysis of stress and strain in two- and three-dimensions, equilibrium and compatibility equations, and strain energy methods; torsion of noncircular sections, flexure, and axisymmetric problems. Topics include kinematics, balance laws, constitutive equations, nonlinear elasticity, classical small-deformation theory, formulation and solution of boundary-value problems of linear elastostatics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 6250 - Micromechanics of Materials

3 hours The fundamental knowledge of the heterogeneous nature and microscale mechanism is the key to develop and apply novel materials successfully. Introduces the fundamental mechanics including the aspects of theoretical analysis and concept of application in mechanical engineering. Topics include mechanics of multiphase materials (such as microcomposites and porous solids), interfacial mechanism, and failure mechanics due to void growth or microcracking. Introduces the students to fundamental understanding of advanced material design and mechanical models.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 6300 - Turbulent Flow

3 hours Provides an introduction to turbulent flows. Provides an understanding of the nature of turbulent flows, statistical descriptions of turbulent flows, mean flow equations and Reynolds stresses, turbulence in free shear flows (round jet, plane jet, mixing layer, and wake) with experimental observations, scales of turbulent motion and energy cascade, Kolmogorov hypothesis, turbulence in wall bounded flows (channel flow, pipe flow, boundary layer), and basic features of turbulence modeling approaches (direct numerical simulations, turbulence-viscosity models, large-eddy simulations).

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 6940 - Individual Research

1–9 hours To be scheduled by the doctoral candidate engaged in research.

Prerequisite(s): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

MEEN 6950 - Doctoral Dissertation

1–9 hours To be scheduled only with consent of department. No credit assigned until dissertation has been completed and filed with the graduate school.

Prerequisite(s): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $73.70 (Instructional Fee), $60 (Differential Tuition)

Media Arts

MRTS 5100 - Introduction to Graduate Studies in Media Arts

3 hours Introduction to research and writing at the graduate level for Media Arts. Presents key approaches from several disciplines that have contributed to the disciplinary tradition of Media Arts. Required for all graduate students in the Department of Media Arts.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5120 - Critical-Cultural Media Theory

3 hours Introduces students to various theoretical frameworks used to study multiple media formats. Provides students with a historical development of media theory, as well as the vocabulary and concepts germane to different methodologies.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5121 - Digital Media Studies

3 hours Examination of emerging theoretical approaches to mass media. Applications to digital media and traditional film and television of qualitative and/or quantitative methodologies based on concepts including: participatory culture, community, mobility, network theory, labor economics and globalization.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the Department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5125 - Media Industry Studies

3 hours The broader theoretical and practical implications of media industry structure and function. Provides students with research methods and critical frameworks for graduate study of the media industry.

Prerequisite(s): MRTS MA or MFA status and consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5131 - Research Methods in Media Arts

3 hours Introduction to research methods that are used in the field of media arts. 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5180 - Internship in Media Arts

1–3 hours Supervised off-campus work experience in a placement that relates to student's career objective.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5205 - History and Theory of Film Remakes

3 hours Cultural and industrial logics behind film remakes from their origins as "dupes" at the turn of the 20th century to their current iteration as reboots in the 21st century.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May meet with MRTS 4125.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5215 - British Cinema and Television

3 hours Advanced study of theoretical approaches to British national identity and how these are reflected in its cinema and television of the 1990s and beyond.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4215.

May not receive credit for both MRTS 4215 and MRTS 5215.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4220.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5225 - Women in Film

3 hours Advanced study of the development of feminist film theories and their continued impact on contemporary global cinema.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4225.

May not receive credit for both MRTS 4225 and MRTS 5225.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4240.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5245 - Documentary, Visual Anthropology and Immersive Storytelling

3 hours Advanced study of the theories, tools and techniques used to document and critically examine human culture within the fields of documentary film, visual anthropology, and emergent, immersive media forms.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4245.

May not receive credit for both MRTS 4245 and MRTS 5245.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5250 - Cinema Beyond the West

3 hours Advanced study of the historical development of cinema is examined in specific countries while considering its political and social influences up through present day.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4250.

May not receive credit for both MRTS 4250 and MRTS 5250.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5260 - Gender and Gaming

3 hours Using a cultural studies approach and a variety of research methods, this class looks at the intersections of gaming and gender through representation, identity, production, consumption and regulation.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4660.

May not receive credit for both MRTS 4660 and MRTS 5260.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5320 - Media Law and Regulations

3 hours Advanced study of the law and regulations governing film, television, and digital media.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4850.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5400 - Media Studies Seminars

3 hours In-depth studies of media—rotating topics.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5415 - Teen Media

3 hours Advanced study of youth media and cultures in post-war America. Exploration of pop culture, subcultures, identities, discourses, practices, representations and commodification.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4515.

May not receive credit for both MRTS 4515 and MRTS 5415.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5425 - Audience Research

3 hours Advanced study of quantitative and qualitative audience research methodologies and theories.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4425.

May not receive credit for both MRTS 4425 and MRTS 5425

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5428 - Mobile Media

3 hours Advanced study of mobile media including diffusion, economy, marketing and mobile app development.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4428.

May not receive credit for both MRTS 4428 and MRTS 5428.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5460 - Global Media

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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5480 - Practicum in the Teaching of Media Arts

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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4500.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5570 - Game Genre: Adventure Games

3 hours Tracing how the adventure game genre has shifted over its 50+ year history as a means of understanding what game genre is, how we can understand its historical transitions, and how the adventure game genre has been linked into particular conceptions and constructions of gender and consumption.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4570.

May not receive credit for both MRTS 4570 and 5570.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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 media industries.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5640 - Media Management

3 hours Financial, legal and technical aspects of broadcast stations and cable television systems.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5650 - Graduate Audio Production

3 hours Concepts, theories and methodologies of audio production and post production, particularly in regard to documentary applications. Topics covered include studio recording, audio field recording and post-production.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5665 - Gender, Race and Digital Media

3 hours Applies intersectional feminist media theory as a framework for analyzing the relationships between gender, race, and digital media. Builds upon critical race theory and sociotechnical approaches to technology to examine how platform politics shape and are shaped by identity, discourse, and experiences.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May meet with MRTS 4665.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5675 - Media and Power in Latin America

3 hours Advanced study of twenty-first century corporate leaders in Spanish-Language (and bilingual) media--as well as grassroots responses to such entities and content--on air, on film and online. Requires independent research or a media project.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Meets with MRTS 4675.

Credit may not be received for both MRTS 4675 and MRTS 5675.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5701 - Video Production Topics

3 hours Rotating topics in video production. Representative topics include documentary production and advanced television production.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5702 - Film Production Topics

3 hours Rotating topics in film production. Representative topics include lighting for cinematography and directing for film.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5750 - Cinema and Video Verité

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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5770 - Documentary Production

3 hours Production of an advanced documentary project from idea through final cut, culminating in a public screening.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5780 - Seminar in Contemporary Documentary

3 hours Analysis of the form and content of contemporary documentary media. Emphasis on current theory and practice. Screenings of works and excerpts are included in addition to assigned research projects in appropriate areas.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5790 - Advanced Documentary Workshop I

3 hours Advanced training in documentary production with emphasis on producing, directing, shooting, lighting and sound recording though lectures, discussions, lab workshops, screenings and field production.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Students must enroll each term/semester they are in the program until successful defense of MFA thesis. Only 6 hours credit may count toward degree.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5810 - Directing Narrative Media

3 hours Theories and practices of the role of the Film and TV director are examined with the production of short films, actor collaborations, and screenings.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May meet with MRTS 4810.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5830 - Documentary Cinematography

3 hours Concentrated study of the theory and craft of photographing the moving image as it applies to documentary filmmaking. Through a combination of hands-on exercises, screenings, discussion, critique and lecture, students are introduced to the current technologies and aesthetics of documentary cinematography. Areas covered include: lighting for film and high definition cameras, camera and lighting peripherals, camera movements, ethics and legalities of documentary cinematography, and film language.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5900 - Special Problems

1–3 hours Individual study topics to be proposed by the student and approved by MRTS faculty and department chair prior to commencing work.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5910 - Special Problems

1–3 hours Individual study topics to be proposed by the student and approved by MRTS faculty and the department chair prior to commencing work.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5911 - Special Problems in Video Production

1–3 hours Individual study topics to be proposed by the student and approved by MRTS faculty and production committee prior to commencing work.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5912 - Special Problems in Film Production

1–3 hours Individual study topics to be proposed by the student and approved by MRTS faculty and production committee prior to commencing work.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5913 - Special Problems in Audio Production

1–3 hours Individual study topics to be proposed by the student and approved by MRTS faculty and production committee prior to commencing work.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 5914 - Special Problems in Advanced Film Production

1–3 hours Individual study topics to be proposed by the student and approved by MRTS faculty and production committee prior to commencing work.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

MRTS 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 school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): Enrollment in a graduate program offered by the Department of Media Arts is required or by consent of the department.

Once enrolled in thesis, a student must continue to enroll in thesis each term until successful defense. Only 6 hours credit may count toward degree.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Meets the deficiency requirement for MS in Merchandising and may be counted as part of a graduate program in a field other than merchandising.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Meets with MDSE 4080.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5090 - Digital Merchandising

3 hours Study and application of visual merchandising in a virtual format. Emphasis on merchandising processes that convey product characteristics to the consumer from production through distribution. Development of web site using computer software

Meets with DBUS 4090.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5240 - Global 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5330 - Consumer Analytics and Data Visualization

3 hours Application of various consumer research methodologies including descriptive and predictive analysis in developing effective business strategies. Solving complex problems and providing viable solutions using analytics tools and data visualization programs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5370 - Digital Retailing Analytics Tools and Insights

3 hours In-depth studies of top analytical tools that provide analysis of business trends, patterns, and performance in the retail industry, and hands-on practice of analytical skills to derive data-driven insights to improve customer experience, increase sales, and optimize operations. The analytical tools to be learned include Excel PivotTable/PivotChart, Tableau Essential, Power BI and Google Analytics. Important analytical metrics and methods used in these tools are covered.

Meets with DRTL 4370.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Meets with MDSE 4510.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5570 - Merchandising Analytics For Retail Buying Strategies

3 hours Students investigate various scenarios and case studies to make effective decisions in simulated retail buying and merchandising situations. Students evaluate merchandising and consumer theories in relation to inventory acquisition and control. Students investigate current market trends from a strategic perspective to create merchandising plans and develop strategies for maximization of profit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5620 - Socio-Cultural Analysis of Dress

3 hours Explores the social, psychological and cultural theories of dress and appearance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Meets with MDSE 4660.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5710 - Digital Optimization

3 hours Study of web site interface design principles, web usability and digital merchandising tools for optimizing digital retailing performance. Analysis and applications of consumer data to design and manage consumer experience in digital platforms.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Meets with MDSE 6750.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5790 - Field Experience in Merchandising

3 hours Arranged.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5800 - Social Media Analytics: Data Visualization and Insights

3 hours Provides innovative ways to visualize and analyze consumer network data from diverse social media platforms. Students develop social media analytic skills of creating interactive network reports using various technologies. Students practice essential data visualization skills for developing consumer insights.

Prerequisite(s): None. Students interested in social network analysis and visualization can take it without prior knowledge or course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

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.

Meets with MDSE 4850.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5900 - Special Problems in Merchandising

1–3 hours Arranged.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5910 - Special Problems in Merchandising

1–3 hours Arranged.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5920 - Problem in Lieu of Thesis

3 hours No credit given until problem in lieu of thesis is completed.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 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 school. Continuous enrollment required once work on thesis has begun.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 5960 - Consumer Insights Using Data Analytics

3 hours In this capstone course students analyze case studies on topical issues related to consumers' response to the emerging technologies and synthesize insights on consumer behavior through data analytics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 6710 - Digital Optimization

3 hours Study of website interface design principles, web usability, and digital merchandising tools that optimize digital retailing performance. Analysis and applications of consumer data to design and manage consumer experience in digital platforms.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

MDSE 6750 - Digital Retailing

3 hours Analysis and application of electronic information exchange technology related to textile, apparel, home furnishings, and other fashion-oriented products. Emphasis on product development, manufacturing/production, distribution, merchandising, and e-commerce sales

Meets with MDSE 5750.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

Merchandising, Hospitality and Tourism

CMHT 5000 - Global Discovery in Merchandising and Hospitality Management

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 college.

Meets with CMHT 4000.

Pre-trip and post-trip classes are required. No more than three hours of field study may be used to fulfill degree requirements.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 5200 - Mixed Methods Research For Consumer Markets

3 hours Introduces students to the theories, design and applications used in mixed-methods research as it pertains to social and human inquiry. Students learn how qualitative and quantitative consumer data can be integrated to answer complex research questions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 5400 - Quantitative Data Analysis: Applications in Merchandising & Hospitality Management

3 hours Application of statistical techniques to the problems of merchandising or hospitality industries using SPSS software package. Emphasis is on conceptualizing problems, analyzing and interpreting quantitative information. Topics include identification of appropriate metrics and measurement methods, descriptive and inferential statistics, parametric and non-parametric tests, correlation and linear regression, categorical data analysis and factor analysis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 5500 - Social Media Analytics using SNA

3 hours Theoretical and methodological introduction to the analysis of social media networks: collecting, analyzing, visualizing and generating insights from the collections of connections formed from a large cloud of favorites, comments, tags, likes, ratings and links in social media that is applicable across various business sectors.

Prerequisite(s): No prerequisites. Students interested in social network analysis and visualization can take it without prior knowledge or course.

Meets with CMHT 6500.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 5610 - Network Analysis Visualization (NAV) for Social Media Marketing

3 hours Tools and processes to analyze the network data in social media are essential for enabling practitioners and researchers to sustain the success of social media marketing. Based on the Network Analysis and Visualization (NAV) process model, the course articulates the export, analysis, interpretation, and visualization of big data collected from online networks in social media.

Meets with CMHT 6600.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 5770 - Digital Strategies & Consumer Insight

3 hours Provides a holistic overview of digital retailing strategies through examination of merchandising, marketing and customer experience strategies in digital marketspaces. Focuses on how to help organizations make intelligent decisions while conducting business in the digital age. Emphasis is on the understanding of digital technologies and critically evaluating their influence, particularly on digital channel strategies.

Meets with CMHT 6770.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 5800 - Seminar in Various Areas of Concentration

3 hours May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 5850 - Qualitative Research Methods in Consumer Behavior Studies

3 hours Explores the design and use of qualitative research methodologies and how the various qualitative research methods contribute to the insight and depth of our understanding of the consumer. Students identify research topics and prepare a manuscript for publication.

Prerequisite(s): CMHT 5300 or equivalent understanding of research methods.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 5870 - Customer Relationship Management Analytics

3 hours Provides students with a comprehensive understanding of principles and practical insights into effective customer relationship management (CRM) through the use of customer databases and information system tools. Key aspects include strategic, analytical, and operational aspects of CRM, along with customer investment strategies for acquisition, retention, and development, supported by customer data analytics to measure customer lifetime value and return on investment.

Meets with CMHT 6870.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 6500 - Social Media Analytics using SNA

3 hours Theoretical and methodological introduction to Link Analysis (also called, Webometrics) from the perspective of Social Network Analysis: collecting, analyzing, visualizing and interpreting a large cloud of favorites, comments, tags, likes, ratings and links that are applicable across various business sectors.

Meets with CMHT 5500.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 6600 - Network Analysis Visualization (NAV) for Social Media Marketing

3 hours Based on the Network Analysis and Visualization (NAV) process model; articulates the analysis, interpretation and visualization of big data collected from online networks in social media. Draws on the foundation of CMHT 6500 to (1) synthesize network analysis and graph theory in the broader fields of digital retailing theories; (2) advance methods for collecting, analyzing, visualizing and interpreting big data; (3) discover network patterns and consumer trends in social media based on the cluster and semantic analysis; and (4) develop social media strategies for digital retailing.

Meets with CMHT 5610.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 6770 - Digital Strategies and Consumer Insight

3 hours Provides a holistic overview of digital strategies and consumer insights through examination of digital innovations and the strategic use of technologies in the merchandising, hospitality, event, and tourism industries. Focus is on how to help organizations make intelligent decisions while conducting business in the digital age. Emphasis is on the understanding of digital technologies, consumer behavior in a digital environment, new technology trends and critically evaluating their influence particularly on digital merchandising strategies.

Meets with CMHT 5770.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 6870 - Customer Relationship Management Analytics

3 hours Provides students with a comprehensive understanding of principles and practical insights into effective customer relationship management (CRM) through the use of customer databases and information system tools. Key aspects include strategic, analytical, and operational aspects of CRM, along with customer investment strategies for acquisition, retention, and development, supported by customer data analytics to measure customer lifetime value and return on investment. Additional assignments will be required as appropriate to enrich the doctoral students' experience.

Meets with CMHT 5870.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

CMHT 6900 - Special Problems

3 hours Research by doctoral students in fields of special interest. Includes research studies and intensive reading programs, accompanied by conferences with professors in fields involved.

Prerequisite(s): Approved application for special problems and independent research by instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $10.40

Music Applied Private Lessons (Concentration)

MUAC 5501 - Piano

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5502 - Organ

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5503 - Voice

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5504 - Violin

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5505 - Viola

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5506 - Cello

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5507 - Double Bass

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5508 - Flute

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5509 - Oboe

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5511 - Clarinet

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5512 - Saxophone

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5513 - Bassoon

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5514 - French Horn

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5516 - Trumpet

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5517 - Trombone

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5518 - Euphonium

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5519 - Tuba

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5521 - Percussion

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5522 - Harp

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5527 - Guitar

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5528 - Harpsichord

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5532 - Early Instruments

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5534 - Collaborative Piano

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 5535 - Instrumental Collaborative Piano

1–3 hours Master's-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6501 - Piano

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6502 - Organ

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6503 - Voice

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6504 - Violin

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6505 - Viola

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6506 - Cello

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6507 - Double Bass

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6508 - Flute

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6509 - Oboe

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6511 - Clarinet

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6512 - Saxophone

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6513 - Bassoon

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6514 - French Horn

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6516 - Trumpet

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6517 - Trombone

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6518 - Euphonium

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6519 - Tuba

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6521 - Percussion

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6522 - Harp

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6527 - Guitar

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6528 - Harpsichord

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6534 - Collaborative Piano

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentrations.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAC 6535 - Instrumental Collaborative Piano

1–3 hours Doctoral-level applied music, private lessons. Variable credit for concentration.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Music Applied Private Lessons (Major)

MUAM 5501 - Piano

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5502 - Organ

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5503 - Voice

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5504 - Violin

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5505 - Viola

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5506 - Cello

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5507 - Double Bass

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5508 - Flute

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5509 - Oboe

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5511 - Clarinet

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5512 - Saxophone

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5513 - Bassoon

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5514 - French Horn

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5516 - Trumpet

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5517 - Trombone

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5518 - Euphonium

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5519 - Tuba

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5521 - Percussion

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5522 - Harp

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5527 - Guitar

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5528 - Harpsichord

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5533 - Conducting

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5534 - Collaborative Piano

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 5535 - Instrumental Collaborative Piano

1–5 hours Master's-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6501 - Piano

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6502 - Organ

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6503 - Voice

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6504 - Violin

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6505 - Viola

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6506 - Cello

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6507 - Double Bass

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6508 - Flute

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6509 - Oboe

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6511 - Clarinet

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6512 - Saxophone

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6513 - Bassoon

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6514 - French Horn

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6516 - Trumpet

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6517 - Trombone

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6518 - Euphonium

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6519 - Tuba

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6521 - Percussion

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6522 - Harp

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6527 - Guitar

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6528 - Harpsichord

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6533 - Conducting

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6534 - Collaborative Piano

1–5 hours Doctoral-level applied music, private lessons. Variable credit for majors.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAM 6535 - Instrumental Collaborative Piano

1–5 hours Doctoral-level applied music. Variable credit for majors.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Music Applied Private Lessons (Secondary)

MUAS 5501 - Piano

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5502 - Organ

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5503 - Voice

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5504 - Violin

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5505 - Viola

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5506 - Cello

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5507 - Double Bass

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5508 - Flute

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5509 - Oboe

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5511 - Clarinet

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5512 - Saxophone

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5513 - Bassoon

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5514 - French Horn

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5516 - Trumpet

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5517 - Trombone

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5518 - Euphonium

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5519 - Tuba

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5521 - Percussion

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5522 - Harp

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5523 - Functional Piano

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5524 - Vocal Coaching

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5525 - Baroque Harp

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5527 - Guitar

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5528 - Harpsichord

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5531 - Keyboard Continuo Playing

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 5532 - Early Instruments

1–2 hours Master's-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6501 - Piano

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6502 - Organ

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6503 - Voice

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6504 - Violin

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6505 - Viola

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6506 - Cello

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6507 - Double Bass

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6508 - Flute

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6509 - Oboe

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6511 - Clarinet

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6512 - Saxophone

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6513 - Bassoon

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6514 - French Horn

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6516 - Trumpet

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6517 - Trombone

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6518 - Euphonium

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6519 - Tuba

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6521 - Percussion

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6522 - Harp

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6524 - Vocal Coaching

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6525 - Baroque Harp

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6527 - Guitar

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUAS 6528 - Harpsichord

1–2 hours Doctoral-level applied music, private lessons. Variable credit for secondaries.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Music Business

MUCE 5000 - Music Business and Entrepreneurship

3 hours Provides students with music business foundations as well as planning and launching a musical venture. Students become acquainted with the entrepreneurial strategies and diverse trends used to embark on professional music careers. Upon completion, students compile a professional portfolio, create or improve their own websites, and implement a plan of action for a music business plan based on their specific interests and needs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCE 5010 - Marketing for Musicians

3 hours Designed to help students develop marketing skills and an understanding of techniques and strategies required to promote their artistry or musical venture.

Recommended: MUCE 5000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCE 5020 - Music Leadership and Performing Arts Management

3 hours Provides students with the tools and resources to create, develop, facilitate, and evaluate performing arts organizations. Also covers music leadership techniques and examples to effectively lead an arts organization.

Recommended: MUCE 5000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCE 5030 - Music Entrepreneurship Practicum/ Internship

1–3 hours Practicum with an arts organization, music business, or other relevant institution as approved by the area coordinator in music business.

Recommended: MUCE 5000 and students must be placed with approval from faculty in order to be matched appropriately.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCE 5040 - Music Law and Finance

3 hours Course covers principles of music law, music copyright issues, contract negotiation, funding opportunities, and financial management for music business and entrepreneurship.

Recommended: MUCE 5000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCE 5050 - Artist Management and Touring

3 hours Covers the basic principles of musical artist and talent management and development in both commercial and classical/jazz industries.

Recommended: MUCE 5000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCE 5060 - Beginning Digital Audio Production for Music Entrepreneurs

3 hours Course introduces concepts and techniques of music production using industry-standard DAW (Digital Audio Workstation) software. Students learn concepts in building a recording studio business.

Recommended: MUCE 5000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCE 5070 - Business of Media in Music

3 hours A practical study of the music industry around visual media production. Also discusses career options, roles and responsibilities, sources of revenue, copyright, publishing, recording and production, contracts, and business strategies.

Recommended: MUCE 5000.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: Acceptance into the graduate composition program as a major or concentration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5180 - Secondary Composition

2–3 hours Development of contemporary compositional techniques and styles.

Recommended: 6 hours of undergraduate composition or consent of division.

For non-composition majors. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5185 - Concentration Composition

2–3 hours Composition in larger forms for various media.

Recommended: 6 hours of undergraduate composition or equivalent; acceptance to the composition program as a related field or concentration.

For students with a related field or concentration in composition. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5190 - Master's Composition

2–3 hours Composition in larger forms for various media.

Recommended: Bachelor's degree in composition or equivalent; successful completion of MUCP 5080.

Restricted to students who have been admitted to the MM in composition. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUCP 4310 or equivalent; consent of division.

Meets with MUCP 4320.

Primarily for composition majors.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5325 - Digital Orchestration

3 hours Advanced techniques and practices around digital orchestration—MIDI programming, sample selections, and DAW workflows facilitating the production of lifelike virtual digital band and/or orchestra recordings. Assignment sequence begins with programming individual digital instrument performances, moving on to chamber ensembles, and finally programming full-scale virtual band or orchestra. For the final project, students produce a virtual band, concert orchestra, or film score orchestra recording to professional standards.

Prerequisite(s): MUCP 5320 or consent of instructor.

Meets with MUCP 4325.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5550 - Sonic-Visual Aesthetics

3 hours

Explores and addresses the relationship of sound to picture. Outlines the correlative esthetic components, discusses their impact on perception, and puts them into practice by creating original sound scores for a collection of visual works.

Topics include Hz partials; sound mapping; sonic texture vs. content; tonal and timbral divergence; timing and phrasing; sonic frequency partitions; advanced audio plugin processing; and audio mixing and mastering.

Meets with MUCP 4550.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5560 - Music in Film and Media

3 hours Students explore music in film and visual media, outlining skills for critical listening and viewing of audio-visual works. Modes of creative practice and interaction between filmmakers and composers are discussed and explored in the analysis of films and in collaborative student project assignments.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5580 - Contemporary Notation and Performance Practices

3 hours Study of 20th- and 21st-century notation and performance practices, including notational innovations, extended instrumental techniques, and approaches to interpretation. Includes research project and written document.

Recommended: MUCP 5460, MUMH 5343, or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5670 - Introduction to Electroacoustic Music

3 hours Theory, principles and practice of electroacoustic composition. Includes weekly studio time.

Recommended: 6 hours of composition or consent of division.

Meets with MUCP 4670.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5685 - Topics in Composition

3 hours Advanced projects in composition focusing on compositional techniques, practices and analytical approaches.

Recommended: MUCP 3190, MUCP 4080, or equivalents.

Meets with MUCP 4685.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5690 - Topics in Computer Music

3 hours Advanced studies in computer music and related media focusing on compositional techniques, interactive systems, software tools, hardware design, performance practices and analytical approaches.

Recommended: MUCP 4670/MUCP 5670 or equivalent.

Meets with MUCP 4690.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5695 - Topics in Contemporary Music

3 hours Advanced research in contemporary music focusing on repertoire, contemporary practices and analytical approaches.

Recommended: MUTH 2500 and MUMH 3510, or equivalents.

Meets with MUCP 4695.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 5910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 6190 - Doctoral Composition

2–3 hours Composition project of substantial scope.

Recommended: Master's degree in composition or equivalent; successful completion of MUCP 5080.

Restricted to students who have been admitted to the DMA program in composition. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 6195 - Advanced Research in Composition

3 hours Individually directed research in composition, including analytical and historical perspectives.

Recommended: 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: 9 hours of MUCP 5690 or equivalent; successful completion of MUCP 5080. Approved research topic proposal and consent of division.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 6900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUCP 6910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Music Education

MUED 5000 - Teaching Music in Urban/Rural Settings

3 hours Examination of critical issues in teaching music to students in rural and urban settings with an emphasis on culturally-relevant pedagogy.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5010 - Music in Special Education

3 hours Examination of issues and pedagogical techniques related to teaching music to students with emotional, cognitive, and physical disabilities within PK-12 classrooms.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5020 - Beginning and Intermediate Instrumental Pedagogy, Conducting, and Rehearsal Techniques

3 hours Beginning and intermediate wind and percussion instrumental pedagogy, development of conducting technique through lab experiences, and application of rehearsal techniques in a band setting.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5030 - Advanced Instrumental Pedagogy, Conducting and Rehearsal Techniques

3 hours Advanced wind and percussion instrumental pedagogy, development of conducting technique through lab experiences, and application of rehearsal techniques in a band setting.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5050 - Choral Techniques for Secondary Choral Music Beginner-Intermediate

3 hours Advanced choral teaching techniques with emphases on beginning and intermediate students in secondary schools.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5060 - Choral Techniques for Secondary Choral Music-Advanced

3 hours Choral methods with focus on advanced rehearsal techniques, literature selection, lesson planning, curricular development, and analysis of instructional behavior.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5070 - Orff Techniques

3 hours Overview and application of Orff-Schulwerk teaching techniques with a focus on the elementary general music classroom.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5090 - Technology in the Strings Classroom

3 hours Technology as applied to the string/orchestra classroom. Emphasis on hardware and software applications as well as philosophical considerations for using technology to enhance music teaching and learning.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5100 - Music Supervision

3 hours Organization and duties; improving instruction; demonstration teaching; public department curricula. Supervisor's relation to community; ethics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5120 - Applied Research in Music Education

3 hours Theories, techniques and procedures for conducting and understanding research related to human musical behaviors.

Open to graduate students in music education and other music majors. Required for all master's degree students in music education.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5150 - Pedagogy in Practice

3 hours Music teaching skills and characteristics of effective teachers; critique teacher practices and abilities.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Required for all master's degree students in music education.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5410 - Instrumental Jazz Pedagogy

3 hours Basic foundation for the skills necessary to effectively teach and perform jazz music within the secondary instrumental setting. Students develop their own personal musicianship skills within the jazz idiom in addition to learning how to develop these musical skills with middle and high school-aged students.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5430 - World Music Pedagogy

3 hours Introduction to world music culture, including both sonic and sociocultural dimensions of music-in-culture through the world music pedagogy approach.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5600 - Curriculum and Assessment in Music Education

3 hours An exploration of issues surrounding curricular design and assessment practices in music education, with a focus on school contexts in the U.S.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5810 - Music Education Capstone Proposal

2 hours Proposal for summers-only MMEd Capstone Project. Capstone project is a practical project related to classroom pedagogy, curriculum, or policy or a research project.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis) and consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5820 - Music Education Capstone Project

2 hours Final submission for summers-only MMEd Capstone Project. Capstone project is a practical project related to classroom pedagogy, curriculum, or policy or a research project. The project is completed between the second and third summers of the program and presented during the third summer.

Recommended: Acceptance to the summers-only MMEd program (teaching emphasis) and consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

May be repeated for credit when topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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).

Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 5910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 6430 - Principles of Music Learning

3 hours Principles of music learning with specific attention to the process of learning musical skills and concepts.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUED 5120 or consent of college.

Required of all doctoral candidates in music education.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUED 5120, EPSY 5210, or MUMH 5010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 6480 - Doctoral Seminar in Music Education

1 hour Current trends, concepts, programs and practices.

Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: MUED 5120 or MUMH 5010.

Required of all doctoral candidates in music education.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 6580 - College Teaching of Music Courses

3 hours Designed for students seeking teaching positions in higher education. An examination of trends in music schools and in higher education and how these relate to the job search. Content includes principles of organization and instruction for all types of music courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 6900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUED 6910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5530 - Early Music Ensembles

1 hour (0;3) Performance of vocal and instrumental music from the period 1200–1800.

Prerequisite(s): Audition required and MUAC- or MUAS- level lessons may be required based on audition outcome.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5590 - NOVA Ensemble Specialization

1 hour Performance of contemporary chamber works for mixed ensembles; for graduate students who have been admitted to the related field in contemporary music.

Recommended: Acceptance to the related field in contemporary music.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5595 - Intermedia Performance Arts

1 hour (0;1) Performance component of MUCP 5590, to be taken concurrently.

Corequisite(s): MUCP 5590.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5602 - Brass Ensembles

1 hour (0;3) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5605 - Chamber Wind Ensemble

1 hour (0;3) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5611 - Jazz Ensembles

1 hour (0;2) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5617 - Percussion Ensembles

1 hour (0;2) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5621 - String Ensembles

1 hour (0;2) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5624 - Vocal Ensembles

1 hour (0;3) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5625 - Wind Ensembles

1 hour (0;2) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5626 - Mariachi Aguilas

1 hour Study of traditional and contemporary repertoire, focusing on the socio-cultural and stylistic aspects. Opportunities for performance on campus and in the local community.

Meets with MUEN 2626.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUEN 5630 - Harp Ensemble

1 hour (0;3) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Music History and Literature, Musicology

MUMH 5010 - Introduction to Research in Music

3 hours Introduction to research techniques and application.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 5020 - Introduction to Musicology

3 hours Critical assessment of current issues, methodologies and themes in musicological research.

Recommended: Leveling and review course requirements satisfied. Concurrent enrollment in MUMH 5010 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 5030 - Advanced Issues in Music Research

3 hours Advanced study of research and writing techniques and their application to proposals and papers, in the context of a selected topic.

Recommended: Leveling and review course requirements satisfied; MUMH 5010 or equivalent or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 5110 - History of Opera

3 hours In-depth examination, at the graduate level, of selected topics in the history of opera.

Prerequisite(s): Leveling and review course requirements satisfied, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 5450 - Topics in Popular Music

3 hours Examination of selected topics in the history of popular music. Topics vary by term/semester.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Meets with MUMH 3500.

May not be applied to the degree plan.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Meets with MUMH 3510.

May not be applied to the degree plan.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 5600 - Music Before 1800

3 hours Current historical, analytical and methodological issues on selected repertories of early music. Combination of lectures, source study and writing.

Recommended: Leveling and review course requirements satisfied, or consent of instructor.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Recommended: Admittance to MM in musicology, DMA or MM related fields in early music or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 5711 - Proseminar in Musicology

3 hours Practical application of musicological techniques to selected research.

Recommended: Leveling and review course requirements satisfied; MUMH 5010 or equivalent or consent of instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 5900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 5910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 6000 - Seminar in Musicology

3 hours Seminar on a selected topic in musicology.

Recommended: Leveling and review course requirements satisfied; MUMH 5010 or equivalent or consent of instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 6010 - Seminar in Historical Performance Practices

3 hours Advanced study of performance practice before 1900.

Recommended: Leveling and review course requirements satisfied; MUMH 5010 or equivalent; or consent of instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 6020 - Music History Pedagogy

1.5 hours Approaches to teaching in the music history classroom, including syllabi, innovative pedagogy, and teaching portfolio. Taught by specialists in the field.

Prerequisite(s): Consent of program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 6030 - Professional Development in Musicology

1.5 hours Writing skills necessary to professional advancement in musicology including conference abstracts and presentations, grant proposals, journal articles, cover letters, and research statements. An exploration of the diverse and varied institutional settings within and beyond higher education in which musicologists work. Taught by specialists in the field.

Recommended: MUMH 6020.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 6900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUMH 6910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Music Laboratories

MULB 5171 - Large Ensemble: Choir

1 hour Vox Aquilae, Kalandra, Chorale

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MULB 5172 - Large Ensemble: Orchestra

1 hour (0;4) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MULB 5173 - Large Ensemble: Band

1 hour Graduate Wind Symphony, Wind Orchestra, Varsity Band, Symphonic Band, Wind Ensemble, Concert Band, Brass Band.

May be repeated for credit. All wind studies graduate students auditioning for an ensemble must enroll in MULB 5173.520 and will be moved to the appropriate ensemble section after auditions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MULB 5174 - Large Ensemble: Jazz Lab Band

1 hour (0;4) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MULB 5175 - Large Ensemble: Accompanying

1 hour (0;4) May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Music Stage Directing

MUSD 5500 - Assistant Directing a Mainstage Opera Production

1 hour Students develop understanding and skills of preparing an opera production concept, translating the concept into reality, operatic acting and blocking, lighting, design, and practical scheduling of rehearsals and performances.

Prerequisite(s): Consent of division.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional)

Music Theory

MUTH 5010 - Graduate Theory Review

2 hours Theoretical principles of music from the 17th through early 20th centuries and their application through analysis and aural skills.

May not be applied to the degree plan.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5020 - Readings and Professional Writing in Music Theory

3 hours Exploration of the dominant trends in music theory and the principal genres of professional writing in the discipline; a heavy reading and writing component.

Recommended: Satisfactory score on Graduate Placement Examination, or MUTH 5010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5080 - Pedagogy of Theory

3 hours Methodologies of teaching and acquiring concepts of musical structure; compilation of teaching materials. Practical observation and supervised teaching of collegiate written theory and aural skills.

Recommended: Satisfactory score on Graduate Placement Examination, or MUTH 5010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5350 - Music Analysis and Performance

3 hours (0;3) Music analysis with a focus on performance practice. Primarily for performers who want to explore analytical techniques that facilitate approaches to musical style and performance.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)

3 hours Application of appropriate analytical approaches and methodologies in music written 900–1700.

Recommended: Satisfactory score on Graduate Placement Examination, or MUTH 5010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5360 - Analytical Techniques II (1700–1900)

3 hours Application of appropriate analytical approaches and methodologies in music written 1700–1900.

Recommended: Satisfactory score on the Graduate Placement Examination.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5370 - Analytical Techniques III (Post 1900)

3 hours Application of appropriate analytical approaches and methodologies in music written after 1900.

Recommended: Satisfactory score on Graduate Placement Examination, or MUTH 5010. MUTH 5360 recommended. MUTH 4520 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5375 - Analytical Techniques for Popular Music

3 hours Analysis of materials and techniques in popular music and related musical genres.

Recommended: Satisfactory score on Graduate Placement Examination, or MUTH 5010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5380 - Schenkerian Analysis

3 hours (3;0) Analysis of tonal music according to the theory of structural levels and methods of graphic analysis developed by Heinrich Schenker.

Meets with MUTH 4370.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5410 - 16th Century Counterpoint

3 hours Contrapuntal procedures of 16th-century composers. Writing motets and madrigals in two to four voices.

Meets with MUTH 3410.

May not be applied to the degree plan.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5420 - 18th Century Counterpoint

3 hours Contrapuntal procedures of 18th century composers. Writing inventions, chorale preludes and other 18th century forms.

Meets with MUTH 3420.

May not be applied to degree plan.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Meets with MUTH 3510.

May not be applied to the degree plan.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5540 - Harmonic Analysis

3 hours Harmonic principles of 18th- and 19th-century Western music determined by analysis of a wide variety of works, including larger instrumental and vocal forms, and by applying diverse analytical methods.

Meets with MUTH 3540.

May not be applied to the degree plan.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5680 - Proseminar in Music Theory

3 hours Investigation and research; subject matter variable to meet needs of students.

Recommended: Satisfactory score on Graduate Placement Examination, or MUTH 5010.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 5910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 6660 - History of Music Theory I

3 hours Theoretical systems and treatises from antiquity to 1700.

Recommended: MUMH 5010 or MUMH 5020 (concurrent enrollment is acceptable), or equivalent; satisfactory score on the Graduate Placement Examination, or MUTH 5010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 6670 - History of Music Theory II

3 hours Harmonic theories and analytical systems from Rameau to the twentieth century.

Recommended: MUMH 5010 or MUMH 5020 (concurrent enrollment is acceptable), or equivalent; satisfactory score on the Graduate Placement Examination, or MUTH 5010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 6680 - Proseminar in Music Theory

3 hours Investigation and research; subject matter variable to meet needs of students.

Recommended: Satisfactory score on Graduate Placement Examination, or MUTH 5010.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 6900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUTH 6910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

Operations and Supply Management

OPSM 5840 - Strategic Supply Management

3 hours Examines how organizations can move beyond the tactical and functional operations of purchasing to proactively and strategically design, establish, manage, and optimize the firm's supply base of goods and services to improve both the organization's financial success and overall supply chain performance. Addresses supply management's role in social responsibilities, buyer-supplier relationships, ethics, cross-functional teams, quality, price and cost analysis, total cost of ownership, risk management, development of requirements, outsourcing, global sourcing, supplier development and legal issues.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

OPSM 5850 - Supply Chain Operations Management

3 hours Delves into how the operations function helps firms gain competitive advantage by effectively producing and distributing their goods and services. Introduces operations analytics that help firms develop world class operational capabilities of innovation, quality, delivery, flexibility, and cost.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Performing Arts Health

MUPH 5000 - Introduction to Performing Arts Health

3 hours General introduction to the discipline of performing arts health, including major contributions to the field, history, methodologies, and practical applications to performance, education and pedagogy, and clinical intervention.

Prerequisite(s): Consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUPH 5012 - Musculoskeletal Health in Performing Arts Health

3 hours Primary theories and concepts of musculoskeletal health as applied to performing arts health.

Recommended: MUPH 5000 and consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUPH 5014 - Hearing Conservation in Performing Arts Health

3 hours Primary theories and concepts of hearing conservation as applied to performing arts health.

Recommended: MUPH 5000 and consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUPH 5016 - Psychology in Performing Arts Health

3 hours Primary theories and concepts of psychology as applied to performing arts health.

Recommended: MUPH 5000 and consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUPH 5018 - Voice in Performing Arts Health

3 hours Primary theories and concepts of vocal health as applied to performing arts health.

Recommended: MUPH 5000 and consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUPH 6000 - Proseminar in Performing Arts Health

1 hour Topical discussions, presentations and reviews of relevant activities and literature in performing arts health.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUPH 6010 - Advanced Seminar in Performing Arts Health

3 hours Conceptualization, proposal process, ethical standards and planning for a dissertation or major research project in performing arts health.

Recommended: MUPH 5000, MUPH 5012, MUPH 5014, MUPH 5016, MUPH 5018 and consent of instructor.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUPH 6100 - Performing Arts Health Research Methods

1 hour Research techniques and their application to the research process in performing arts health.

Recommended: MUPH 5000 and consent of instructor.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUPH 6200 - Performing Arts Health Practicum

1 hour Experiential training in performing arts health research and practice.

Recommended: MUPH 5000 and consent of instructor.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5100 - Ancient Greek Philosophy

3 hours Advanced examination of Ancient Greek philosophy. Topics include concepts of nature, concepts of character, the function of knowledge, ethics and the good life, the state and politics. Major thinkers normally covered include the pre-Socratics, Plato, and Aristotle.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5150 - Feminist Philosophy

3 hours In-depth examination of traditional philosophical themes from diverse feminist perspectives, theories and lived experiences. An intersectional and transnational approach to topics such as language, embodiment, identity, power and the environment, as well as the history of the women's movement and ongoing dialogues about feminist theories, methods and practices.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5200 - Modern European Philosophy

3 hours Advanced examination of modern European philosophy. Topics include metaphysics, epistemology, human nature, nature, skepticism, subjectivity, moral and political philosophy. Major thinkers covered may include Bacon, Descartes, Spinoza, Locke, Hume, and Kant.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5250 - Topics in the History of Philosophy

3 hours Concentrated examination of one or more particular philosophers, historical periods, or philosophical themes. Topics are arranged to meet the specific interests of students, the expertise of faculty members and the general needs of the graduate program.

May be repeated for credit as topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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. Nettler, L.A. White, B.F. Skinner, C. Geertz, T. Kuhn, P. Winch and M. Weber.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5450 - Philosophy as a Way of Life

3 hours An exercise in the theory and practice of philosophical methods as embodied enactments, forms of self-cultivation, and habits for spiritual transformation, the course covers a range of philosophical practices relevant to personal, professional, and socio-political concerns.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5650 - Asian Philosophies and Religions in Practice

3 hours Provides an insight into worldviews by studying the major Asian philosophies and religions such as Hinduism, Buddhism, Jainism, Daoism, Confucianism, Shinto and Zen.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5675 - Judaism and Philosophy

3 hours Philosophical examination of Jewish ideas, values, cultures, and identities from diverse points of view. Topics may include contemporary controversies over Jewish teachings concerning society, politics, law, race, gender, and sexuality.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5700 - Environmental Philosophy

3 hours Intensive analysis of new positions in environmental philosophy 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5750 - Anthropocene Futures

3 hours Critical examination of the Anthropocene concept and its future-shaping potential. Explores humanities engagements with geologic time and agency, including feminist, posthuman, anti-racist and decolonial approaches, and their respective visions for emergent ecologies and apocalypses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5800 - Philosophies of Climate Change

3 hours In-depth examination of the philosophical, socio-political, cultural and ethical dimensions of climate change through the use of normative and conceptual theories. Explores interdisciplinary issues such as climate justice, uncertainty and risk, individual and collective responsibilities, and the role of science and technology in policy.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5900 - Special Problems

1–6 hours Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5910 - Special Problems

1–3 hours Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 school.

Continuous enrollment required once work on the thesis has begun. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 5960 - Seminar in Problems of Philosophy

3 hours Intensive analysis of major philosophical issues against the background of classical and contemporary investigations.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6275 - Hermeneutics

3 hours A close reading of Gadamer, *Truth and Method* in order to analyze the main themes in philosophical hermeneutics followed by an examination of several of its critics, such as Habermas, Derrida, Ricoeur, and Rorty.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6325 - Levinas

3 hours An in-depth engagement with Emmanuel Levinas's foundational book-length works and key philosophical ideas in areas of ethics, justice, and politics, followed by an examination of his influence on contemporary debates including animal ethics and environmental philosophy.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6375 - Latin American Philosophy

3 hours An advanced examination of Latin American philosophy and philosophies of the Americas, including philosophies of Indigenous, Latine, and African diasporic peoples to discuss social-political concerns raised during the colonial era, revolutionary periods, and contemporary societies. Topics include debates about knowledge, aesthetics, colonialism, racial-ethnic identity, feminisms, and liberation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6475 - Philosophy of Diversity

3 hours An examination of the theory and practice of diversity; the historical context of oppression for understanding diversity, privilege, social identity; the role of the body in diversity and stereotypes; and the personal experiences of those who are oppressed and those who are privileged. Explores strategies for confronting oppression and enhancing diversity in social life, in the workplace, and in institutions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6525 - Critical Theory

3 hours An examination of the main writings of the Frankfurt School of Critical Theory that reviews foundational texts in social thought by Hegel, Marx, and Lukács and interdisciplinary works by Horkheimer, Adorno, and Marcuse. Topics include dialectics, alienation, reification, ideology, authoritarianism, and technology, as well as the implications of Critical Theory on contemporary social-political issues.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6575 - Energy and Extraction

3 hours An examination of energy production, consumption, and cultures of extraction that introduces methods, approaches, and key thinkers in energy humanities and petroculture studies. Highlights and analyzes streams of thought that became influential in an energy intensive and extractive modernity.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6610 - Philosophy of Food

3 hours An examination of the metaphysical, epistemological, aesthetic, ethical, political, and existential dimensions of food, agricultural, animals, and eating. Topics may include feeding, feasting, fasting, farming, food security, food justice, food sovereignty, fair trade, agrarianism, animal welfare, aquaculture, authenticity, art, taste, tasting, techno-foods, and disgust.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6625 - Philosophy of Animals

3 hours An examination of the philosophical dimensions of animals, animal species, and human-animal relations to reflect on what kind of creatures they are, how they understand their worlds, and how we should relate to them; considers domesticated, companion, wild, and liminal animals and may include such topics as animal minds, animal ethics, animal metaphysics, eating animals, animal species, animal extinction, and animal politics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6650 - Philosophy of Water Issues

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6710 - Gender, Nature and Culture

3 hours Examines the merger of feminisms with environmental thought and the subsequent evolution of this nexus. Subject matter includes the analysis of patriarchy, gender issues, and multicultural perspectives within the larger framework of feminist materialisms, and ethical and philosophical responses to ecological crises.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6730 - Christianity and the Environment

3 hours Historic and contemporary overview of Christian philosophy and theology concerning the environment.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Same as BIOL 5053.

Meets with BIOL 4053/PHIL 4053.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6900 - Special Problems

1–6 hours Research by doctoral students in fields of special interest.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6910 - Special Problems

1–3 hours Research by doctoral students in fields of special interest.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 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 school.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PHIL 6960 - Seminar in Problems in Philosophy

3 hours Intensive analysis of major philosophical issues against the background of classical and contemporary investigations.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

Physician Assistant Professional Studies

PAPS 6200 - Foundations of Physician Assistant Practice

3 hours Allows doctoral students in the PAPS concentration to explore advanced contemporary topics related to the Physician Assistant (PA) profession. Examines the social contexts and emerging issues related to PA practice. Traces significant historical developments and the transformation of the PA role in health care delivery.

Prerequisite(s): Admission to the doctoral program in Health Sciences and consent of department.

PAPS 6210 - Genetics and Genomics for Health Professionals

3 hours Provides skills and knowledge to allow healthcare professionals to navigate genetic and genomic testing with confidence. All aspects of genetic and genomic evaluation are discussed from evaluating a family health history through to evaluating test results such as whole genome sequencing or pharmacogenomic testing. Furthermore, we assess the current state of direct-to-consumer genetic testing and how to evaluate any genetic or genomic test when patients present a genetic test with questions.

Prerequisite(s): Admission to the doctoral program in Health Sciences and consent of department.

PAPS 6220 - Entrepreneurship and Innovative Problem Solving for Health Professionals

3 hours Topics covered include concepts and principles of entrepreneurship, design thinking, strategic leadership, human-centric and design-driven innovation and change management. Using current literature, students examine and discuss innovative solutions to common health care problems applying design thinking and entrepreneurship principles. In-depth discussions on current challenges in the health care system with consideration for public health, social justice, ethical, and professional viewpoints students and develop situational awareness.

Prerequisite(s): Admission to the doctoral program in Health Sciences and consent of department.

PAPS 6230 - Organizational Leadership for Health Professionals

3 hours The course will cover leadership theory and translation of public health findings into legislation.

Prerequisite(s): Admission to the doctoral program in Health Sciences and consent of department.

PAPS 6240 - Lifestyle Medicine

3 hours This course's primary aim is to demonstrate how lifestyle interventions can improve an individual's health behaviors and short and long-term health outcomes. Students work to confidently create goals with individuals and progress toward adopting healthy habits. This course brings evidence-based knowledge and practical strategies to those health professionals aspiring to instill healthy lifestyle behaviors and themselves and their patients, clients, families, and friends.

Prerequisite(s): Admission to the doctoral program in Health Sciences and consent of department.

PAPS 6900 - Special Problems in Physician Assistant Professional Studies

3 hours Directed research by doctoral students in an area of special interest in Physician Assistant Professional Studies. Includes supervised projects, research studies and field-based data collection.

Prerequisite(s): Admission to the doctoral program in Health Sciences and consent of the instructor.

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.

Recommended: PHYS 4110.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: PHYS 3220 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

PHYS 5750 - Selected Topics in Materials Physics

3 hours Topics from specialized areas of materials science, physics, chemistry. Integrated circuit fabrication and materials. Transmission electron microscopy.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Graded course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

PHYS 5920 - Research Problems in Lieu of Thesis

3 hours An introduction to research; may consist of an experimental, theoretical or review topic.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

PHYS 5930 - Research Problems in Lieu of Thesis

3 hours An introduction to research; may consist of an experimental, theoretical or review topic.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

PHYS 5941 - Colloquium

1 hour Weekly lectures by faculty and invited guests on topics of current interest in contemporary physics.

May be repeated for credit for a maximum of 10 hours. Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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 school.

Continuous enrollment is required once work on thesis has begun. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: PHYS 3310.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: PHYS 4110, PHYS 5510.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: PHYS 6110 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: PHYS 5510.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Recommended: PHYS 5510.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

PHYS 6510 - Advanced Quantum Theory

3 hours Quantization of Dirac, Klein-Gordon fields, interactions, S-matrix theory, perturbation theory and applications.

Recommended: PHYS 6500 or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Pass/no pass only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Graded course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

PHYS 6940 - Individual Research

1–12 hours To be scheduled by the doctoral candidate engaged in research.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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 school.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5030 - Proseminar in American Political Institutions

3 hours Concepts, research, analytical methods and literature drawn from the leading scholars in the various areas of American political institutions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5040 - Proseminar in American Political Behavior

3 hours Concepts, research, analytical methods and literature drawn from the leading scholars in the various areas of American political behavior.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5220 - Proseminar in Public Law

3 hours Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5300 - Practical Research Methods

3 hours Survey of methods to ask and answer questions, and to collect and analyze data, in the pursuit of solutions to sociopolitical problems.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5320 - Quantitative Political Research Methods

3 hours Empirical research design and contemporary statistical applications in political science, including an introduction to the use of computers.

An undergraduate introductory statistics course would be useful prior to registering for this course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5330 - Topics in Political Theory

3 hours Selected theorists or themes in political philosophy. 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 including liberalism and conservatism, ethics, and international politics, or American political thought.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5340 - Seminar in Political Science Scope and Methods

3 hours Concepts, trends and research design in political science.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5351 - Foundations of Political Science

3 hours Survey of the discipline of political science, general themes and topics, and how each of the major subfields address common issues in the study of politics.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5370 - Writing, Advocacy and Communication

3 hours Written and oral communication related to careers in government affairs. Examples of topics include writing grants, white papers, model legislation and legal briefs.

Meets with PSCI 4950; not open to students who have completed PSCI 4950.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5380 - Political Leadership and Strategy

3 hours Tools for understanding and practicing leadership, its place in a democratic society, and its role in everyday life. Practical methods of leadership that apply to a wide variety of organizational structures.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5390 - Law and Policy

3 hours Substantive law and policy development, implementation, and outcomes. Includes an applied component that develops marketable skills.

Prerequisite(s): Consent of major professor and graduate director.

May not receive credit for both PSCI 4490 and PSCI 5390.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5420 - Proseminar in Public Administration

3 hours Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5500 - Career Preparedness

3 hours Clarification of career goals, professionalization, and preparation for job market success.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5610 - Proseminar in Comparative Government

3 hours Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5615 - Topics in Comparative Politics

3 hours Selected theories or issues of comparative politics.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5810 - Proseminar in International Relations

3 hours Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5815 - Topics in International Relations

3 hours Theory and practice of international politics, law, organization and foreign policy.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 5940 - Graduate Internship

3 or 6 hours Supervised work in a job related to the student's concentration, professional field of study, and/or career objective. 6 hours credit required.

Prerequisite(s): 9 graduate hours in political science; consent of major professor and graduate director.

May be repeated for credit for a maximum of 12 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6000 - Research Seminar

3 hours Specialized study and research in the field of political science.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6050 - Seminar in American Politics

3 hours Selected theories or issues in American government and politics.

May be repeated for credit as topics vary for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6100 - Political Science Teaching and Research

3 hours Classroom methods for political science instruction, as well as basic research and job-hunting skills.

Pass/no pass. May be repeated for credit as topics vary. Hours may not count toward graduate degree plans.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6150 - The American Presidency

3 hours Analysis of the theories and scholarly findings of the American presidency.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6151 - The U.S. Congress

3 hours Analysis of the scholarly theories and empirical works on the U.S. Congress.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6160 - Interest Group Politics

3 hours Analysis of the roles played by interest groups in the American political system from both theoretical and empirical perspectives.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6170 - Mass Political Behavior

3 hours Survey of the four primary areas of mass political behavior: political psychology, public opinion, voting behavior, and political participation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6175 - Minority Political Behavior and Representation

3 hours Surveys the state of knowledge regarding the political behavior and representation of racial and ethnic minority groups in American politics. Attention is paid to the institutional context and its implications for minority representation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6220 - 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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6310 - Topics in Political Theory

3 hours Study of selected theorists or themes in political philosophy. Seminar may include works of ancient, medieval or modern theorists, focusing on issues of power and justice, human nature and politics, and the nature of the best political system. Themes might include liberalism and conservatism, ethics and international politics, or American political thought.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6321 - Multiple Regression

3 hours Regression analysis as applied to political science with an emphasis on developing a more rigorous understanding of ordinary least squares (OLS) and basic approaches to regression analysis when the assumptions of OLS fail.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 5320 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6341 - Maximum Likelihood Estimation

3 hours Fundamental concepts and techniques of maximum likelihood estimation for evaluating political phenomena. Topics include the principles of maximum likelihood estimation, binary and multiple choice models, ordered response models, event count models, and duration models.

Recommended: PSCI 5320.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6350 - Game Theory for Political Science

3 hours Formal introduction to the theory of games with applications to political science. Includes a technical introduction to non-cooperative game theory as well as applied examples from the political science literature.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6620 - Comparative Political Institutions

3 hours Focuses on the study of political institutions in democratic societies. Particular attention given to executive-legislative relationships, electoral systems, and political parties.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6625 - Democracy and Democratization

3 hours Examines process, structural, and cultural theories of the transition to democracy and the consolidation of democracy.

Recommended: PSCI 5610.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6630 - Political Development

3 hours Examines theories of political development, including modernization, dependency theories, the political economy of development, changing patterns of state-society relations, state-building, and ethnic politics.

Recommended: PSCI 5610.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6650 - Seminar in Comparative Politics

3 hours Study of selected theories or issues of comparative politics.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6660 - Civil War

3 hours Examines current theories and empirical analyses of civil war and political violence. Includes examination of different theoretical and methodological approaches, as well as the causes of civil war onset, conflict duration, and conflict resolution.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6810 - Seminar in International Relations

3 hours Selected problems and concepts related to the theory and practice of international politics, international law, and organization and foreign policy.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6830 - International Conflict

3 hours Focuses upon the conditions that influence the occurrence, continuation, spread, and outcomes of international conflict. Applies the scientific method to explain the phenomenon of international conflict.

Recommended: PSCI 6810.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6831 - International Conflict Management

3 hours Review of the theoretical and empirical literature in international conflict management. Students conduct an original research project on the subject. Develops background and tools with which to study international conflict management and produce original research in the field.

Recommended: PSCI 6810.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6832 - Contexts and International Relations

3 hours Research seminar on the ways that geographic and historical contexts affect international conflict and cooperation. Examples of topics to be covered include the impact of distance/proximity, resource distributions, and territoriality as well as learning by leaders or societies, the impacts of past crises/wars, and legacies of colonial rule.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6840 - Foreign Policy Analysis

3 hours Introduction to foreign policy analysis as a field of study, with an emphasis on foreign policy decision making and psychological approaches to the study of foreign policy.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6850 - Human Rights

3 hours Study of and original research in the area of human rights. Includes canonical and recent influential works, focuses on explaining and preventing/limiting repression and on post-crisis peacebuilding and justice.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

PSCI 6940 - Practicum

3–6 hours Pre-dissertation independent research, under faculty supervision.

May be repeated for credit up to 6 hours. Partially fulfills the tool requirement.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Meets with PSYC 4300.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 5420 - Assessment I

3 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 5430 - Assessment II

3 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 5470 - Vocational Psychology: Developmental Aspects

3 hours Explores theories of career development and work adjustment, history of vocational psychology, and contemporary issues.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 5590 - Diverse Family Systems

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 5670 - Psychology of LGBTQ+ Populations

3 hours Understanding the health-related behaviors and psychosocial factors associated with sexual and gender minority people (LGBTQ+: lesbian, gay, bisexual, transgender, queer, and others who are marginalized or minoritized due to their sexual and/or gender identity), primarily in the U.S. context. Designed for healthcare workers, educators, service providers, and individuals who work with or are interested in LGBTQ+ communities.

Meets with PSYC 4670.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 5680 - Foundations of Counseling Psychology

3 hours (3;2) Introduction to counseling psychology theories, models of counseling and psychotherapy, and counseling methods.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 5700 - Quantitative Methods I

3 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 5710 - Quantitative Methods II

3 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Open only to resident students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Open only to resident students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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 school.

Pass/No Pass.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6022 - Application of Counseling Methods

2 hours Preparation for applied work in counseling psychology, emphasizing specific theoretical orientations to interviewing in counseling and psychotherapy.

Open only to graduate students in psychology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6030 - Biological Bases of Behavior

3 hours Study of biological bases of behavior, including human neuroanatomy, neuropathology, behavioral correlates of cerebral dysfunction and neurological disorders.

Prerequisite(s): Enrollment in a graduate program in psychology or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6125 - Sport and Exercise Psychology

3 hours Provides doctoral-level students with an in-depth study of the primary theories and tenets of sport and exercise psychology. Emphasis placed on developing the written and oral presentation skills to explain sport and exercise psychology concepts to individuals not as familiar with sport and exercise psychology terminology, such as applied practitioners in the fields of education and coaching.

Prerequisite(s): KINE 5125 or equivalent, or consent of instructor.

Same as KINE 6125.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6130 - Addictive Behaviors

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6135 - Exercise and Health Psychology

3 hours In-depth study of health, leisure and exercise behavior change strategies, and how individual and group behaviors are influenced through psychobiological and cognitive-affective approaches. Application of sport and exercise psychology theories to improve the initiation of and adherence to lifetime health and physical activity behaviors among individuals and groups.

Prerequisite(s): KINE 6125/PSYC 6125 or equivalent, or consent of instructor.

Same as KINE 6135.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6150 - Couple 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6160 - Couple 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6175 - Social Psychology of Sport

3 hours Provides doctoral-level students an opportunity to examine the effects and application of social psychological variables on motor behavior. Topics include social facilitation, social reinforcement, organized youth sports, group social processes and leadership. Emphasis on gaining experience in developing and presenting materials on these topics to applied practitioners, such as coaches, teachers and other group leaders.

Prerequisite(s): KINE 6125/PSYC 6125 or equivalent, or consent of instructor.

Same as KINE 6175.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6185 - Applied Sport Psychology

3 hours Students practice the application and teaching of cognitive-affective and psychophysiological techniques and strategies for enhancing individuals' athletic performance, including imagery, arousal regulation, attentional control, goal setting, and self-talk. Students also discuss psychopathology and its assessment, counseling techniques, and practical issues, including ethical considerations and the coach-athlete-organization interface.

Prerequisite(s): KINE 6125/PSYC 6125 or equivalent, or consent of instructor.

Same as KINE 6185.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6210 - Advanced Career Development in Behavioral Science

3 hours Advanced preparation for career development in both industry and academia in experimental psychology. Focus on preparing professional materials, research ethics, grant applications, navigating the peer-review process, data management and developing mentoring skills.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6400 - Research Design in Psychology

3 hours Introduction to research design in psychology. Overview of measurement, latent construct theory, experimental and quasi-experimental design, data analytic strategies, and power analysis. Focus on individual student projects.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6420 - Neuropsychological Assessment

3 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6450 - Psychodiagnostic Assessment

3 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6460 - Structured Interviews and Advanced Assessment Methods

3 hours (3;3) Advanced training in the administration, interpretation, and integration of clinical data from structured interviews and leading multiscale inventories as they are utilized in assessment reports and clinical research.

Prerequisite(s): PSYC 5430.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6510 - Psychology of Trauma and Posttraumatic Stress Disorder

3 hours Explores nuances of traumatic experiences, including prevalence estimates, types, and biopsychosocial impacts on individuals and societies. Emphasis placed on understanding posttraumatic stress disorder (PTSD), including its diagnostic criteria, etiological theories, risk and protective factors, comorbidities, clinical considerations (assessment, evidence-based treatments, ethics), and research considerations. Explores socio-cultural factors that influence the manifestation and reporting of PTSD symptoms. Covers debates and unresolved research questions in the field of trauma and PTSD.

Prerequisite(s): PSYC 5700 or PSYC 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6560 - Psychology of Race in the U.S.

3 hours Highly interactive, applied exploration of the meaning of racial identity, along with intersections of gender, socioeconomic status, and sexual identity. Content is grounded in psychological theory and research, as well as on a historical understanding of how race has been socially constructed and situated in the United States.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6610 - Independent Research

1–3 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Background in statistics and statistical software desirable.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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).

Open only to students admitted to a graduate program in psychology. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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).

Open only to students admitted to a graduate program in psychology. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6835 - External Research Practicum

1–3 hours Supervised experience in applied research in professional settings approved by faculty. Prepares doctoral students in clinical, counseling and clinical health psychology for highly competitive internships via research experience.

Prerequisite(s): Open only to students admitted to a graduate program in psychology.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 6910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

PSYC 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 school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Pass/no pass.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

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): Admission to a program in the Department of Public Administration.

Must be taken in the first term/semester of course work.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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): Open to majors only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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): Open to majors only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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): Admission to a program in the Department of Public Administration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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 fundraising.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5041 - Capacity Building for Nonprofit Organizations

3 hours

Includes social media outreach and fundraising, nonprofit board development, human resources including volunteer management, and fiscal accountability and transparency for nonprofit sustainability.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5042 - Nonprofit Financial Management

3 hours Designed to provide current and prospective nonprofit leaders and other interested students with an understanding of the concepts in financial management, and skills to read financial statement and evaluate financial condition for nonprofit organizations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5043 - Philanthropy and Fund Development for Nonprofits

3 hours Ethical nonprofit fundraising and theories of philanthropy are explored. In-kind donations, planned giving, grants, corporate sponsorships, cause marketing, and online, mail and telephone solicitations are covered.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5044 - Public and Nonprofit Partnerships

3 hours Public- nonprofit partnership theories, management functions, ethical dilemmas and leadership skills that are necessary for successful collaboration initiatives.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5060 - Seminar in Intergovernmental Relations

3 hours Analysis of political, administrative and fiscal relationships among governments in the American political system.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5200 - Public Personnel Management

3 hours Managing human resources in national, state and local governments.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5210 - Cultural Competency in Public Management

3 hours Focuses on cultural competencies and understanding diversity 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 demonstrating cultural competencies in managing people.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5300 - Introduction to Urban Planning

3 hours Examination of the history and current practice of urban planning. Explores debates central to contemporary planning including zoning, transportation policy, transit-oriented development, housing policy, sustainable urban design and resiliency, historic preservation, urban agriculture, gentrification and economic development planning.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5330 - Urban Infrastructure

3 hours Human development patterns are enabled by a diverse range of infrastructure networks related to energy, drinking water, sewage, transportation, and communications. The upgrading and reimagining of urban infrastructure networks are central to sustainability, resiliency, economic growth, and enhanced quality of life. Yet much remains unclear about the effectiveness and efficacy of varied approaches to planning, managing, funding, and maintaining infrastructural networks for 21st-century challenges. Offers graduate students an opportunity to examine the evolution of urban infrastructure using theories and case studies drawn from urban history, science and technology studies, anthropology, geography, planning, and architecture.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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): Admission to a program in the Department of Public Administration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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): Admission to a program in the Department of Public Administration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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): Admission to a program in the Department of Public Administration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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; admission to a program in the Department of Public Administration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5550 - Seminar in Program Evaluation

3 hours Decision-making tools for public and nonprofit organizations. Uses a variety of approaches and techniques in the study of the staffing, resource allocation, and community impact of operational and management decisions with a focus on community-level services.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5700 - Seminar in Public Administration

3 hours Concepts, problems and processes of public administration.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 5800 - Public Management Internship

1–3 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 nonprofit organization. Academic supervision and evaluation of internship performance along with a final presentation are required.

Prerequisite(s): Admission to a program in the Department of Public Administration

Corequisite(s): PADM 5035.

Students should enroll in PADM 5800 during the semester they plan to complete their internship hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

PADM 6950 - Doctoral Dissertation

3, 6 or 9 hours To be scheduled only with consent of department. A minimum of 9 hours required. No credit assigned until dissertation has been completed and filed with the graduate school. 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

Reading

EDRE 5030 - Practicum, Field Problem or Internship

3–6 hours (0;0;3–6) Supervised professional activities in reading education.

Registration is on an individual basis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDRE 5370 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDRE 5370 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDRE 5180 or equivalent.

May be repeated once for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDRE 5200 - Development and Supervision of Reading Programs

3 hours Analysis of the total reading program, emphasizing specific strategies for improvement of programs.

Recommended: EDRE 5370 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDRE 4820 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated for credit with advisor approval for a maximum of 6 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDRE 5550 - Literacy Instruction in Society

3 hours Establishes an awareness of the significance of literacy instruction and an understanding of the various components and characteristics of a learning context that support a diverse population. Emphasis on instruction, children's literature, issues surrounding literacy instruction and assessment of such.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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, native language, age-appropriate characteristics and appropriate instructional techniques to support literacy and reading. Includes techniques for assessment and evaluation of early language development.

Same as EDEC 5653.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Open only to resident students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Recreation, Event and Sport Management

RESM 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5050 - Management in RESM

3 hours The application of management principles and practices as they relate to the successful operations of recreation, event, and sport organizations.

Same as KINE 5050.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5060 - Areas and Facilities for Recreation and Sport

3 hours Design, construction and maintenance of recreation and sport areas and facilities.

Same as KINE 5060.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5070 - Psychosociological Dynamics of Leisure Behavior

3 hours Examination of the psychosociological dynamics of leisure behavior.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5080 - Program Design in RESM

3 hours Theories and techniques for developing recreation, event, and sport program products are explored. Core elements of an interactive product experience and participation outcomes are examined and applied.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5100 - Research Methods and Analyses in RESM

3 hours Application of research designs and analysis techniques necessary for scientific investigations in the recreation, event, and sport related industries are discussed and applied. Emphasis is placed on strategies for designing surveys and data sampling schemes, data analysis techniques, and interpretation of statistical analysis results.

Same as HLTH 5100. Same as KINE 5100.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5110 - Foundational Literature in RESM

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5120 - Diversity and Inclusion in RESM

3 hours The multifaceted needs of diverse clients in recreation, event, and sport management are highlighted. Exploration of why diversity and inclusion are critical for organizational success as well as effective service delivery systems within contemporary society. Implications for practice and personal understanding of services with a multi-cultural, -racial, and -ethnic focus, as well as individuals with disabilities, are threaded throughout the course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5140 - Women, Leisure and Sport

3 hours Using historical, psychological, sociological and feminist perspectives as a framework, critical issues surrounding women, leisure and sport are presented. Focuses on women as consumers of leisure and sport experiences and on the social changes that are needed to expand and enhance their leisure and sport opportunities.

Same as KINE 5140.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5200 - Dynamics of Commercial Recreation, Event and Sport Tourism

3 hours Origins, characteristics and societal impacts of commercial recreation, event and sport tourism. Examination of behavioral factors influencing participation, management considerations and research in commercial recreation, event and sport tourism. Local field trips required.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5510 - Financial Management in RESM

3 hours Provides students a general overview of financial management and economics in the sport, event and recreation industries. Focus is on the evaluation of sport, event, and recreation organizations' financial strength and performance, including financial statement analyses, financial ratio analyses, cash flow management, general investment strategies, and corporate financial practices. Other topics include current financial and economic issues of the sport, event, and recreation industries, as well as budgeting, forecasting, and economic impact analysis. Multiple teaching techniques are used to promote a learning environment that is both theoretically and practically driven.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5520 - Strategic Marketing in RESM

3 hours Designed to provide students with opportunities for understanding and applying marketing principles within various aspects of recreation, sport, and event industries. Focus is on the elements that make the sport product distinctive from other businesses. Provides a broad overview of the important tenets of marketing with opportunities to apply this knowledge by creating marketing plans. Multiple teaching techniques are employed to promote a learning environment that is both theoretically and practically driven.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5530 - Legal Principles and Risk Management in RESM

3 hours Examines key issues and applications of law related to sport, recreation, entertainment, and event settings with particular focus on contract law, ambush marketing, constitutional law, Title IX, and liability. Special emphasis is placed on risk management for the sport, entertainment, recreation, and event industries.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5540 - Sports Marketing Analytics

3 hours Sport marketing analytics teaches students how to utilize big data in developing and evaluating strategic marketing, sales and performance plans in sports organizations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5600 - Sport in the Global Marketplace

3 hours Examines the global forces impacting sport and recreation in the USA and around the world. Provides graduate students with a comprehensive view of global sport management and an understanding of cross-cultural influences on sport and recreation. Emphasis placed on the application of research and critical thinking as related to key issues in global sport.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5610 - Sport, Entertainment and Events in the 21st-Century City

3 hours Explores the relationship of sport, events, recreation and entertainment in contemporary cities with emphasis on urban planning, facility and recreational space design. Case studies from cities using sport and events for economic development including cities in the DFW Metroplex.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 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.

Meets with RESM 4760.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5800 - Studies in Recreation, Event and Sport Management

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): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5850 - Trends and Issues in RESM

3 hours Examines current and emerging issues and trends impacting recreation, event and sport management. Topics may include socially and culturally responsive services, staffing challenges, health and wellness, emerging technologies, flexible workplaces, and cultivating creativity. Topics are dependent upon student interests and current national and international trends. Emphasis on developing, analyzing, and clarifying beliefs and practices as they relate to recreation, event and sport management applications.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5860 - Capstone in RESM

1–6 hours Provides an opportunity for students to engage in high-level inquiry focusing on an area of specialization within the recreation, event and sport management profession. The learning experiences aim to bridge theory and practice and positively impact the students' professional lives and careers.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5900 - Special Problems in RESM

1–6 hours Students develop and resolve a problem independently with faculty guidance.

Prerequisite(s): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5910 - Special Problems in Recreation, Event and Sport Management

1–6 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): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 5950 - Master's Thesis in RESM

3 or 6 hours To be scheduled only with consent of department. 6 hours credit required for graduation. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 6520 - Seminar in Strategic Marketing for Sports and Event Organizations

3 hours Provides a review of research for understanding and applying marketing principles within various aspects of the sport and events industries. Focus is on the elements that make the sport product distinctive from other businesses. Provides a broad overview of the important tenets of marketing and provides students with opportunities to apply this knowledge by creating marketing plans for actual sport organizations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 6530 - Sport Law Seminar

3 hours Examines key issues that have influenced the development of sport law and applications of law in sport, recreation, entertainment and event settings with particular focus on: contract law, ambush marketing, constitutional law, Title IX and liability. Special emphasis is placed on risk management for the sport, entertainment, recreational and event industries using case studies and research to guide.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 6600 - Seminar in Sport and the Global Marketplace

3 hours Examines the global forces impacting sport and recreation in the USA and around the world. Provides a comprehensive review of research and critical thinking as related to key issues in global sport. Emphasis placed on the application of global sport management with an understanding of cross-culture influences.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

RESM 6610 - Seminar in Sport, Entertainment and Events in the 21st-Century City

3 hours Utilizes research and case studies to examine the impact of recreation, sport, events and entertainment on urban development.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

Rehabilitation

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 5735 and students may take these courses as partial preparation for the AODA counselor licensure examinations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5450 - Alcohol, Drugs and Disability

3 hours Exploration of the challenges presented by persons with disabilities who experience coexisting alcohol and other substance use disorders. Identification of strategies for effectively serving this population within rehabilitation settings.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5700 - Ethical and Professional Foundations in Rehabilitation Counseling

3 hours Introduction to rehabilitation counseling with an emphasis on ethics and professional issues. Study includes the philosophical legislative, ethical and organizational foundations. Reviews rehabilitation practices, professional issues, ethics and a broad overview of the context in which rehabilitation occurs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5710 - Multicultural Rehabilitation Counseling Practice

3 hours Exploration of ethnic and cultural factors influencing the planning and delivery of rehabilitation counseling and related services. Includes examination of the intersection of disability with various racial/ethnic groups and other identities along with ways to work with complex diverse populations. This course is offered on-line and will require various synchronous meetings online during the semester.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5717 - Leadership, Administration and Business Engagement in Rehabilitation

3 hours Designed to provide students with advanced knowledge and practical skills in leadership, administration, and business engagement, with a specific focus on improving the quality of life for individuals with disabilities. Integrates leadership theory, administrative strategies, and business practices to equip students with the tools needed to effectively manage and innovate within rehabilitation settings.

Restrictions: Restricted to students in the MS in Rehabilitation Counseling and MS in Vocational Rehabilitation programs. Students from other majors might register with department approval.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5718 - Transition Issues in Rehabilitation

3 hours Focus on examining challenges and issues facing young people with disabilities, their families and service providers. Topics include self-determination, family issues, post-school outcomes, and identifying transition services and strategies that facilitate an individual's movement from school to work.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5719 - Trauma and Crisis Intervention in Rehabilitation Counseling

3 hours

Trauma and Crisis intervention in Rehabilitation Counseling examines the impact of traumatic events and traumatic stress across the lifespan, with a focus on the long-term developmental impact of child-maltreatment and other forms of acute and chronic stress later in development. This course will examine major neurobiological and psychological theories that explain adaptive and maladaptive responses to traumatic events, in addition to examining factors that contribute to Post-Traumatic Stress Disorder (PTSD), Chronic PTSD, and those that foster post-traumatic growth and resilience. This course will also cover issues clinicians face related to vicarious traumatization, empathy fatigue, and self-care, and provide a framework for treating trauma as it relates to crisis intervention and broader Rehabilitation Counseling Practice for individuals with disabilities.

Prerequisite(s): RHAB 5715 or consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5722 - Advanced Counseling Techniques in Rehabilitation Counseling

3 hours Students learn and practice advanced counseling skills involving techniques and strategies associated with major counseling theories. Emphasis is on skill development, case conceptualization and self-awareness.

Prerequisite(s): Successful completion of RHAB 5720 and RHAB 5721.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

When offered online, various synchronous online meetings are required during the semester.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5724 - Disability and the Family System

3 hours Provides a survey of important theories and models relating to interventions with families. Emphasis is placed on the family system and on the reciprocal interactions within the system that can affect the family, the member of the family with a disability and the rehabilitation process.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5730 - Medical and Psychosocial Aspects of Disability

3 hours Examines medical, functional and environmental aspects of disability. Focus is on understanding the medical aspects related to human body systems and disability; understanding medical terminology, principles of the diagnostic process, and diagnostic tools used by medical and other health professionals, including the Diagnostic and Statistical Manual of Mental Disorders (DSM) and International Classification of Diseases (ICD); understanding the onset, severity, progression and duration of an individual's disability as well as the impact of disability on the individual's functioning; understanding the psychosocial impact of disability on the individual, family and environment; evaluating the influences and implications of environmental factors on the disability and the use of assistive technology and other appropriate intervention resources to reduce or eliminate barriers and functional limitations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5732 - Principles of Psychiatric Rehabilitation and Recovery

3 hours Primary focus is on the adult diagnosed with psychiatric disabilities. Students explore evidence-based practices for service provision to persons with severe and persistent mental illnesses. DSM-5 TR diagnostic codes are reviewed. Factors that impact functioning, vocational success, education, social and cultural roles in the community are discussed. Students identify and recommend treatment options that facilitate recovery and successful rehabilitation outcomes for persons with psychiatric disabilities.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5734 - Psychopathology in Clinical Rehabilitation Counseling

3 hours Covers the etiological, emotional and behavioral characteristics in syndromes of psychopathology. Included is an overview of diagnostic systems (e.g., DSM-5 TR, ICD, ICF), and treatment interventions that include psychopharmacological interventions and prognosis for independent functioning among individuals with disabilities.

Prerequisite(s): RHAB 5720; RHAB 5730.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5735 - Alcohol and Other Substance Use Counseling Models

3 hours Models of alcohol and other substance use disorder counseling provides students with a broad overview of intervention and counseling strategies utilized by rehabilitation programs serving persons with substance use disorders. Focuses on service delivery systems and addiction counseling theory.

When offered online, various synchronous online meetings are required during the semester.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5740 - Rehabilitation Assessment

3 hours Orientation to the process and practice of assessing adults with disabling conditions for rehabilitation plan development and decision making. Test selection, administration, and interpretation and reporting, through synthesis, integration and evaluation of assessment data are covered along with the use of the DSM-5-tr, Ecological and Assistive Technology assessment.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5742 - Professional Issues in Case Management

3 hours Covers professional, ethical and legal principles that guide the practice of case management in the field of rehabilitation counseling.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5900 - Special Problems

1–3 hours May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5910 - Special Problems

1–3 hours May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

RHAB 5920 - Problems in Lieu of Thesis

3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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 school.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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 RCOB Graduate Programs Office prior to registration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

Sacred Music

MUSM 5284 - Foundations and History of Sacred Music

3 hours Introduction to the historical, theological, and biblical foundations of sacred music, including contemporary manifestations and critiques of worship. Explores the use of the lectionary and church year in planning along with suggested repertoire and resources.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUSM 5285 - Introduction to Congregational Song

3 hours Explores the theological foundations of congregational singing from ancient hymnody through contemporary, modern worship music, and songs of the global church. Textual, cultural, poetic, liturgical, musical and historical analysis skills are emphasized, and students have the opportunity to create a new song text and develop song leadership skills.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUSM 5286 - Music Ministry in the Postmodern Context

3 hours What is the role of worship and music in the 21st Century? How will music ministry and the role of sacred music evolve with a changing church? This course explores these subjects in addition to practical considerations for the leaders of sacred music of today.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

MUSM 5287 - Materials and Methods: Church Music Administration and Practicum

3 hours Covers best practices in church music administration, congregational analysis, and other professional concerns. Additionally, the practicum portion provides students with opportunities to develop and hone critical musical leadership skills in a variety of pastoral and musical contexts.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $50.20 (instructional), $75 (differential)

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSE 5001, EDCI 5010.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSE 5004 - Literacy Curriculum for Secondary Teaching

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, and the use of resources other than textbooks to enhance learning.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Same as EDCI 5800.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Same as EDCI 5810.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Open only to resident students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Open only to resident students.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5110 - Human Behavior in the Social Environment

3 hours Analyzes bio-psycho-social developmental theories and practical knowledge of people across the lifespan, from birth to end of life. Concentrates upon a strengths-oriented perspective of diversity issues impacting individuals, families, groups and society, including race, gender, sexual orientation, class, culture, age and others, and the oppression of minorities and populations at risk.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5200 - Practice with Individuals and Groups

3 hours Promotes competence in micro practice skills with individuals and groups. Emphasizes solution focused, cognitive behavioral and task-centered approaches at each stage of the intervention process in addition to developing knowledge, skills and competency in facilitating small groups in a variety of practice settings. Introduction to assessment of individuals in family, group, and environmental contexts. Experiential learning includes role-playing and simulation exercises.

Prerequisite(s): Formal admission to the MSW program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5210 - Practice with Organizations and Communities

3 hours Focuses on macro community practice at the foundation level. Integration of theory, skills and techniques in order to intervene with groups, organizations, communities and advance social, economic and environmental justice. Emphasis on strengths-based approaches and participatory models which empower communities.

Prerequisite(s): Formal admission to the MSW Program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5230 - Multidimensional Assessment in Social Work

3 hours Focuses on bio-psycho-social perspectives about mental health and disorders across the lifespan. Introduces major diagnostic classification systems with a primary focus on the Diagnostic Statistical Manual of Mental Disorders (DSM). Includes assessment skills and the diagnostic process utilizing the DSM. Emphasis upon facilitating a holistic multidimensional assessment inclusive of strengths. Analysis of diagnostic systems in relation to social work values and ethics.

Prerequisite(s): Formal admission to the MSW program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5240 - Human Diversity and Multicultural Practice

3 hours Analysis of human diversity in the context of social work practice. Addresses related theoretical frameworks and the negative impact of power, privilege, oppression and stigma upon diverse individuals and groups. Promotes knowledge and skill development to work effectively with diverse populations and protect human and civil rights. Enhances self–awareness to increase sensitive practice.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5250 - Interventions in Social Work

3 hours Advanced practice course that builds on prior course work and presents theory and key practice models of evidence informed social work interventions with diverse individuals and families. Focuses on engagement at each stage of the intervention process. Experiential learning includes participating in case simulations and other exercises.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5300 - The Social Work Profession: Ethics and Policy

3 hours Examines the knowledge base of ethics, values and professional social work practice through exploration of the historical and current development of the social work profession and U.S. social welfare delivery system. Critical analysis of social problems and policy and service responses. Self-reflection is also explored to help students assess their personal strengths, biases and values as they relate to professional practice. This assessment helps students become socialized and identify as emerging professionals.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5330 - Policy Practice and Analysis

3 hours Provides knowledge and skills in policy practice, including the policy-making process, advocacy, and intervention techniques aimed at impacting and changing social welfare and public policies. Presents frameworks for policy research and analysis. Analysis and critique of social welfare policies that affect families and diverse and oppressed populations. Examination of global influences that affect U.S. social policy.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5400 - Social Work Research Methods

3 hours Covers foundational concepts, principles and methods of scientific inquiry, focusing on quantitative and qualitative designs and analysis and use of existing research in practice and policy. Examines evidence-based practice as a process of inquiry. Explores cultural and ethical considerations and the role of research in advocating for under-served and special populations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5410 - Program Administration and Evaluation

3 hours Addresses administration and management leadership across a variety of human service settings with an emphasis on organizational theory, knowledge and skills for effective administration, managing competing and limited resources, and program evaluation. Builds upon quantitative and qualitative methods and analysis in order to gain knowledge and skills about program accountability and effectiveness. Covers use of logic models in program design and evaluation.

Prerequisite(s): Formal admission to the MSW program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

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 needs and problems in human development and behavior.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5510 - Practice in Mental Health

3 hours Presents theory and methods of assessment and intervention for working with persons who have diagnosed serious mental illness with an emphasis upon recovery-oriented evidence informed practices. Explores complex legal and ethical issues. Analysis of cultural and gender appropriate methods which promote social justice and human rights.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5520 - Death, Dying and Bereavement

3 hours Examines services for individuals and families experiencing end-of-life issues and addresses concepts and skills for effective practice in a variety of settings. Integration of theory, research and practice in relation to grief processes. Exploration of societal and cultural factors in the practice context. Application of ethical and legal issues to practice.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5530 - Theories and Interventions with Children

3 hours Focuses on theory and interventions with children and parents with an emphasis upon attachment, development, ecosystems, trauma and cultural context. Covers practice with children individually and in groups, parent/child dyad approaches, and family interventions. Demonstrates expressive therapies and parent/child art therapy techniques.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5540 - Child Maltreatment: Assessment and Intervention

3 hours Addresses theory and research of the etiology and developmental consequences of child maltreatment. Analyzes the dynamics of child physical abuse, sexual abuse, psychological maltreatment, neglect and indicators of risk. Covers evidence informed assessment and interventions. Explores the effects of child abuse and neglect across the lifespan.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5550 - Foster Care, Adoption and Permanency Planning

3 hours Focuses on engagement, assessment and intervention with children who are in foster care, adoption and/or permanency planning in public, tribal or private child welfare systems. Covers key social work, legal and judicial processes from each domain. Addresses implementation of the Indian Child Welfare Act. Explores themes of attachment, identity, grief and loss.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5560 - Aging in Contemporary Society

3 hours Introduces the study of aging and adult development through the life course. While the experience of aging is not the same for everyone, the focus of this course is on the aging process associated with socioeconomic status, physical health, mental health, family relations, social interactions, as well as the broader living environment.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5570 - Seminar in Public Policy and Aging

3 hours Examines social policies, problems, and trends in social programs and services for older people. Focuses on the strengths and limitations of existing policies and programs related to income maintenance, health, long-term care, housing, transportation, nutrition, employment, learning and civic engagement. Emphasizes social policies and programs for meeting the rapidly growing needs of the older population in our society. Policies, programs and services for the elderly population are examined from historical, observational and analytical perspectives.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5580 - Global Social Work

3 hours Highlights social challenges faced by nations throughout the world: human rights, rapid and unplanned urbanization, poverty, housing, gender inequality, inability to care for the complex needs of children, poverty and indebtedness, racial and/or ethnic discrimination, and cultural conflicts. Emphasizes the large number of possible intervention strategies available to respond to the diverse needs of communities and societies beyond the social work and social welfare models used in the United States. Prepares students for international social work or for work with immigrant and refugee populations in the United States by encouraging the development of appropriate strategies for working with those whose worldviews are beyond the narrow cultural contexts of this country.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5870 - Foundation Field Seminar

3 hours Facilitates integration of foundation field experiences and classroom learning through processing and discussion of field issues and situations. Students gain knowledge of and apply models of critical reflective practice, effective use of supervision and ethical decision-making.

Prerequisite(s): Acceptance into practicum and satisfactory completion of SOWK 5200, SOWK 5210, SOWK 5240, SOWK 5300 and SOWK 5400.

Corequisite(s): SOWK 5875.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5875 - Foundation Field Practicum

9 hours Field practicum in a social service agency. Includes direct and indirect service activities in a community agency or program related to previous course work. Refinement of applied skills and evaluation of social work practice in an applied setting. Requires a minimum of 400 clock hours at the agency.

Prerequisite(s): Acceptance into practicum and satisfactory completion of SOWK 5200, SOWK 5210, SOWK 5240, SOWK 5300, and SOWK 5400.

Corequisite(s): SOWK 5870.

Pass/No Pass.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5880 - Advanced Field Seminar

3 hours Facilitates integration of advanced social work field practicum and classroom learning through processing and discussion of field issues and situations. Assignments based upon advanced field social work topics such as ethical decision-making and application of research in practice.

Prerequisite(s): Acceptance into practicum and satisfactory completion of SOWK 5230, SOWK 5250, SOWK 5330, and SOWK 5410.

Corequisite(s): SOWK 5885

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5885 - Advanced Field Practicum

9 hours Supervised social work field practicum in an agency setting. Includes direct and indirect practice in a community agency or program related to social work course work. Practice and demonstration of advanced year skills and evaluation of social work practice in an applied setting. Requires a minimum of 500 clock hours in the agency.

Prerequisite(s): Acceptance into practicum and satisfactory completion of SOWK 5230, SOWK 5250, SOWK 5330, and SOWK 5410.

Corequisite(s): SOWK 5880.

Pass/No Pass.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5903 - Seminar in Social Work, Current Issues

3 hours Issues and topics in contemporary social work of interest to students in various graduate programs but not covered by course offerings.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5911 - Independent Study I

1 hour Independent or tutorial work in selected areas of social work.

Prerequisite(s): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5912 - Independent Study II

2 hours Independent or tutorial work in selected areas of social work.

Prerequisite(s): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5913 - Independent Study III

3 hours Independent or tutorial work in selected areas of social work.

Prerequisite(s): Consent of department.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

SOWK 5983 - Master's Thesis

3 hours Open to students who chose the thesis option. Independent, applied research that addresses a significant issue in social work supervised by a member of the joint social work graduate faculty.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $18.40

Sociology

SOCI 5030 - Work and Organizations

3 hours Structure and process in large-scale organizations; theories of bureaucracy and related types of organizations; interrelationships of formal and informal organizations.

Recommended: 6 hours of advanced sociology or consent of department or instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5050 - Sociological Theory

3 hours Overview of the evolution, forms, and relations of classical and contemporary sociological theory. Focuses on the most influential classical and contemporary macro- and micro-sociological theories from the founding of sociology to the present day.

Prerequisite(s): 6 hours of advanced sociology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5100 - Social Psychology

3 hours Comparative analysis of the major sociological theories of social psychology.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5200 - 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 3220 or equivalent, or consent of program chair or instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5202 - Qualitative Research Methods

3 hours Qualitative research methods and hands-on training in observational and interview-based data collection.

Same as SOCI 6202.

Students cannot earn credit for both SOCI 5202 and SOCI 6202.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5203 - Social Science Text Mining

3 hours Text mining and text analysis methods for the social sciences. Covers principles of research design and ethics as they apply to text-based research, and major methodologies within social science text mining including topic models and opinion mining.

Same as INSD 5203.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5204 - Qualitative Data Analysis

3 hours Provides training on data analysis and hands-on instruction on how to code, analyze, and present qualitative research. Covers classic and contemporary works of qualitative sociological research, theoretical and epistemological issues involved in working with qualitative data, narrative strategies in writing and argument formation, and best practices for coding and analysis using qualitative data analysis (QDA) software.

May not receive credit for both SOCI 5204 and SOCI 6204.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5230 - Data Management and Visualization

3 hours Managing data and effectively communicating results of quantitative analysis. Covers downloading, cleaning, recoding, transforming and visualization of data.

Prerequisite(s): SOCI 5210 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5260 - Topics in Sociology

3 hours Graduate seminar devoted to investigation, analysis and discussion of significant problems in contemporary sociology.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5300 - Social Inequalities

3 hours Types of stratification; theories of stratification and its function in society; race/ethnicity, class and gender; the methodology of stratification studies.

May not receive credit for both SOCI 5300 and SOCI 6501.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5301 - Intermediate Social Statistics

3 hours (2;1) Methodological training in regression analysis and related techniques with application toward student individual research projects.

Prerequisite(s): SOCI 5210 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5305 - Sociology of Gender

3 hours Explores sociological theories of gender. Presents foundational debates in the study of gender.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5315 - Intersectionality

3 hours Theories, epistemologies, methods, and general paradigm of intersectionality. Tracks the origin of intersectional thought and its development from the earliest writings in the late 1800s to contemporary works.

Meets with SOCI 6515.

May not receive credit for both SOCI 5315 and SOCI 6515.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May not receive credit for both SOCI 5330 and SOCI 6502.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5410 - Medical Sociology

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.

Meets with SOCI 6603.

May not receive credit for both SOCI 5410 and SOCI 6603.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5600 - Criminological Theory

3 hours Examination of the major theoretical explanations of criminality, the distribution of crime and the behavior of justice agencies.

Same as CJUS 5600.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Meets with SOCI 6503.

May not receive credit for both SOCI 5650 and SOCI 6503.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5700 - Health and Aging

3 hours Analysis of sociological and sociopsychological approaches to the study of aging with emphasis on consideration of current research.

Recommended: SOCI 4550 or consent of program chair.

Same as AGER 5700.

May not receive credit for both SOCI 5700 and SOCI 6601.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5702 - Environmental Sociology

3 hours Environmental policy and theory. Social and environmental impacts of technological development. Sustainable communities and sustainability programs.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5940 - Sociology Internship

1–3 hours Internship in a field of interest to the student. Students complete internship expectations from site supervisor as well as academic requirements from faculty advisor. Students enrolled in one academic credit hour must complete 45 hours in internship, two academic credit hours require 90 internship hours, and three academic credit hours require 135 internship hours.

Prerequisite(s): Consent of faculty advisor.

Pass/No Pass Only

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 5950 - Master's Thesis

3 or 6 hours To be scheduled only with consent of department. A total of 6 thesis hours are required for the Sociology MS with thesis. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6000 - Sociology Proseminar

3 hours Professional development seminar to develop the skills necessary to succeed as a professional sociologist. Includes preparation for academic and non-academic careers.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6030 - Work and Organizations

3 hours Sociological theories of work and organizations that examine the features of work under capitalism, how organizations shape our working lives, and what the future of work may hold. Examines key debates around alienation and emotions, precarity and inequality, and unemployment and technology.

Meets with SOCI 5030.

May not receive credit for both SOCI 5030 and SOCI 6030.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6101 - Seminar on Classical Sociological Theory

3 hours Advanced examination of a body of theory and method in classical sociology; a critical comparative analysis and interpretation of the contributions of the most relevant sociological theories and theorists from the second half of the 19th century through the early 20th century (ending with the late 1920s).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6102 - Seminar on Contemporary Sociological Theory

3 hours Advanced examination of a body of theory and method in contemporary sociology; a critical comparative analysis and interpretation of the contributions of recent American and European sociologists; trends in modern theory.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6201 - Quantitative Research Methods and Design

3 hours Advanced research designs; techniques of sampling and scaling; questionnaire construction, problems of reliability and validity; consideration of appropriate tests of association and significance.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6202 - Qualitative Research Methods and Design

3 hours Theory and application of advanced qualitative methods to sociological data.

Prerequisite(s): Consent of department.

Same as SOCI 5202.

May not receive credit for both SOCI 5202 and SOCI 6202.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6203 - Social Science Text Mining

3 hours Seminar on contemporary text mining research methods used in the social sciences. Principles of research design and research ethics as they apply to text-based social science research. Surveys major contemporary approaches to sociological text mining.

Meets with SOCI 5203.

May not receive credit for both SOCI 5203 and SOCI 6203.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6204 - Qualitative Data Analysis

3 hours Advanced data analysis and hands-on instruction on how to code, analyze, and present qualitative research. Covers classic and contemporary works of qualitative sociological research, theoretical and epistemological issues involved in working with qualitative data, narrative strategies in writing and argument formation, and best practices for coding and analysis using qualitative data analysis (QDA) software.

May not receive credit for both SOCI 5204 and SOCI 6204.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6301 - Intermediate Statistics- Multiple Regression Analysis and Related Methods in Sociology

3 hours Application of regression and the generalized linear model to analyze data in sociology and related disciplines. Topics include multiple regression models, diagnostics, moderating and mediating effects, the generalized linear model, and use of statistical software for conducting these analyses.

Prerequisite(s): Consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6302 - Advanced Statistics in Sociology

3 hours Provides the second part of a two-semester introduction to quantitative methods in sociology and is designed for doctoral students. Covers aspects of the generalized linear model and data analyses of cross-sectional, nested and/or panel data.

Prerequisite(s): SOCI 5301, SOCI 6301 or an equivalent multiple regression analysis course.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6401 - Comparative and Global Sociology

3 hours Theoretical and methodological literature in comparative and global sociology. Topics include comparative-historical sociology, global sociology and globalization.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6402 - Population and Society

3 hours Advanced evaluation of demographic concepts and methods for the study of society; comparative analysis of population characteristics in various stages of socioeconomic development.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6500 - Topics in Sociology

3 hours Intensive analysis of selected topics in specialized areas.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6501 - Social Inequalities

3 hours Advanced analysis on types of stratification; theories of stratification and its function in society; race/ethnicity, class, and gender; the methodology of stratification studies.

May not receive credit for both SOCI 5300 and SOCI 6501.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6502 - Race and Ethnicity

3 hours Advanced analysis of 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.

May not receive credit for both SOCI 5330 and SOCI 6502.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6503 - Sociology of Education

3 hours Advanced examination of the interrelationships of schools and communities in American society; comparative application of sociological concepts to the study of schools as social systems.

Corequisite(s): Meets with SOCI 5650.

May not receive credit for both SOCI 5650 and SOCI 6503.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6504 - Development and Social Change

3 hours Advanced analysis on theories of the sociology of development and social change, including the nature of social change and development, along with the history and debates within the field.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6505 - Sociology of Gender

3 hours Foundational theories and contemporary debates in the sociology of gender. Examines how gender is reproduced in identity, discourse, interactions, organizations, and institutions, as well as how it is resisted and reconfigured at the individual and collective levels.

Meets with SOCI 5305.

May not receive credit for SOCI 6505 and SOCI 5305.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6515 - Intersectionality

3 hours Advanced study of theories, epistemologies, methods, and general paradigm of intersectionality. Tracks the origin of intersectional thought and its development from the earliest writings in the late 1800s to contemporary works.

Meets with SOCI 5315.

May not receive credit for both SOCI 5315 and SOCI 6515.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6601 - Health and Aging

3 hours Advanced analysis of social factors and consequences in health and aging with a focus on the health care system as an organization and the health care systems in other countries.

May not receive credit for both SOCI 5700 and SOCI 6601.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6603 - Medical Sociology

3 hours Advanced review of the field of Medical Sociology focusing on social factors such as age, sex, race and social class concerning health and the medicalization process.

Meets with SOCI 5410.

May not receive credit for both SOCI 5410 and SOCI 6603.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6701 - Sustainable Communities

3 hours Advanced analysis of the history and development of environmental policy and theory, including the growth of sustainable programs in U.S. cities. Topics include the focus on technological development, social, economic, and environmental conditions, and grant writing related to sustainable community development.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6702 - Environmental Sociology

3 hours Advanced analysis of the field of environmental sociology, including the nature of the relationship between humans, their societies, and their environments.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6703 - Urbanization

3 hours Advanced application of ecological and demographic methods to the study of urban and metropolitan development; sociological aspects of urban and metropolitan problems and planning.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6800 - Criminological Theory

3 hours Advanced training in how criminologists build theories to explain deviance and crime. Review of the development of the field of criminology and the theories most often used by criminologists in their work. Examination of the data and methods criminologists use to provide evidence for their theories. Analysis of issue-specific topics chosen by students to contextualize criminological theories.

Meets with SOCI 5600.

May not receive credit for both SOCI 5600 and SOCI 6800.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6900 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6910 - Special Problems

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6940 - Individual Research

1–12 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SOCI 6950 - Doctoral Dissertation

3, 6 or 9 hours To be scheduled only with consent of department. A total of 9 dissertation hours are required for the Sociology doctorate. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

Spanish

SPAN 5010 - Introduction to Critical Theory and Research Methodology

3 hours A survey of important literary critical theories and recent trends as well as training in scholarly research methodology in the field of literary studies.

Prerequisite(s): Be accepted and enrolled in Spanish MA degree program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

No prior knowledge of Spanish is required. Evaluation on a pass/no pass basis.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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).

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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*.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 Zorilla, together with anonymous works such as La Estrella de Sevilla.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5209 - Mexican Short Story

3 hours Analysis of Mexican short stories from the middle of the 19th century to the late 20th century.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5210 - Mexican Novel

3 hours Chronological study of canonical Mexican novels of the 20th century.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5225 - Post-Franco Spanish Novel

3 hours Main authors, works and styles of the post-Franco Spanish novel in their socio-historical and political context, carried out under an analytical and critical perspective.

Prerequisite(s): Enrollment in the Spanish master's program.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5270 - Spanish Syntax and Morphology

3 hours Morphology and syntax of Spanish based upon current linguistic theory. Topics include the internal structure of words, major parts of speech, sentences, phrases, and word order.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5340 - Latin American Prehispanic and Colonial Literature

3 hours Detailed study of prehispanic indigenous texts, colonial chronicles, and Sor Juana's works. Emphasis on indigenous worldview, Spanish justification of the conquest, and the Creole initiatives of Latin American independence movement.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5380 - The Spanish-American Novel

3 hours The Spanish-American novel of the 19th and 20th centuries. Readings, lectures and term projects.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5410 - Contemporary Latin American Theater

3 hours Deepens knowledge of the socio-historical and aesthetic contexts of major works in contemporary Latin American theatre. Taught in Spanish with secondary readings in Spanish and English.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5420 - U.S. Latinx-Hispanic Theater

3 hours Study of major works and trends in Latinx/Hispanic Theater in the United States. Taught in Spanish with secondary readings in Spanish and English.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5430 - Latin American Adaptations of Classical Drama

3 hours Modern-day Latin American adaptations of classical Greek texts as theatrical, artistic constructs and as socially relevant documents. Explores ancient and modern "heroes" through anthropological concepts of conflict and possible reintegration.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5490 - Twentieth-Century Poetry in Spanish

3 hours Explores revolutions in poetry in Spanish at the end of Hispanic modernismo and later. Readings, lectures and term projects.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5512 - Ethno-Education and Decolonial Thinking

3 hours Interrogates the historical intersections of racism and epistemology, analyzing the parallels between the racialization of peoples and places, and the marginalization of the knowledge that they produce. Examines forms of "epistemic disobedience" via particular ethno-educational models and decolonial projects created by Afro-descendent and other minority communities in Latin America.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5525 - From Enlightenment to Romanticism

3 hours Chronological study of the most representative literary texts from the period in order to see the evolution from the Enlightenment ideas that prevailed in Western Europe throughout 18th century to the appearance of the Romanticism. Connections with art and European Literature.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5545 - Realism and Naturalism in 19th Century Spain

3 hours Study of the most representative texts and authors of Spanish Realism (Alarcón, Pérez Galdós, Pardo Bazán, Clarín) to "radical naturalism" (Lopez Bago and Sawa), authors who connect their literature with the new century. Connections with the different literary trends of the end of the 19th century in Spain and in Europe are made.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

SPAN 5690 - Latin American Short Story

3 hours Survey of the Latin American short story from the 19th through the 21st centuries.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

Special Education

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 5220 - Learning Strategies for Individuals with Cognitive Disorders

3 hours Focus on learning strategies designed for individuals with disabilities.

Prerequisite(s): EDSP 5200 and EDSP 5600.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710 or equivalent.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 5310 - Introduction to Autism Spectrum Disorder

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710; EDSP 5600 or EDSP 5730.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 5330 - Classroom and Behavior Management Strategies for Exceptional Learners

3 hours Introduces students to the principles and practice of applied behavior analysis (ABA) in school settings involving students with special needs. Focuses on the fusion of scientific or evidence-based

practices with ethical principles in the design of a function-based behavior intervention plan (BIP) for a person with a disability who displays behavior problems.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 5340 - Supporting High Functioning Students with Autism in General Education

3 hours Provides a comprehensive overview of the characteristics and educational needs of high functioning students with an Autism Spectrum Disorder. Requires students to demonstrate knowledge and skills in developing an individualized educational plan (IEP) to be delivered in general education settings including curricular and instructional accommodations, social interaction and communication skills, behavior support, and other environmental supports.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 5350 - Educational Programming for Students with Autism Spectrum Disorder

3 hours Focuses on the unique programming needs of students with autism spectrum disorder. Specific educational and behavioral interventions are discussed as well as several of the more controversial therapies. Characteristics associated features of students with autism are presented.

Prerequisite(s): EDSP 5310 or equivalent for students in the Autism Intervention concentration, or consent of department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 5360 - Assessment of Autism Spectrum Disorder

3 hours Focuses on evidence-based practices for the assessment and identification of autism spectrum disorder (ASD). The various components of a comprehensive evaluation are discussed. Various evaluation tools and procedures are reviewed and demonstrated.

Prerequisite(s): EDSP 5310.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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 6168X , 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5600.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5600, EDSP 5710, or EDSP 5730.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5600. EDSP 5610 (may be taken concurrently).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 5660 - Transition Education and Services for Exceptional Learners

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 5710 or EDSP 5520.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5660.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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, intellectual disabilities, and emotional/behavioral disorders. A life span view of intervention models, as well as curricular adaptations across content areas is explored.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

IMPACT students must be admitted into the Educator Preparation Program (EPP) before enrolling in the course. For students in the IMPACT program, in order to be compliant with the Texas Education Agency requirement for teacher certification, 50 hours of field-based observation in a TEA-approved classroom is required in this course.

Prerequisite(s): EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 6275 - Advanced Studies in Evidence Based Practices in High and Low Incidence Disabilities

3 hours Examination of research to support evidence-based practices. Students read and critically analyze studies that form the evidence base for practices used with students with high and low incidence disabilities. Methods for designing effective instruction/interventions, principles that apply for defining current level of functioning, and monitoring learner progress are emphasized. The key outcome of this course is for future leaders in the field of special education to understand how to determine and evaluate what is evidence-based practice, and use this information in the provision of supports and services to children with disabilities and their families.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 6270.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 6295 - Seminar in Professional Leadership in Special Education

3 hours Designed to assist students in understanding leadership and professional development issues facing special education doctoral candidates. Topics to be explored include models of professionalism, civic and professional responsibilities, and ethical practices associated with special education and other disability-related fields. Also focuses on the responsibilities of special education professionals in higher education, district and state level administration, and community and non-profit organizations.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 6325 - Advanced Studies in Emotional/Behavioral Disorders

3 hours Examination of current and emerging critical issues in the field of emotional/behavioral disorders and in children's mental health which promise to impact all aspects of service delivery to children and youth with emotional and behavioral problems.

Recommended: EDSP 5600, EDSP 5620, and consent of the instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

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.

Recommended: EDSP 5710.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 6420 - Advanced Studies in Learning Disabilities and Emotional/Behavior Disorders

3 hours Analysis of the theoretical and empirical issues associated with the cognitive, social, neuropsychological, emotional and mental health associated with learning disabilities (LD) and emotional and behavioral disorders (EBD). Focus on historical and current perspectives on educational programming for children and young adults with LD and/or EBD, as well as identifying and developing strategies for increasing access to and success in the general education curriculum and community.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 6430 - Literacy Research for Special Populations

3 hours Advanced study and analysis of current research and practices in literacy instruction and intervention for children identified as having special instructional needs. Emphasis is on the articulation between research findings and literacy curriculum and practices in schools.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 6520 - Biomedical Aspects of Autism

3 hours Overview of basic human functional neuroanatomy as well as an introduction to the various research modalities being applied in biomedical studies of autism. Addresses major empirical findings from the areas of neuroanatomical, neurobehavioral, and neurochemical research as they apply to individuals with Autism in addition to other non-neurologic medical findings.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 6530 - Advanced Studies in Autism

3 hours Designed to review existing interventions for instructing students with autism spectrum disorders (ASD) to determine if they meet the criteria for evidence-based practice (EBP). Procedures for determining EBP in autism spectrum disorders are discussed in relation to various interventions for addressing the core deficit areas of ASD. Maximum focus is on critically evaluating the research literature to identify EBP and their application in public school classrooms (i.e., bridging the research-to-practice gap).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

EDSP 6540 - Evaluation of Autism Programs

3 hours The purpose of this course is threefold: (1) to identify components of high-quality special education and autism programs; (2) to become familiar with ways in which the effectiveness of special education programs should be evaluated; and (3) to learn how to implement key aspects of the Empowerment Evaluation Model of program evaluation. These three purposes are inseparable and intertwined, and thus, receive equitable, ongoing attention throughout the semester in assigned readings, in-class discussions, and course activities.

Recommended: EPSY 6122.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $23.30

Sport Entertainment Management

SENM 5150 - Marketing Practices in the SEI

3 hours Application of concepts, tools and procedures employed by practicing marketing managers in the sport entertainment industry. A foundational introductory course for MBA students who have not taken a marketing course prior; focuses on how companies can satisfy consumer needs (fans, sponsors, media, etc.) within the sport entertainment industry (SEI).

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

SENM 5200 - Sport Event and Venue Operations

3 hours Examines sport event and venue operations within the sport entertainment industry. Management systems are discussed and include capacity management, bidding on events, risk management and security, and front and back of house management. Issues of volunteer recruitment and management, event evaluation, and sustainability are addressed.

Prerequisite(s): Admission to the MBA in Sport Entertainment Management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

SENM 5261 - Corporate Partnerships in the Sport Entertainment Industry

3 hours Explores how organizations in the sport entertainment industry can develop corporate partnerships outside of their own industry. Emphasis is on student application of material and proposing new or modifying existing partnerships in the sport entertainment industry. Subjects discussed include the evolution of sponsorship in the sport entertainment industry, sponsorship objectives, the sponsorship acquisition process, sponsorship activation strategies, ambush marketing, and sponsorship evaluation.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

SENM 5262 - International Brand Strategies in the Sport Entertainment Industry

3 hours Serves as a graduate introductory course to brands that allow students to become acquainted with brand strategies within the (international) sport entertainment industry. Students learn the concepts of branding and how it pertains to the international sport entertainment industry. Introduction to topics such as brand equity, tangible and intangible components of branding, brand communities, brand extensions, and brand growth strategies. A strong emphasis is placed on case studies to better understand how professional sport organizations have used their brands to generate revenue. By the end of the course, students will be able to apply their knowledge of international sport branding to the development of a brand strategy report that would allow a U.S.-based professional sport organization to brand their organization to a global audience.

Prerequisite(s): Admission to the MBA in Sport Entertainment Management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

SENM 5401 - Talent Management in the Sport Entertainment Industry

3 hours Explores the unique managerial issues associated with talent management in the sport entertainment industry. Emphasis is on student application of material and proposing solutions to problems in developing, recruiting and managing talent in the sport entertainment industry. Examines the entirety of the talent management life cycle, including attracting talent, hiring processes,

effective onboarding, managing workplace dynamics, performance management, leadership development, and succession planning and change management.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

SENM 5490 - Consulting in the Sport Entertainment Industry

3 hours This course serves as the capstone course for MBA Sport Entertainment Management Track and allows these students to combine the content they have been exposed to in their coursework, and use this knowledge to consult clients in the sport entertainment industry. Focus is on the development of a strategic report, and to present this back to their clients. The majority of classes have a guest speaker from the various segments of the industry share their experiences, particularly in the context of consultancy, and provide mentorship to the students in their own consultancy efforts.

Prerequisite(s): MBA in Sport Entertainment Management Only.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

SENM 5495 - Business Planning

3 hours Builds entrepreneurial skills and delivers an immersive and comprehensive approach to vetting business ideas and planning a new venture in the sports entertainment industry. Emphasis is placed on new venture ideation, solving consumer and industry problems, vetting and establishing appropriate business models and revenue channels, generating marketing plans, and building pitch decks refining effective. Culminates with a lightening pitch to a panel of startup experts.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

SENM 5650 - Contemporary Issues In Sport Entertainment

3 hours Allows students to delve deeper in a chosen topic and become content experts in one specific issue in the sport entertainment industry. The issue could be either a particular area or field (e.g. hospitality, ticket sales, media rights, etc.), or a specific subarea of the sport entertainment industry (e.g. The Olympics, Collegiate Athletics, Youth Sports, etc.) Focus of course is on the development of a strategic report, and to present this to their fellow students. Strong emphasis will be placed on guest speakers knowledgeable of the particular issue.

Prerequisite(s): Will depend on topic or by consent of instructor.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $15.50 (instructional), (differential tuition may vary)

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): Instructor approval.

May be repeated for credit as topics vary for a maximum of 15 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ASTU 5001 - Graduate Seminar

3 hours Graduate Seminar is an intensive interdisciplinary-based course which encourages innovation and the development of a creative portfolio, art artifacts, performances or installations. Seminars are structured around group critique, studio practice and reading/writing/presentation/discussion. Critiques are not themed and require students to develop their own projects and creative voice. Open to all Studio MFA students, all years.

Prerequisite(s): Must be a current Studio Art MFA student.

May be repeated for credit for a maximum of 18 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ASTU 5005 - Studio Art Teaching Practices

3 hours First year studio art graduate cohort class. Includes successful completion of GSTEP, designated hours shadowing faculty in studio discipline, development of course syllabi for intro level studio classes, course discussions related to readings.

Prerequisite(s): Must be a studio art graduate student.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ASTU 5010 - Professional Practices for the Studio Artist

3 hours (3;3) 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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ASTU 5015 - Creative Project

3 hours (0;6) Cohort studio course for MFA students in preparation for their culminating project. May include seminar discussions, critiques, development of an extended artist statement draft, professional opportunity/engagement proposals and writing an annotated bibliography.

Prerequisite(s): Must be a current Studio Art MFA student who has passed 2nd year review.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ASTU 5020 - MFA Exhibition

3 hours (0;6) Constitutes the finalizing of work started in ASTU 5015 culminating in an exhibition which highlights the student's research and artistic process. Students present a cohesive body of artworks, accompanied by a completed extended artist statement.

Prerequisite(s): ASTU 5015.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ASTU 5030 - Contemporary Trends in Studio Art

3 hours The relation between theory and practice in Studio Art is introduced and examined through analysis of rotating topics currently affecting the discipline.

May be repeated for credit when topics vary for a maximum of 9 hours.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

ASTU 5045 - Digital Fabrication

3 hours (0;6) Digital fabrication (the use of computer-controlled machines to create physical objects) emphasizes both the creative production of each individual student as well as the applicable processes of digital fabrication. Instruction on the basics of 2D and 3D object making and participation in group analysis of completed objects. Utilizes the traditional methods of the project-based studio course and adapts them to the online learning environment.

Recommended: Must be a current graduate student of any area in the College of Visual Arts and Design.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $43.80

Teach North Texas

TNTX 5200 - Conceptual Science

3 hours *TNTX 5200 (3 hours) Topics in conceptual science, such as laboratory and field safety, lab management, lab design, differences between a content-specific dynamic conceptual model and static model of content, as well as using modern technology in science.*

Prerequisite(s): Completed TNTX 1200 or TNTX1300, and EDCI 3500. (may be taken concurrently with EDCI 3500, or department consent.) Minimum of 6 credit-hours of major content courses.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

TNTX 5900 - Special Problems

1–3 hours Used upon approval of the department chair or dean for individual instruction to cover course content in special circumstances.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $33.10

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): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

TECM 5175 - Writing in Professional Settings

3 hours Offers an introductory, hands-on approach to constructing the professional texts types found in the academy and the workplace. Recommended for students majoring in the sciences and engineering as well as students who speak English as a second language.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

TECM 5191 - Digital Literacies for Professional Communicators

3 hours Examination of the digital literacies used in professional contexts. Intensive theory and practice of authoring tools, content management, single sourcing and coding.

Prerequisite(s): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

TECM 5200 - Digital Content Strategies for Communication Professionals

3 hours Advanced study of content strategy skills important for technical communicators. Students learn about how technical communicators use content strategies to develop web content. Students also use and analyze major web content management systems, including Drupal, Word Press and Joomla.

Prerequisite(s): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

TECM 5290 - Design and Development of High-Tech Training Materials

3 hours Theoretical and practical approach to the research, design, development and evaluation of technical training materials for end users and employees in high-tech industries. Students are introduced to a variety of instructional design models and develop both face-to-face and online technical training materials.

Prerequisite(s): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

TECM 5550 is required for all new teaching fellows. May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department. 9 credit hours in technical communication.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

TECM 5740 - Content Analysis 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): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

TECM 5750 - Measuring Usability and User Experience for Professional and Technical Communication

3 hours Client-based approach to the methods used to analyze the usability and user experience of documents, software, web sites, mobile applications and other interfaces used by professional and technical communicators. Methods may include card sorting, think aloud protocols, interviews, observations, cognitive walkthroughs, task analysis, heuristic evaluations and eye tracking.

Prerequisite(s): Admission to a graduate degree program or graduate certificate in the Department of Technical Communication or consent of the department.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $11.10

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.

Required of all majors in theatre arts the first fall term/semester of their graduate enrollment.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

THEA 5320 - American Theatre

3 hours History and technical development of the theatre in America.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

THEA 5340 - Contemporary Theatre Criticism

3 hours Experimental and new trends in playwriting, production and criticism.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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.

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.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

THEA 5900 - Special Problems

1–3 hours Problems must be approved by department chair.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

THEA 5910 - Special Problems

1–3 hours Problems must be approved by department chair.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

THEA 5920 - Research Problems in Lieu of Thesis

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

THEA 5930 - Research Problems in Lieu of Thesis

1–3 hours Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

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 school. Continuous enrollment required once work on thesis has begun.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $60.60

University Courses

UCRS 5800 - College of Liberal Arts and Social Sciences Internship

1–6 hours Supervised work in governmental, nonprofit and private sector directly related to the student's major, professional field of study or career objective.

Prerequisite(s): Students must meet employer's requirements and have consent of department.

Graded. May be repeated for credit for a maximum of 6 hours.

UCRS 5900 - Special Problems

1–3 hours

UCRS 5920 - Research Problems in Lieu of Thesis

3 hours

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.

Women's and Gender Studies

WGST 5100 - Feminist and Womanist Theories

3 hours Introduction to key ideas in feminist/womanist thought. Introduces students to key theoretical contributions.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

WGST 5150 - Theorizing Queer Identity, Politics, and Subjectivity

3 hours Survey of key historical and contemporary theoretical debates and the political and ideological contexts that have shaped them. Critical contemporary issues and debates in the interdisciplinary field of queer studies, particularly focused on LGBTQ+ inspired epistemologies, methodologies, and activism.

Meets with WGST 4150.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

WGST 5250 - Sustainable Development and Gender

3 hours Advanced survey of challenges facing us in the 21st century including feminist critiques of international development theory and practice; issues such as ecological degradation, climate change and the movement of people across borders, and recent calls for "sustainable development."

Meets with WGST 4250.

May not receive credit for both WGST 4250 and WGST 5250.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

WGST 5300 - Feminist Methods and Methodologies

3 hours Examination of feminist methods and methodologies from a variety of interdisciplinary and intersectional perspectives in the field of Women's and Gender Studies with an emphasis on qualitative research methods. Reflection on what constitutes feminist knowledge and how feminist researchers engage with issues of power relations, oppression, domination, and inequality.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

WGST 5350 - Globalization and Gender

3 hours Explores gender as a social practice, and globalization as a multifaceted socio-economic process. Topics include feminist critiques of international development theory and practice; militarization, conflict and the movement of people across borders; and global climate change.

Meets with WGST 4350. May not receive credit for both WGST 4350 and 5350.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

WGST 5400 - Human Trafficking and Gender

3 hours Uses feminist(s) methodologies to analyze slavery and trafficking. Examines current policies aimed at the prevention and penalization of human trafficking, and the protection of victims' rights.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

WGST 5800 - Seminar in Women's and Gender Studies

3 hours Interdisciplinary and intersectional study of a major topic focusing on the field of women's and gender studies. Seminar extends the scope of course offerings in specific disciplines.

Prerequisite(s): Consent of program director.

May be repeated for credit as topics vary.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

WGST 5850 - Professional Internship

3 hours Practical experience through employment in a company, organization or agency, and arranged with the consent of the women's and gender studies director. Objectives and duties of the internship to be formulated by the student, the women's and gender 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 and gender studies; consent of program director.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

WGST 5900 - Special Problems

1–3 hours Supervised individual or small group study of special problems or topics not otherwise covered by regular offerings.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

WGST 5950 - Master's Thesis

3 or 6 hours No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): Consent of program director.

May be repeated for credit.

Course specific fees (in addition to tuition and mandatory):

Academic (AF) per hour: $20

Administration, faculty and librarians

UNT System and university officers

Board of Regents

Laura Wright, Chair (2027), Dallas
Melisa Denis (2025), Southlake
Terri West (2029), Lucas
Daniel Feehan (2025), Fort Worth
Cathy Bryce (2029), Argyle
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Carlos Munguia (2029), University Park
Lindy Rydman (2027), Houston
John Scott Jr. (2025), Keller

Student Regent
Appointed annually

UNT system administration

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Harrison Keller, PhD, President of UNT
Warren von Eschenbach, PhD, President of UNT Dallas
Kirk A. Calhoun, MD, FACP, President of UNT Health Science Center at Fort Worth
Rachel Barone, MA, Chief of Staff
Rey Rodriguez, MPAff, Chief Strategy Officer
Alan Stucky, JD, Vice Chancellor and General Counsel
Warren von Eschenbach, PhD, Vice Chancellor for Academic Affairs
Greg Anderson, Deputy Chancellor for Finance and Operations
Okang Hemmings, MS, Vice Chancellor for Strategic Infrastructure
Donna Asher, PhD, Vice Chancellor of People and Culture
Steve Moore, MBA, Chief Marketing and Communications Officer
Juan F. Serrano, MBA, Vice Chancellor and Chief Information Officer
Jeff Darnaby, **BS**, Chief Transformation Officer
Ninette Caruso, MCom, Chief Audit Executive and Enterprise Risk Officer

UNT administration

Harrison Keller, PhD, President of UNT
Marjorie Barrett, BA, Deputy to the President
Albert Bimper, PhD, Executive Dean for College of Liberal Arts & Social Sciences
Brandon Buzbee, BS, Vice President for University Advancement
Coby Condrey, MLIS, Chair of Faculty Senate
Alfred Dozier IV, President of Student Government Association
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James Garrison, MA, Chief Information Officer
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Marilyn Wiley, PhD, Dean, G. Brint Ryan College of Business
Elizabeth With, EdD, Senior Vice President for Student Affairs

Toulouse Graduate School

Victor Prybutok, PhD, Vice Provost for Graduate Education and Dean of Toulouse Graduate School
Joseph R. Oppong, PhD, Academic Associate Vice Provost and Academic Associate Dean
Billy Roessler, PhD, Assistant Dean

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 Information System (facultyinfo.unt.edu). Select "Faculty Name" or "Courses" from the Browse menu and type in appropriate name.

Graduate faculty of the College of Biomedical and Translational Sciences and the College of Public Health at the University of North Texas Health Science Center at Fort Worth (UNT Health) 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 *UNT Health Catalog* for UNT Health graduate faculty listings.

Emeritus faculty

Abel, Mickey, Visual Arts and Design (2003-2019).
Adkison, Judith, Education (1983-2011).
Albarran, Alan, Liberal Arts and Social Sciences (2000-2018).
Albertson, Roxanne, Education (1979-2000).
Allison, Jay, Liberal Arts and Social Sciences (1989-2020).
Altekruse, Michael, Education (1995-2005).
Anderson, Miles, Arts and Sciences (1950-1992).
Atkinson, Samuel, Science (1989-2023).
Austin, Jerry, Visual Arts and Design (1982-2017).
Austin, Stephen, Vocal Studies (2001-2023).
Babcock, Mary Lynn, Liberal Arts and Social Sciences (1996-2021).
Bahnsen, Kenneth, Education (1955-2003).
Bailey, Don C., Education (1962-1999).
Baird, James, Arts and Sciences (1966-2011).
Beitinger, Thomas L., Arts and Sciences (1976-2011).
Benet, Diana, Arts and Sciences (2001-2012).
Berg, Robert, Education (1968-2006).
Bland, Robert, Public Administration (1982-2024).
Blow, David, Visual Arts (1980-2011).
Boedenhamer-Davis, Eugenia, Public Affairs and Community Service (1974-2010).
Boley, Richard, Business Administration (1990-2005).
Booth, John, Arts and Sciences (1984-2011).
Borden, Weston T., Science (2004-2017).
Bower, Beverly, Education (2008-2019).
Bowman, Brian, Music (1999-2018).
Brady, William T., Arts and Sciences (1962-1999).
Brand, Neal, Science (1988-2017).
Brantton, Sue, Education (1992-2017).
Braswell, Michael, Business (1990-2015).
Braterman, Paul S., Arts and Sciences (1988-2006).
Brookshire, William, Education (1970-2003).
Brostow, Witold, Engineering (1989-2019).
Brothers, Lester, Music (1974-2005).
Brown, Newel Kay, Music (1970-1991).
Broyles, Sheri J., Journalism (1996-2020).
Buckalew, Mary, Arts and Sciences (1965-1998).
Buckles, Bill P., Engineering (2006-2021).
Buhler, June, Education (1973-2000).
Bullock, Lyndal M., Education (1978-2017).
Busby, Roy, Journalism (1961-2015).
Bush, Barbara, Education (2002-2020).
Bush, Deanna D., Music (1980-2011).
Butt, Harlan, Visual Arts and Design (1976-2017).
Caldwell, Patsy, Education (1959-1998).
Callicott, J. Baird, Arts and Sciences (1995-2015).
Campbell, Lloyd P., Education (1970-2006).
Campbell, Vicki L., Liberal Arts and Social Sciences (1982-2020).
Campbell, Randolph (Mike), History (1966-2019).
Candelaria, Leonard, Music (1974-2003).

Chandrasekaran, Perinkolam, Business (1981-2020).
Chang, Anny, Visual Arts and Design (2000-2022).
Cheal, Susan, Visual Arts and Design (2000-2017).
Chelliah, Shobhana, Information (1996-2022).
Cherry, William, Mathematics (1998-2024).
Chesky, Kris, Instrumental Studies (2007-2024).
Chipman, Donald, Arts and Sciences (1964-2002).
Chisholm, Rose Marie, Music (1995-2012).
Chng, Chwee-Lye, Education (1981-2013).
Christensen, Rhonda, Learning Technologies (1998-2025).
Clay, Joan, Hospitality and Tourism (1990-2011).
Clark, Thomas, Music (1976-2004).
Clay, Joan Marie, Merchandising, Hospitality and Tourism (1990–2011).
Clay, Raymond J., Business (1983-2011).
Coda, Bernard, Business Administration (1965-1997).
Coe, Barbara, Business Administration (1980-2005).
Colson, Ted, Arts and Sciences (1956-1993).
Combest, Sandi, Arts and Sciences (1966-2001).
Conover, James, Business (1989-2018).
Conover, Teresa, Business (1989-2017).
Contreras, Gloria, Education (1987-2011).
Cooper, J. Arthur, Education (1966-1998).
Copeland, Ben, Business Administration (1963-2000).
Cornelius, Bill, Education (1966-2004).
Costabil-Heming, Carol-Anne, World Languages, Literatures and Cultures (2012-2024).
Cox, Randall, Liberal Arts and Social Sciences (1997-2023).
Crader, Jeannine, Music (1970-1997).
Crocker, Betty, Education (1988-2010).
Crowder, Robert, Arts and Sciences (1979-1997).
Curtis, Mary, Business (1998-2022).
Cushman, Shelley, Liberal Arts and Social Sciences (1977-2019).
Damico, Anthony, Arts and Sciences (1966-2001).
Dandekar, Sushama, Chemistry (1998-2023).
Davis, Addie Nell, Human Resource Management (1951-1981).
Davis, D. Jack, Visual Arts and Design (1971-2011).
Davis, Mark, Management (1998-2024).
Davis, Richard, Visual Arts and Design (1968-2018).
Day, Kaaren, Education (1982–2008).
Deering, William, Arts and Sciences (1965–2008).
DeLaney, Gloria, Education (1960-1999).
Desiderato, Robert, Arts and Sciences (1966-2004).
Dickenson, Jerry, Hospitality and Tourism Management (1996-2016).
Dickstein, Rebecca, Science (2000-2022).
DiFiori, Linda, Music (1996-2014).
Ditzenberger, Roger, Education (1980–2007).
Dixon, Paul, Education (1992-2006), Dean.
Dixon, Richard A., Science (2012-2021).
Dixon-Krauss, Lisbeth, Education (2009-2019).
Donahue, Manus, Arts and Sciences (1982-2002).
Donahue, Ruthann, Arts and Sciences (1990-2002).
Dworak, Paul, Music (1979-2017).
Earp, Norman Wesley, Education (1963-1997).
Eddy, John Paul, Education (1979-2000).
Emmanuel, Donna, Music (2002-2020).
Engels, Dennis, Education (1976-2011).
Eschbach, Jesse, Keyboard Studies (1986-2024).
Esterchild, Elizabeth, Public Affairs and Community Service (1969-2007).
Evans, Mary, Human Resource Management (1958-1981).
Evenson, Thomas, Health and Public Service (1980-2017).
Falsetta, Vincent, Visual Arts and Design (1977-2017).
Feigert, Frank, Arts and Sciences (1977-2003).
Ferring, C. Reid, Liberal Arts and Social Sciences (1978-2019).
Fink, Ron, Music (1964-2000).
Finn, Don, Business (2009-2020).
Fisher, Dennis, Music (1982-2019).
Fitzpatrick, Lloyd, Arts and Sciences (1970-2014).
Forde, Steven, Arts and Sciences (1987-2017).
Forney, Judith, Merchandising and Digital Retailing (1992-2024).
Foster, Phillip, Engineering (1982-2017).
Fox, Norris, Education (1972-2009).
Friedman, Bonnie, Liberal Arts and Social Sciences (2008-2021).
Froehlich, Hildegard, Music (1976-2001).
Frost, Carol Ann, Business (2007-2018).
Garner, Cody, Music (1989-2006).
Getschow, George, Journalism (2002-2017).
Gibbons, Henry, Music (1980-2012).
Gillespie, James E., Music (1978-2011).
Gleeson, Larry, Visual Arts and Design (1972-2007).
Glick, Edwin, Arts and Sciences (1970-1995).
Glover, Rebecca, Education (1995-2022).
Golden, David, Arts and Sciences (1985-2004).
Golden, Richard, Liberal Arts and Social Sciences (1994-2021).
Goodwin, Vicki, Business (1991-2014).
Gopal, Kamakshi, Health and Public Service (1993-2023).
Graves, Finley, Business (2002-2018).
Greenlaw, M. Jean, Education (1978-2005).
Groom, Joan, Music (1973-2011).
Grubbs, Bill, Engineering (1993-2011).
Guynes, Stephen, Business (1969-2021).
Hamilton, Fred, Music (1989-2017).
Hargrove, Eugene, Liberal Arts and Social Sciences (1990-2015).
Harrell, Pamela, Education (2000-2020).
Harris, Andrew, Liberal Arts and Social Sciences (2002-2021).
Harris, Mary, Education (2000-2014).
Harrison, Thomas, Arts and Sciences (1972-2004).
Hasty, Ron, Business Administration (1992-2011).
Hayes, Robert (Bob), Engineering (1990-2018).
Haynes, Jack R., Arts and Sciences (1963-1999).
Hays, Henry, Business Administration (1964-2004); Dean.
Hayslip, Bert, Arts and Sciences (1978-2013).
Henderson, Sam, Arts and Sciences (1953-1985).
Henoch, Miriam, Arts and Sciences (1996-2005).
Holcomb, Terry, Education (1973-2005).
Holden, Jan, Education (1988-2019).
Hollaway, Linda, Health and Public Service (1995-2019).
Holman, John, Public Affairs and Community Service (1984-2006).
Holman, John, Public Administration and Community Service ((1984-2006).
Homer, Paula, Jazz Studies (1992-2017).
Hudnall, Margaret, Music (1968-2004).
Hudson, Johnetta, Education (1999-2012).
Huffman, Janie, Education (1996-2016).
Impson, Michael, Business (1987-2020).
Ingman, Stanley, Health and Public Service (1990-2018).
Jacobson, Arminta, Education (1981-2015).
James, George, Liberal Arts and Social Sciences (1983-2020).
Jessup, Robert, Visual Arts and Design (1991-2018).
Johnson, Charles, Education (1957-1994).
Johnson, Douglas A., Arts and Sciences (1971-2004).
Johnson, James, Jr., Visual Arts (1968-1995).
Johnson, Karrell, Music (1997-2013).
Jones, Mary, Business (2001-2021).
Jordan, Ann, Public Affairs and Community Service (1990-2014).
Josiam, Bharath, Merchandising, Hospitality and Tourism (2001-2023).
Kallman, Robert R., Jr., Science (1979-2019).
Kamman, William T., Arts and Sciences (1962-2009).
Kaplan, Marijn, Liberal Arts and Social Sciences (2002-2023).
Kappelman, Leon, Business (1990-2021).
Karafiath, Imre, Business (1984-2019).
Kavi, Krishna, Computer Science and Engineering (2001-2024).
Kemerer, Frank R., Education (1978–2008).
Kennedy, James, Biological Sciences (1987-2024).
Kennelly, Kevin, Arts and Sciences (1967-2000).
Kern, R. Fred, Music (1980-2011).
Kester, Stephen A., Arts and Sciences (1967-1994).
King, Barry, Business Administration (1970-1995).
King, Kelley, Teacher Education and Administration (2006-2022).
Klammer, Thomas, Business (1970-2007).
Koop, Marie-Christine, Liberal Arts and Social Sciences (1990-2021).
Kowalski, Jacek, Arts and Sciences (1989-2014).
Kung, Joseph, Science (1984-2018).
Kunz, Daniel, Science (1989-2023).
Kuss, Malena, Music (1976-1999).
LaPoint, Thomas, Arts and Sciences (1999-2014).
Landreth, Garry, Education (1966-2001).
Laney, James, Education (1985-2019).

Larson, George, Arts and Sciences (1970-2000).
Lawrence, Annette, Visual Arts and Design (1996-2020).
Leung, Paul, Public Affairs and Community Service (1999-2015).
Levin, Ben, Liberal Arts and Social Sciences (1990-2018).
Levin, Melinda, Liberal Arts and Social Sciences (1995-2023).
Lewis, Paul, Arts and Sciences (1970–2011).
Lillie, Nancy Boyd, Business (1991-2018).
Linebarger, James Morris, Arts and Sciences (1963-1996).
Lowe, Gale B., Business Administration (1965-1995).
Lowe, Richard, Liberal Arts and Social Sciences (1968-2018).
Luttrell, H. Dale, Education (1970-2007).
MacDonald, Don, Business (1989-2020).
Mackey, Henry James, Arts and Sciences (1969-1999).
Marcello, Ronald E., Arts and Sciences (1967–2009).
Marshall, James L., Science (1987-2017).
Martin, Barbara, Library and Information Science (1984-2010).
Mason, Diana, Arts and Sciences (2001-2012).
Mason, David, Liberal Arts and Social Sciences (2002-2021).
Mathis, Janelle, Education (1997-2023).
Matteson, Samuel, Arts and Sciences (1987-2014).
Mauldin, Richard D., Arts and Sciences (1977-2011).
McCaslin, Richard, History (2004-2024).
McClung, Alan, Music (2002-2017).
McCoy, Jerry, Music (2000-2015).
McCroskey, Lenora, Music (1982-2009).
McDaniel, Floyd (Del), Science (1974-2018).
McDonald, James, Business (1976-2013).
McGregor, Kent, Liberal Arts and Social Sciences (1989-2018).
McKee, Bill, Arts and Sciences (1978-2011).
McNeill, Perry, Engineering (1994-2006).
McTee, Cindy, Music (1984-2010).
Merino, Barbara, Business (1983-2011).
Michaelsen, Robert, Business Administration (1987-2005).
Miller, William, Education (1964-1996).
Milnes, Robert, Visual Arts and Design (2006-2014).
Mohr, Cynthia, Visual Arts and Design (2003-2018).
Montler, Timothy, Liberal Arts and Social Sciences (1984-2020).
Morrison, George, Education (1995-2015).
Morrisson, Clovis C., Jr., Arts and Sciences (1962-1997).
Morrow, James, Education (1993-2017).
Moseley-Grady, Patricia, Education (1974-2002).
Nacke, Bruce, Visual Arts and Design (1987-2020).
Nahrgang, Lee, Arts and Sciences (1965-2007).
Nash, Jerry, Arts and Sciences (1997–2007).
Nelson, Nancy, Education (2009-2019).
Neuberger, John, Arts and Sciences (1977–2010).
Newsom, Ron, Education (1977-2011).
Newton, Connie, Visual Arts and Design (1989-2007).
Niemann, Yolanda, Liberal Arts and Social Sciences (2012-2021).
Nordstrom, Lyle, Music (2000-2010).
Norris, Cathleen, Learning Technologies (1982-2024).
Norton, Scott, Arts and Sciences (1963-2005).
Notley, Margaret A., Music (2000-2021).
Olsen, Solveig, Arts and Sciences (1968-2005).
deOnis, Carlos, Arts and Sciences (1968-1995).
O'Rourke-Kaplan, Marian, Visual Arts and Design (1992-2018).
Parberry, Ian, Engineering (1990-2022).
Patton, Robert, Education (1973-2013).
Peak, Dan, Business (2001-2023).
Pekara, Jean, Education (1966-2001).
Phelps, Brent, Visual Art and Design (1980-2011).
Phipps, Graham, Music (1984-2014).
Pickens, Donald K., Arts and Sciences (1965-2006).
Pirtle, Robert M., Arts and Sciences (1980-2011).
Plummer, Mitty, Engineering (1992-2011).
Poe, Stephen, Business (1989-2020).
Powell, James (Don), Business (1977-2019).
Ramsey, Darhyl, Music (1987-2018).
Ray, Dee, Counseling and Higher Education (2003-2024).
Reban, Milan, Arts and Sciences (1967-2008).
Renka, Robert, Engineering (1984-2018).
Reynolds, Johnny Sue, Merchandising and Hospitality Management (1990-2006).
Reynolds, Kathleen, Music (1995-2020).
Richards, Thomas, Business (1983–2009).
Richmond, Michael, Chemistry (1986-2024).
Riggs, James, Music (1973-2008).
Riney, Bobye, J., Merchandising and Hospitality Management (1973-1991).
Romero, Gustavo, Keyboard Studies (1986-2024).
Ross, John (Haj), Information (1994-2021).
Rutherford, Paris, Jazz Studies (1978-2009).
Ryon, James, Music (2011-2021).
Sale, Richard B., Arts and Sciences (1965-1995).
Schafer, Rollie, Arts and Sciences (1976-2007).
Schamber, Linda, Information (1991-2015).
Scharnberg, William, Music (1983-2018).
Schietroma, Robert, Music (1977-1998).
Scott, James, Music (2001-2018).
Scott, John, Music (1981-2018).
Sears, Ray, Arts and Sciences (1967-2001).
Seligmann, Gustav, History (1967-2022).
Seward, Rudy, Public Affairs and Community Service (1973-2011).
Shrader, David, Music (1992-2006).
Shuemaker, Ira, Visual Arts (1974-2001).
Siddiqi, Mazhar, Business (1991-2021).
Simms, Richard L., Education (1970-2006).
Sinclair, Richard, Arts and Sciences (1992-2014).
Sirvent, Michel, Arts and Sciences (1994-2016).
Slater, K. Neil, Music (1981-2008).
Slocum, Phyllis, Media Arts (2005-2024).
Smith, Don W., Arts and Sciences (1967-2011).
Smith, John, Arts and Sciences (1964-1993).
Smith, Richard, Health and Public Service (1994-2019).
Soph, Edward, Music (1988-2017).
Sovik, Thomas, Music (1987-2019).
Sparks, Richard, Music (2009-2019).
Spears, Nancy, Business (2000-2023).
Spence, J. Wayne, Business (1980-2010).
Spencer, Sandra, Liberal Arts and Social Sciences (1996-2017).
Sprague, D. Jack, Visual Arts and Design (1990-2010).
Staff, Marcia, Business (1979-2019).
Staples, Donald, Arts and Sciences (1979-2004).
Steinel, Michael (Mike), Music (1987-2019).
Stephens, Elvis Clay, Business Administration (1963-1999).
Stern, Laura, Arts and Sciences (1994-2014).
Stevens, L. Robert, Arts and Sciences (1963-1998).
Stidham, Janie, Visual Arts and Design (1996-2020).
Stromberg, Linda, Teacher Education and Administration (2003-2024).
Summers, Patricia, Arts and Sciences (1967-2002).
Tanner, Fred, Education (1968-1987).
Tanner, James T.F., Arts and Sciences (1965–2012).
Tas, Richard, Hospitality and Tourism Management (1985-2016).
Tashakkor, Abbas, Education (2009-2021).
van Tassel, Frances, Education (1993-2010).
Taylor, Lew, Business (1992-2019).
Teeter, C. Russ, Education (1967-2006).
Terrell, Sandra, Arts and Sciences (1979-2011).
Terry, Carmen, Liberal Arts and Social Sciences (1998-2021).
Thomas, Jerry, Education (2008-2016).
Thomas, Ruthanne, Arts and Sciences (1981-2016).
Thornton, John H., Business (1971–2006).
Tipps, Steve, Education (1992-2002).
Tobolowsky, Peggy, Health and Public Service (1989-2019).
Totten, Herman, Information (1977-2015).
Tunks, Jeanne, Education (2000-2019).
Turner, Elizabeth, Arts and Sciences (2002-2016).
Turner, Philip, Library and Information Sciences (1969-2011).
Vanecek, Michael T., Business Administration (1978-2006).
Vann, J. Don, Arts and Sciences (1964-1999).
Varanasi, Murali, Engineering (2004-2023).
Veazey, Charles O., Music (1973-2011).
Vedder, Richard, Information Technology and Decision Sciences (1984-2019).
Venables, Barney, Science (2003-2018).
Vidrine, Donald, Arts and Sciences (1968-1998).
Walker, Myra, Visual Arts and Design (1987-2018).
Waller, William, Arts and Sciences (1989–2009).
Weinstein, Bernard, Public Affairs and Community Service (1989-2009).
Wells, Richard, Journalism (1979-2009).

Westmoreland, Reginald, Arts and Sciences (1963-1998).
White, Richard, Business (1990-2016).
Wickstrom, Carol Ann, Education (2001-2021).
Wilhelm, Ronald, Education (1991-2013).
Williams, Fred, Business (1968-2007).
Williamson, John, Education (1968-2006).
Wilson, Timothy, Liberal Arts and Social Sciences (2001-2020).
Wilson, William, Arts and Sciences (1968-2001).
Windsor, John, Information Technologies and Decision Sciences (1983-2018).
Wright, Eugene P., Arts and Sciences (1966-2006).
Wright, Rex, Liberal Arts and Social Sciences (2011-2021).
Wu, Fred, Business Administration (1993-2005).
Young, Jon, Education (1977-2015).
Youngblood, Judy, Visual Arts and Design (1976-1997).
Zimmerman, Earl, Arts and Sciences (1970–2009).

Dates indicate years at UNT.

Emeritus librarians

Bradley, Lou Ann (1974–2010).
Byerly, Gayla, (2000-2016).
Galloway, Margaret E. (1967-1997).
***Grose, B. Donald** (1988–2009).
Harden, Jean (1994-2019).
****Hartman, Cathy,** (1995-2016).
****Kelly, Melody** (1974–2009).
Lavender, Kenneth (1981-2001).
Martin, Morris (1971-2013).
McKnight, Mark (1990-2019).
O'Toole, Erin, (2004-2022).
Venner, MaryAnn (1995-2023).

*** Dean Emeritus**
****Associate Dean Emeritus**

Dates indicate years at UNT.

President emeritus

V. Lane Rawlins (2010-2014).

Dates indicate years at UNT.