Catalog Home

University of North Texas Bulletin | 2020-2021
Graduate Catalog

Official release date is July 1, 2020
Catalog goes into effect at the beginning of the 2020 fall semester
Program requirements are 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 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, 2020.

Toulouse Graduate School Address

The mailing address for the University of North Texas Toulouse Graduate School is 1155 Union Circle #305459, Denton, TX 76203-5017; phone 940-565-2383. (See the Contacts at UNT section about contacting other offices.)

Non-Discrimination Policy

The University of North Texas prohibits discrimination and harassment because of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law in its application and admission processes; educational programs and activities; employment policies, procedures, and processes; and university facilities. The University takes active measures to prevent such conduct and investigates and takes remedial action when appropriate.

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

Number 120-3, July 2020

Date of initial release: July 1, 2020.

The university

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

The flagship of the UNT System, UNT has a legacy of excellence in a broad range of academic areas. It is one of the nation's largest public research universities with 39,000 students and is the most comprehensive university in the Dallas–Fort Worth area. UNT students earned 9,600 degrees last year from its 14 colleges and schools and offers 106 bachelor's, 88 master's and 36 doctoral degree programs — many nationally and internationally recognized. Ranked a Tier One research university by the Carnegie Classification, UNT drives innovation and technology through high-level research and scholarship, and contributes to the region and state through intellectual capital and economic development.

UNT has been named one of *America's 100 Best College Buys*® for 25 consecutive years, a ranking based on having a high-achieving freshman class and affordable tuition. *The Princeton Review* continually names UNT as a Best in the West school and *Forbes* has listed UNT as an America's Top College for 10 consecutive years.

Location

UNT is in Denton, a town of about 138,000 people located 40 miles north of Dallas and Fort Worth. The 900-acre campus includes 175 buildings including Discovery Park, a 300-acre research facility. Discovery Park is accessible by shuttle buses, as are residence halls, athletic facilities and other areas of campus.

The Dallas-Fort Worth area is one of the largest, most dynamic regions in the United States and home to many of the nation's fastest growing cities. UNT fuels the North Texas region through innovation, education and research; forming partnerships with many business, 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 Mean Green family is a community that combines creativity and caring to provide an extraordinary educational environment where we go the extra mile to help our diverse student body. 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 voices of our diverse 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 of collaboration 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 score well above the national and state averages on the SAT, and choose UNT for the quality of its programs. 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 records and expertise for their chosen careers.

Accreditation

The University of North Texas is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award baccalaureate, master's and doctorate degrees. Contact the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of the University of North Texas.

Note: The Commission should be contacted only if there is evidence that appears to support the institution's significant non-compliance with a requirement or standard. Normal inquiries about UNT, such as admission requirements, financial aid, and educational programs, should be addressed directly to UNT and not the Commission'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
ABET-Computing Accreditation Commission
ABET-Engineering Accreditation Commission
ABET-Engineering Technology Accreditation Commission
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
Association for Middle Level Education

Behavior Analysis Accreditation Board of ABAI
Commission on English Language Program Accreditation
Council for Accreditation of Counseling and Related Educational Programs
Council for the Accreditation of Education Preparation
Council for Interior Design Accreditation
Council on Social Work Education
National Association of Schools of Art and Design
National Association of Schools of Music
National Association of Schools of Public 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 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
International Council of Shopping Centers
International Council on Hotel, Restaurant and Institutional Education
International Textile and Apparel Association
Mathematical Association of America
National Association of State Universities and Land-Grant Colleges
National Collegiate Honors Council
National Restaurant Association
National Retail Federation
National Women's Studies Association
Oak Ridge Associated Universities
Society for Cinema and Media Studies
Texas Association of Broadcast Educators

Texas Educational Theatre Association
University Film and Video Association

UNT 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," "Department" or "Courses" from the Browse menu and type in the appropriate name.

Graduate faculty of the Graduate School of Biomedical Sciences and the School of Public Health at the University of North Texas Health Science Center at Fort Worth (UNTHSC) also are members of the graduate faculty of the University of North Texas and thus can serve as mentors or committee members of UNT graduate students appropriate to their graduate appointment. See the *UNTHSC Graduate Catalog* for UNTHSC graduate faculty listings.

2020-2021 Academic calendar

Dates are subject to change by official action of UNT.

Fall 2020

August 24, 2020	First class day (Monday)
August 21-28, 2020	Student-requested schedule changes may be made during add/drop.
August 28, 2020	Last day for change of schedule other than a drop. (Last day to add a class.)
September 7, 2020	Labor Day (university closed)
October 2, 2020	Last day for change in pass/no pass status.
November 13, 2020	Last day to drop a course.
November 13, 2020	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
November 16, 2020	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
November 22, 2020	Universitywide commencement ceremonies (detailed information at commencement.unt.edu)
November 26-27, 2020	Thanksgiving break (university closed)
December 2-3, 2020	Pre-finals days
December 3, 2020	Last class day
December 4, 2020	Reading day (no classes)
December 5-11, 2020	Final examinations
December 11-12, 2020	College graduation ceremonies
December 24, 2020 – January 1, 2021	Winter break (university closed)

Fall 2020—8W1 Session

August 24, 2020	First class day (Monday)
September 7, 2020	Labor Day (university closed)
September 11, 2020	Last day for change in pass/no pass status.
October 9, 2020	Last day to drop a course.
October 9, 2020	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)

October 9, 2020	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
October 15, 2020	Last class day
October 16, 2020	Final examinations

Fall 2020—8W2 Session

October 19, 2020	First class day (Monday)
November 6, 2020	Last day for change in pass/no pass status.
November 26-27, 2020	Thanksgiving break (university closed)
December 4, 2020	Last day to drop a course.
December 4, 2020	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
December 4, 2020	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
December 4, 2020	Reading day (no classes)
December 10, 2020	Last class day
December 11, 2020	Final examinations

Spring 2021—3W1 Winter Session

December 14, 2020	First class day (Monday)
December 14, 2020	Student-requested schedule changes may be made during add/drop.
December 15, 2020	Last day for change of schedule other than a drop. (Last day to add a class.)
December 23, 2020	Last day for change in pass/no pass status.
December 24, 2020 – January 1, 2021	Winter Break (university closed)
January 4, 2021	Last day to drop a course.
January 4, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
January 5, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
January 8, 2021	Last class day

January 8, 2021	Final examinations

Spring 2021

January 11, 2021	First class day
January 15, 2021	Last day for change of schedule other than a drop. (Last day to add a class.)
January 18, 2021	MLK Day (university closed)
March 12, 2021	Last day for change in pass/no pass status.
April 2, 2021	No classes
April 2, 2021	Last day to drop a course.
April 2, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
April 3, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
April 21-22, 2021	Pre-finals days
April 22, 2021	Last class day
April 23, 2021	Reading day (no classes)
April 24-30, 2021	Final examinations
May 1, 2021	Last day of term
April 29-May 1, 2021	Graduation ceremonies (tentative)

Spring 2021—8W1 Session

January 11, 2021	First class day (Monday)
January 15, 2021	Last day for change of schedule other than a drop. (Last day to add a class.)
January 18, 2021	MLK Day (university closed)
February 12, 2021	Last day for change in pass/no pass status.
February 19, 2021	Last day to drop a course.
February 19, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
February 20, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)

March 5, 2021	Last class day
March 6, 2021	Final examinations

Spring 2021—8W2 Session

March 8, 2021	First class day (Monday)
March 9, 2021	Last day for change of schedule other than a drop. (Last day to add a class.)
April 2, 2021	No classes
April 9, 2021	Last day for change in pass/no pass status.
April 16, 2021	Last day to drop a course.
April 16, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
April 17, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
May 1, 2021	Last class day
May 1, 2021	Final examinations

Summer 2021

May 10, 2021	First class day
May 10, 2021	Student-requested schedule changes may be made during add/drop.
May 10, 2021	Last day for change of schedule other than a drop. (Last day to add a class.)
May 31, 2021	Memorial Day (university closed)
June 18, 2021	Last day for change in pass/no pass status.
July 4, 2021	Independence Day (university closed)
July 9, 2021	Last day to drop a course.
July 21, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
July 28, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
August 5, 2021	Last class day
August 6, 2021	Final examinations

3W1 Session

May 10, 2021	First class day
May 10, 2021	Student-requested schedule changes may be made during add/drop.
May 10, 2021	Last day for change of schedule other than a drop. (Last day to add a class.)
May 13, 2021	Last day for change in pass/no pass status.
May 20, 2021	Last day to drop a course.
May 20, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
May 21, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
May 31, 2021	Memorial Day (university closed)
May 26, 2021	Last class day
May 27, 2021	Final examinations

8W1 Session

May 10, 2021	First class day
May 10, 2021	Student-requested schedule changes may be made during add/drop.
May 10, 2021	Last day for change of schedule other than a drop. (Last day to add a class.)
May 21, 2021	Memorial Day (university closed)
June 1, 2021	Last day for change in pass/no pass status.
June 10, 2021	Last day to drop a course.
June 10, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
June 11, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
July 1, 2021	Last class day
July 2, 2021	Final examinations
July 4, 2021	Independence Day (university closed)

8W2 Session

June 1, 2021	First class day
June 1, 2021	Student-requested schedule changes may be made during add/drop.
June 1, 2021	Last day for change of schedule other than a drop. (Last day to add a class.)
June 22, 2021	Last day for change in pass/no pass status.
July 4, 2021	Independence Day (university closed)
July 1, 2021	Last day to drop a course.
July 1, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
July 2, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
July 22, 2021	Last class day
July 23, 2021	Final examinations

5W1 Session

June 1, 2021	First class day
June 1, 2021	Student-requested schedule changes may be made during add/drop.
June 1, 2021	Last day for change of schedule other than a drop. (Last day to add a class.)
June 11, 2021	Last day for change in pass/no pass status.
June 23, 2021	Last day to drop a course.
June 23, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
June 24, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
July 1, 2021	Last class day
July 2, 2021	Final examinations
July 4, 2021	Independence Day (university closed)

10W Session

June 1, 2021	First class day
June 1, 2021	Student-requested schedule changes may be made during add/drop.

June 1, 2021	Last day for change of schedule other than a drop. (Last day to add a class.)
June 23, 2021	Last day for change in pass/no pass status.
July 4, 2021	Independence Day (university closed)
July 13, 2021	Last day to drop a course.
July 13, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
July 20, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
August 5, 2021	Last class day
August 6, 2021	Final examinations

5W2 Session

July 5, 2021	First class day
July 5, 2021	Student-requested schedule changes may be made during add/drop.
July 5, 2021	Last day for change of schedule other than a drop. (Last day to add a class.)
July 15, 2021	Last day for change in pass/no pass status.
July 28, 2021	Last day to drop a course.
July 28, 2021	Last day to withdraw from the semester. Process must be completed by 5 p.m. in the Dean of Students Office. Grades of W are assigned.
July 29, 2021	Beginning this date a student who qualifies may request a grade of I, incomplete. (See "Grading system" in the Academics section of this catalog.)
August 5, 2021	Last class day
August 6, 2021	Final examinations

Additional calendar information

Admissions	Phone: 940-565-2681 Web site: admissions.unt.edu
Graduate School	Phone: 940-565-2383

	Web site: tgs.unt.edu
Registrar's Office	Phone: 940-565-2111 E-mail: registrar@unt.edu Web site: registrar.unt.edu
Student Financial Services	Phone: 940-565-3225 Web site: sfs.unt.edu
Housing	Phone: 940-565-2610 E-mail: housinginfo@unt.edu Web site: housing.unt.edu
Orientation and Transition Programs	Phone: 940-565-4198 E-mail: freshman@unt.edu and transfer@unt.edu Web site: studentaffairs.unt.edu/orientation-and-transition-programs
UNT-International	Phone: 940-565-2197 E-mail: international@unt.edu Web site: international.unt.edu
Libraries	Web site: www.library.unt.edu

Dates subject to change at any time by official action of UNT.
Academic Calendar: http://www.unt.edu/catalog/

Accreditation

The University of North Texas is accredited to award baccalaureate, master's and doctoral degrees by the following:

The Southern Association of Colleges and Schools Commission on Colleges

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

AACSB International—The Association to Advance Collegiate Schools of Business

777 South Harbour Island Boulevard, Suite 750
Tampa, FL 33602-5370
813-769-6500
www.aacsb.edu

ABET

Computing Accreditation Commission, Engineering Accreditation Commission and Engineering Technology Accreditation Commission
415 North Charles Street
Baltimore, MD 21201
410-347-7700
www.abet.org

Accreditation Commission for Programs in Hospitality Administration (ACPHA)

PO Box 400
Oxford, MD 21654
410-226-5527
www.acpha-cahm.org

Accrediting Council on Education in Journalism and Mass Communications

Stauffer-Flint Hall
1435 Jayhawk Blvd.
Lawrence, KS 66045-7575
785-864-3973
www.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/content/acs/en.html

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.apa.org/ed/accreditation

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

Commission on English Language Program Accreditation (CEA)

1001 North Fairfax Street, Suite 630
Alexandria, VA 22314
703-665-3400
cea-accredit.org

Council for Accreditation of Counseling and Related Educational Programs (CACREP)

1001 North Fairfax Street, Suite 510
Alexandria, VA 22314
703-535-5990
www.cacrep.org

Council for Interior Design Accreditation

206 Grandville Avenue, Suite 350
Grand Rapids, MI 49503-2822
616-458-0400
accredit-id.org

Council on Social Work Education

1701 Duke Street, Suite 200
Alexandria, VA 22314-3457
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
nasm.arts-accredit.org

National Association of Schools of Public Affairs and Administration (NASPAA)

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

National Council for Accreditation of Teacher Education (NCATE)

1140 19th Street, Suite 400
Washington, DC 20036
202-223-0077
www.ncate.org

State Board for Educator Certification

1701 North Congress Avenue
Austin, TX 78701
512-463-9734
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 deadlines. **Many departments have earlier deadlines that vary by program.**

Applications are submitted online at www.applytexas.org.

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

Admission application fee

Students applying to the University of North Texas Toulouse Graduate School 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.

Contact the Toulouse Graduate School for more information at 940-565-2383, 888-UNT-GRAD, Dallas–Fort Worth metro 817-267-3731, or by e-mail at gradadmission@unt.edu for U.S. citizens or U.S. permanent residents, and international@unt.edu for international students.

Graduate application processing deadlines

Graduate program deadlines vary and should be followed for the specific program. The following are deadlines 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 2020**	**Spring 2021**	**Summer 2021**	**Fall 2021**
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 Toulouse Graduate School, regardless of degree program.

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

1. 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 the vetting criteria of a reputable agency, are eligible to apply for admission to UNT graduate study.
2. Submit an online application through www.applytexas.org.
3. Pay the $75.00 application fee

4. Request official academic credentials from all colleges and universities you have attended. The mailing address for the University of North Texas Toulouse Graduate School is 1155 Union Circle #305459, 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 Toulouse Graduate School. 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. The university requires any applicant from a foreign country who is admitted to the university to demonstrate satisfactory proficiency in oral and written English prior to beginning course work. Prospective applicants should inquire at the nearest American Embassy, Consulate or Information Center to arrange for whatever language examination may be required.

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

10. 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.

11. 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 through the Toulouse Graduate School.

Students graduating from the UNT Honors College with a 3.5 or higher GPA are entitled to automatic admission and are not required to submit standardized test scores for admission the Toulouse Graduate School. Programs may have departmental admission requirements mandating submission of additional materials including standardized test scores. **Admission to the Toulouse Graduate School does not imply admission to a degree program.**

Other admission requirements

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

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

2. An applicant desiring to pursue graduate work in any field and whose undergraduate record does not show completion of the courses prerequisite to this major will be required to make up such deficiencies in a manner prescribed by the student's major department.

3. Students wishing to change from one major field to another must submit an online change of major form at gradschool.unt.edu/change-major.

Required standardized admissions test

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

For Master's and Doctoral degree–seeking students, a standardized admission test score must be submitted or the alternative criteria satisfied no later than the first term/semester of enrollment as specified by the academic program. Some departments require the submission of scores prior to admission and beginning course work. Check the appropriate department section of this catalog for further information regarding standardized test score requirements.

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

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

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

In no case may students who have not met the standardized admission test requirement or alternative criteria (a) be admitted to candidacy for any degree, (b) file application to receive such degree, (c) be permitted to enroll in such courses as thesis, dissertation, problem in lieu of thesis, internship, practicum, etc, (d) change their major to another degree program, or (e) submit an application for a concurrent program. Students may experience a loss of financial eligibility if they fail to satisfy their provisional admission and elect to register for undergraduate course work for a semester.

Admission of continuing students

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

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

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

Students meeting *all* of these conditions are eligible for web registration during 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 the Toulouse Graduate School prior to the registration period for further information.

Readmission of graduate students

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

1. submit an admission application at www.applytexas.org,
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.

Preliminary admission of seniors to graduate study

Seniors within one year of graduation may apply for admission to the Toulouse Graduate School. 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 Student Financial Aid office to prevent disruption of aid.

Courses taken for doctoral credit by master's degree students

Students completing the master's degree at UNT who plan to continue work toward the doctorate are required to submit application for admission to the Toulouse Graduate School in doctoral status. Those who wish to begin taking courses to be credited on the doctorate prior to receiving the master's degree must declare this intention 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 Toulouse Graduate School.

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

Admission to non-degree status

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

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

2. The student in this status is required to receive *graduate* credit in all graduate (5000- and 6000-level) courses taken, and must maintain an average of B on all such courses attempted. 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 he or she subsequently be admitted to a degree program at UNT. **A** *maximum of 12 semester hours* **earned prior to admission to a degree program may be counted toward degree requirements. Successful completion of graduate courses by non-degree or certification-only students does not obligate the university to grant admission to a degree program at a later date.** When all general and specific requirements for admission to a degree program have been met, a student may request that a change of major application be forwarded to the degree program area for evaluation.

4. A student who wishes to change from non-degree or certification-only status to degree-seeking status 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 College of Business and is limited to 12 hours.

Non-degree seeking students are not eligible for financial aid. Please contact Student 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, a change of major form must be filed in the Toulouse Graduate School. The request will only be considered if the student is in good standing and a continuing student. Students not in good standing may only request a change of major with support of the new major department. The student's file will be sent for consideration to the graduate advisor in the proposed 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 Toulouse Graduate School 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 and are approved by the dean of the Toulouse Graduate School. 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.

For students desiring admission to a degree in the College of Information, the standardized admission test score must be submitted prior to beginning the 15-hour program.

Academic fresh start

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

Admission or re-enrollment as related to personal conduct and admission falsification

It is the responsibility of the director of admissions to refer to the 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 alien status should apply to the Toulouse Graduate School if pursuing graduate studies or to the UNT Office of Admission if pursuing a first bachelor's degree. Applications are submitted online at www.applytexas.org.

For graduate studies, the mailing address for the University of North Texas Toulouse Graduate School is 1155 Union Circle #305459, Denton, TX 76203-5017. For undergraduate studies, the mailing address for the University of North Texas Undergraduate Admissions Office is 1155 Union Circle #311277, Denton, TX 76203-5017.

Application deadlines

You 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" chart.) and all other departmental requirements.

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

UNT Intensive English Language Institute (IELI). Some graduate programs will review applications from students who have not yet met UNT's English language proficiency (ELP) requirement for admission. Students determined to be admissible except for ELP may enroll in UNT's Intensive English Language Instituted (IELI).

**Applicants should be aware that the College of Music will not evaluate an applicant's file until the student passes the audition in music and until they graduate from IELI's Level 6. 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. Complete Level 6 at UNT's Intensive English Language Institute (IELI):

The Intensive English Language Institute (IELI) at the University of North Texas helps international students develop academic skills in English. These skills prepare students for success in UNT degree programs and beyond. ***we do not accept intensive English language completion from other institutions*

When you complete Level 6 of the IELI program, you will be qualified to apply for:

- All undergraduate degree programs
- Most graduate degree programs (check with your department)

2. Complete a Qualifying Academic Program

U.S. High School:

Official transcript showing graduation from accredited U.S. high school or U.S. Department of Defense School overseas-attended for at least 3 years

U.S. Degree:

Official transcript of U.S. accredited Associate's, Bachelor's, Master's or Doctoral degree

1) High School Diploma or 2) College/University Degree or 3) Citizenship from one of the below English speaking countries (not the United States):

***Official transcripts and degrees will need to be provided ** Schools of attendance must be recognized by UNT*

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

3. Achieve a Qualifying Score on an English Language Proficiency Test Accepted by UNT:

Arrange to have official test scores sent to UNT.

- UNT test score reporting code (TOEFL, SAT, GRE/GMAT): **6481**
- TOEFL/IELTS scores **must have been taken in the last 2 years**. The only exception when a student can submit a score for a test taken more than 2 years ago is if the student has been continuously studying at a college or university within the U.S.

TEST	SCORE
AP English Language & Composition Exams	Score of 5
GCE (General Certificate of Education), GCSE, IGCSE www.cie.org.uk (*except Sri Lanka*)	C or higher in English Language
IELTS www.ielts.org ***IELTS scores must be less than 2 years old. Students may provide an official score report if the student has been continuously studying at an accredited U.S. College or Institution.*	Overall band 6.0 or higher
TOEFL www.ets.org ***TOEL scores must be less than 2 years old. Students may provide an official score report if the student has been continuously studying at an accredited U.S. College or Institution. We do not accept Institutional TOEFL scores from other schools.*	Internet-Based (IBT): 79 Paper-Based: 550
PTE www.pearsonpte.com ***PTE scores must be less than 2 years old. Students may provide an official score report if the student has been continuously studying at an accredited U.S. College or Institution.*	Score of 53 or higher
DuoLingo (DET) taken prior to July 15, 2019 **DET scores must be less than 2 years old. Students may provide an official score report if the student has been continuously studying at an accredited U.S. College or Institution.	Score of 71 or higher
DuoLingo (DET) taken on July 15, 2019 or later **DET scores must be less than 2 years old. Students may provide an official score report if the student has been continuously studying at an accredited U.S. College or Institution.	Score of 100 or higher
West Africa and Kenya: WASSCE (West African Senior School Certificate Examination, KCSE (Kenya Certificate of Secondary Education), NECO (National Examinations Council)	B or higher in English Language
SATI taken prior to March, 2016	500 or higher on both Critical Reading & Writing
SATI taken after March, 2016	560 or higher on EBRW
CAE (Cambridge Advanced Exam)	B or higher
CPE (Cambridge English: Proficiency)	C or higher

TEST	SCORE
MELAB (official version)	80 or higher

4. Complete Qualifying Courses, Degrees or Diplomas:

IB (International Baccalaureate)

Grade 5 or above on the Higher-Level English A1 subject

College Level English courses

Students must complete two college-level, academic English courses and earn a total of 6 credit hours with a grade of C or better in BOTH courses at an accredited college or university in the U.S. or one of the above listed English speaking countries.

Earned College hours

Completion of 30 hours of college-level, academic coursework with an overall GPA of 2.25 at an accredited college or university in the U.S. or one of the above listed English speaking countries. Student must be enrolled at the time of application and must have maintained continuous enrollment prior to their transfer to UNT to meet this requirement.

Application form

UNT application: www.applytexas.org*; second bachelor application:* tgs.unt.edu/future-students/graduate-admissions/other-graduate-opportunities

IELI application: international.unt.edu/ieli/ieli-application-admission

Application fee

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

Direct UNT Admission—undergraduate:$85.00 USD and graduate: $75.00 USD
International students seeking conditional admission—

Undergraduate: Applicant must submit applications to both UNT admission and Intensive English Language Institute separately
Graduate: Applicant must submit applications to both UNT admission and Intensive English Language Institute separately

English language study at Intensive English Language Institute only: $75.00 USD

Send all graduate application forms and documents for Direct and Conditional Admission to the Toulouse Graduate School to:

Mailing address:

University of North Texas
1155 Union Circle #305459
Denton, TX 76203-5017
U.S.A.

Physical address:

University of North Texas
Eagle Student Services Center (ESSC), Room 354
1147 Union Circle
Denton, Texas 76203-5017
U.S.A.

940-565-2383
Fax: 940-565-2141

Send all undergraduate application forms and documents for Direct and Conditional Admission to undergraduate study to:

Mailing Address:

University of North Texas
Office of Admissions (undergraduate)
1155 Union Circle #311277
Denton, TX 76203-5017
U.S.A.

Physical address:

University of North Texas
Eagle Student Services Center (ESSC), Room 305
Office of Admissions (undergraduate)
1147 Union Circle
Denton, Texas 76203-5017
U.S.A.
940-565-2681
Fax: 940-565-2408

Send all application forms and documents for IELI Admission to:

Mailing address:

IELI Admissions Office
University of North Texas
1155 Union Circle #311067
Denton, TX 76203-5017
U.S.A.

Physical address:

Intensive English Language Institute
UNT-International
1511 West Mulberry Street
Marquis Hall, Room 105
Denton, TX 76201
U.S.A.

E-mail: ieli@unt.edu
Telephone: 940-565-2442
Fax: 940-565-4822

Academics

Definitions of terms

Academic Common Market

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

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

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

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

Academic status

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

Academic probation

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

Academic suspension

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

Certification-only students

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

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. Concentrations are placed on the UNT transcript.

Concurrent enrollment

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

Concurrent programs

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

Continuing students

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

Continuous enrollment

Continuous enrollment applies to the student admitted to a master's or doctoral degree program that requires completion of a thesis or dissertation. Once enrollment in thesis or dissertation has begun, the student must continuously enroll in a minimum of 3 semester hours of thesis (5950) or dissertation (6950) during each long term/semester through the semester of graduation. Thesis or dissertation registration in at least one summer session/term is required if the student is using university facilities and/or faculty time during that summer session/term or to graduate in August. Doctoral students must maintain continuous enrollment in dissertation subsequent to passing the qualifying examination for admission to candidacy.

Course numbering system

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 gradschool.unt.edu.

Dual/joint degree programs

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

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

Federation of North Texas Area Universities

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

The university's cooperative degree programs are administered through the Toulouse Graduate School. As a member of the federation, UNT offers 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 TAMU–C under the cross-registration arrangement is contingent upon their being admitted to a graduate degree program, meeting any prerequisites for admission to the class or classes in which they wish to be enrolled, and upon the availability of space in the class.

Former students (graduated students only)

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

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, a student should apply for admission to each graduate academic certificate separately (and/or concurrently) with application to any other degree, academic certificate or certification programs. 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 to the UNT transcript. Verification forms for completion should be requested from the program director in the last semester of related course work. Disclosures: gradschool.unt.edu/certificatedisclosure.

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. 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 one year. In the case of extenuating circumstances, a leave of absence may be extended for a second year by the Dean of the Toulouse Graduate School on the recommendation from the student's committee, graduate coordinator, department chair, 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 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 must submit an application through www.applytexas.org 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, but will not 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. Up to 12 graduate semester credit hours taken as a non–degree seeking student may be used toward a degree only with approval from the academic department. Non–degree seeking students must meet Graduate School admission requirements.

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

Off-campus courses

Off-campus courses are courses available at various locations in the Dallas–Fort Worth area for residence credit. Registration procedures for off-campus courses are the same as courses offered on the UNT campus. Information concerning specific off-campus courses is available prior to and during each registration period in the online schedule of classes at 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. Contact the Toulouse Graduate School for the application.

Prerequisite

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

Qualifying examination

The qualifying examination is a test administered by the department once a doctoral student has completed all courses required for the degree and has satisfied all admission, language, doctoral residency and other tool-subject requirements, as well as filing an official degree plan. (Degree

plans should be filed within the first year of doctoral study.) Dissertation enrollment is not permitted until this test is passed. Students are admitted to candidacy for the doctoral degree upon successful completion of the qualifying examination.

Schedule change (add/drop, withdrawal)

Students may make adjustments to their schedule by adding and/or dropping classes or by withdrawing from the university. Specific procedures must be followed in making these changes. Dropping all courses during a term/semester constitutes withdrawing from the university for that term/semester. Students must notify the Dean of Students Office of their intent to withdraw from the university. Procedures and deadlines for dropping or withdrawing are available in the Dean of Students Office or online at deanofstudents.unt.edu/withdrawals.

Semester hour

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

Teaching assistants and teaching fellows

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

The minimal load of academic work required for teaching fellows and teaching assistants is outlined in the *TA/TF Handbook* and under "Student Load" in the Enrollment section of this catalog. The total load of course enrollment and teaching assignment may not exceed 16 semester hours in any long term/semester. Approval of the 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 the Campus resources section of this catalog for a brief description and contact the Toulouse Graduate School for details.

Term/semester/session

The academic year includes three terms/semesters: fall, spring and summer. During the fall and spring semesters, a number of sessions are scheduled. Presently, the options include 8W1 and 8W2 (eight week one and two) and the Regular Academic Session. During the summer term, a number of sessions are scheduled. Presently the options include 3W1 (three week one), 5W1 and 5W2 (five week one and two), 8W1 and 8W2 (eight week one and two), 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 gradschool.unt.edu/extension.htm. Time limitations also apply to transfer credit used toward a degree. Programs may adopt shorter time limits.

Track

A track is a group of courses designed for students seeking specialized training toward specific career objectives or a group of courses designed to meet a specific need within a degree program. Tracks do not appear on transcripts or diplomas.

Undergraduate academic certificates

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

Degree programs

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

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

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

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

Universities Center at Dallas degree programs

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

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

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

Enrollment at the Collin Higher Education Center

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

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

Disability accommodation

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

A student who encounters access problems in a campus instructional facility or who wishes to request accommodation in a course because of a disability (i.e., sign language interpreters, material in alternate format, 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 of the student and will assure the instructor that proof of disability is on file with the ODA. Students who do not present such a form can be referred to the ODA for assistance in documenting their disability.

2. Preferably, within the first week of class, qualified students must notify the instructor of the need for academic adjustments and present the letter of accommodation from the ODA.

3. The qualified student should confer with the instructor (during office hours) to reach mutual agreement on how accommodations are to be achieved.

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: disability.unt.edu/services/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 gradschool.unt.edu/content/graduation for the proper dates. The applicant's grade point average on all graduate work attempted must be at least 3.0 for the application to be accepted.

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

Tuition and fees information is available online at sfs.unt.edu/tuition-and-fees. Students anticipating graduation should consult registrar.unt.edu/graduation-and-diplomas/information-for-graduates for final dates for payment of fees and meeting other graduation requirements.

Classification of graduate faculty

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

Faculty appointed to full membership may teach graduate-level courses; serve as members of master's advisory committees, dissertation committees, or 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 may not be counted toward a graduate degree.

F —failure; given when a student (1) has failed the course while still officially enrolled at the end of the term/semester; (2) is failing in a course and misses the final examination without satisfactory explanation; or (3) stops attending class without completing an official drop or withdrawal.

P —passed; a credit grade (1) on pass/no pass option; (2) on student teaching; and (3) in selected undergraduate and graduate individual problems and research courses.

NP —not passed; a failing grade on the pass/no pass option; nonpunitive.

I —incomplete; a nonpunitive grade given only during the last one-fourth of a term/semester and only if the student is (1) passing the course; (2) has a justifiable reason (such as serious illness), for not completing the work on schedule. The student must arrange with the instructor to finish the course at a later date by completing specified requirements. These requirements must be entered on the grade roster by the instructor. 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.

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 academic calendar at www.unt.edu/catalog). 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. 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

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

Quality of work required

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

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

Students must make satisfactory progress toward completion of degree requirements to remain in good standing within a specific degree program. Students whose progress is unsatisfactory may be removed from the program by the dean 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

1. **G. Brint Ryan College of Business.** Special probation and suspension rules apply for all degree-seeking students in the College of Business. Consult the College of Business section of the catalog for further information.

2. **All other students.** A student who fails to achieve the required cumulative average of 3.0 GPA (B average) on all courses carrying graduate credit in a term/semester will be placed on academic probation for the subsequent term/semester. If the student achieves a 3.0 semester GPA in the subsequent term/semester, but the cumulative GPA is still below 3.0, the student will remain on academic probation. The student will be removed from probation when the 3.0 cumulative GPA is achieved. A student who is on probation cannot apply for graduation and cannot graduate.

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

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

Course duplications

Beginning Fall 2018, students may duplicate only two graduate courses in which they received a grade of C or lower, for grade replacement. A single course may only be repeated once for grade replacement. If a student earns a master's degree and then pursues a doctoral degree, the two course limit is per degree level. Courses duplicated prior to Fall 2018 are not considered in the two course limit. Post baccalaureate and non-degree courses duplicated apply to the master's limit.

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

Grade changes

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

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

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

Grade reports

The electronic grade report and academic standing are available online at my.unt.edu at the close of each term/semester. If the grade report or the academic standing is believed to be in error, the student should contact the Registrar's Office within 30 days following the first class day of the succeeding term/semester.

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

Transcripts

Transcript request information can also be found on the Registrar web page: (registrar.unt.edu/transcripts-and-records/order-transcript).

Before an official transcript can be released, all financial or administrative obligations to the university must be resolved. To check for blocks, please refer to the student center at my.unt.edu. UNT transcripts may be ordered in person at the Registrar's Office or requested online.

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 records the final grade on the UNT Grade Change Form and obtains the department chair's signature. 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. 05.046) is available at www.unt.edu/policy.

Student education records

Pursuant to the Family Educational Rights and Privacy Act (FERPA), the university has established policies relating to the accessibility of student information in the custody of the University of North Texas. The UNT FERPA policy statement appears in its entirety in the UNT Policy Manual, policy number 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 complete FERPA Policy (07.018) is available at www.unt.edu/policy.

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

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

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

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

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

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

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

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

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

1. School officials who have a legitimate educational interest.
2. Parents when:
   1. 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;
   2. a health or safety emergency necessitates disclosure to protect the health or safety of the student or another individual; or
   3. the student is under 21 years of age at the time of the disclosure and the student has violated a federal, state or local law or any rule or UNT policy governing the use or possession of alcohol or a controlled substance and UNT has found the student in violation of the Code of Student's Rights, Responsibilities and Conduct.
3. Officials of another school to which a student seeks or intends to enroll or has already enrolled, upon written request, if the disclosure is for purposes related to the student's enrollment or transfer.
4. Certain officials of the U.S. Department of Education, the Comptroller General, the Attorney General of the United States, the U.S. Department of Veteran Affairs, and state and local educational authorities in connection with an audit or evaluation of federal or state supported education programs, or for the enforcement of or compliance with federal legal requirements that relate to those programs.
5. Financial aid personnel in conjunction with an application for or receipt of financial assistance, provided the disclosure is needed: (i) to determine the eligibility of the student for financial aid, (ii) to determine the amount of financial aid, (iii) to determine the conditions that will be imposed, or (iv) to enforce the terms or conditions of the financial aid.
6. Individuals delivering a judicial order or lawfully issued subpoena. The university will make reasonable efforts to notify the student in advance of compliance. The university will not disclose any information about a grand jury subpoena issued for law enforcement purposes when so ordered and when required by law or government regulation.
7. Organizations conducting studies for or on behalf of UNT pursuant to a written agreement to develop, validate or administer predictive tests or student aid programs, or to improve instruction. Information from education records may only be used to meet the

purposes of the study stated in the written agreement between the university and the organization(s) and must contain the current restrictions on redisclosure and destruction of information requirements applicable to information disclosed under this exception.

8. Accrediting organizations to carry out their accrediting functions.
9. To appropriate parties in a health or safety emergency. Appropriate parties include, but are not limited to, school officials, law enforcement officials, parents and emergency/medical personnel.
10. To victims of an alleged perpetrator of a crime of violence or a non-forcible sex offense, limited only to the final results of a UNT disciplinary proceeding regardless of whether UNT determines through its own investigation that a violation was committed.
11. To any member of the public in matters relating to sex offenders and information provided to UNT under relevant federal law.
12. To a court in which the university is defending itself against legal action initiated by a parent or eligible student.
13. To the originating party identified as the party that provided or created the record. This allows for returning documents, such as official transcripts, that appear to have been falsified back to the institution or school official identified as the creator or sender of the record for confirmation of its status as an authentic record.
14. Individuals requesting records for students who are deceased.

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

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

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

Master's degree requirements

Application for admission

Applications must be submitted online at www.applytexas.org. *Application is made through the Toulouse Graduate School. Most master's degree programs require supplemental application materials. Contact the academic unit for additional information 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 determined by the *Graduate Catalog* currently in force at the time the student first matriculates.

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

Level of work required

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

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

Time limitations

All course work and other requirements to be credited toward the master's degree must be completed within the following time periods, depending upon the number of semester hours required for the degree.

Semester hours required	Completion
42 or fewer	5 years
43 to 49	6 years
50 or more	7 years

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

Time spent in active service in the U.S. armed forces will not be used in computing the time limit. However, career members of the armed forces should consult the graduate 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 or doctoral degree who wish to discontinue work toward the degree for a specified period of time due to exigent circumstances. Leave of absence may be granted by the academic program, which then notifies the Toulouse Graduate School. If the student has begun thesis or dissertation and is under the continuous enrollment requirement, a waiver of continuous enrollment must also be requested and approved by the Toulouse 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.

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

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.

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, with the exception of those courses in which the student is engaged in individual research and is not attending an organized class. These courses, with the approval of the department, may be assigned pass/no pass grades.

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

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

Major and minor field

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

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

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

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

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

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

Foreign language requirement

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

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

1. By passing the Foreign Language Proficiency Examination administered each term/semester and summer session/term by the Department of World Languages, Literatures and Cultures (contact that department for examination requirements). The application, together with information on a prerequisite screening test, must be obtained in the office of the chair of the Department of World Languages, Literatures and Cultures (scheduled dates for taking the examination in the current academic year appear in the academic calendar at www.unt.edu/catalog); or

2. By submitting a transcript of undergraduate credit showing completion of at least the sophomore year in a single foreign language, provided the grade on the last course completed is C or higher;

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

Candidates for graduate degrees to be awarded at the close of any summer session/term must have satisfied the foreign language requirements for the degree sought prior to the first class day of the second summer session/term (5W2). Candidates for graduation at the close of the spring or fall term/semester must have satisfied the foreign language requirements prior to the last day for filing thesis or dissertation in the graduate school. Consult the online academic calendar at *www.unt.edu/catalog* for the proper deadline.

The master's degree thesis

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

Option I: thesis

1. The master's degree candidate should select a major of at least 18 semester hours, exclusive of the thesis, and a minor of at least 6 hours if required by the major department.

2. Membership of thesis examination committees will include representatives of the major field and the minor field, if the student is pursuing a minor area. The number of members on such committees will normally be three to five; at least three are required. Two committee members must come from the student's department. One committee member must be the student's advisor.

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-advisor after receiving permission from the department. The thesis examination committee will then require a co-advisor 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 Graduate 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

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

Openness of theses and dissertations

The University of North Texas, as a member of the Council of Graduate Schools (CGS), 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 restrict access to their thesis or dissertation. Restriction limits access to the UNT community only (persons with valid EUID) for a period of five years. Interlibrary loans are not permitted during the restriction period. The restricted electronic theses and dissertations (ETDs) will be made available to the entire Internet, via the UNT Libraries online catalog, beginning on the first day of the month following the fifth anniversary of the student's graduation. Students may request a one-time extension for an additional two years by contacting the Toulouse Graduate School in writing within 90 days of the expiration date of the original restriction period. To allow students to receive informed guidance from their faculty advisors, restrictions must be approved by the major professor at the time the ETD is filed with the Graduate School.

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

Option II: problem in lieu of thesis

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

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

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

The master's degree without thesis requirement

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

The candidate for the master's degree under the non-thesis option is required to pass a comprehensive final examination, scheduled in accordance with the rules governing the comprehensive examination. 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 with the graduate school in accordance with the graduate graduation deadlines and at least 10 days prior to the final defense of their thesis. The thesis may not be submitted to the dean of the student's college or the graduate school until this final examination has been passed.

No thesis credit will be recorded until the thesis has been approved by the student's advisory committee, submitted and approved by the Dean of the Toulouse Graduate School. Instructions for submission of the thesis may be obtained from the graduate school.

Requirements for the second master's 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 apply up to 12 semester hours previously earned at UNT and applied toward a master's degree at an institution with Texas Higher Education Coordinating Board recognized accreditation or an equivalent credential from a foreign institution toward a second master's degree, providing the 12 hours are in a minor or related field of study for the second master's degree.

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

Continuous enrollment

A student must maintain continuous enrollment in a minimum of 3 semester hours of thesis during each fall and spring term/semester, including the term/semester the thesis is accepted by the Dean of the Toulouse Graduate School.

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

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

Failure to maintain continuous enrollment through the semester in which the thesis is submitted to the graduate school will either invalidate any previous thesis or dissertation credits or will result in the student's being dropped from the degree program, unless granted an official leave of absence by the graduate school in advance. Strict adherence to the on-time filing deadlines for graduation is required or additional registration in 5950 may be necessary.

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	During the first semester.

		Graduate School	
5. Submit degree plan to the Graduate School for approval.	Advisory Committee, Major Professor, Graduate Advisor and Student	Dean of Toulouse Graduate School	During the first semester.
6. Check "Graduating Graduate Student" web site.	Orientation and Transition Programs		The beginning of your final year.
7. If thesis is required, determine procedure.	Advisor Committee	Dean of Toulouse Graduate School	Per departmental requirements.
8. Apply for graduation.	Dean of Toulouse Graduate School	Dean of Toulouse Graduate School	See graduate deadline at tgs.unt.edu/new-current-students/graduation-information.
9. Check to be sure degree program and Advisory Committee are up to date and all course work is complete.	Student		Well before final comprehensive examination. Follow regular procedures for changes.
10. 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.
11. 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.
12. 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	Immediately upon completion of all requirements for master's degree.
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 www.applytexas.org. Application is made through the Toulouse Graduate School. Most doctoral programs require supplemental application materials. Contact the academic program for additional information 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, which are at least 30 credits beyond the baccalaureate degree, 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 course work 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 on certain graduate degrees. Consult subsequent sections of this publication for specific regulations governing the degree sought.

Entrance examinations

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

Residence requirement

Every candidate for the doctoral degree must complete the appropriate residence requirement at UNT as prescribed by the individual departments and schools. The minimum residence requirement consists of two consecutive long terms/semesters at UNT of nine (9) hours each or six (6) hours for the three (3) consecutive terms.

Level of work required

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

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

Time limitation

All work to be credited toward the doctoral degree beyond the master's degree must be completed within a period of 8 years from the date doctoral credit is first earned. No course credit beyond the master's degree that is more than 10 years old at the time the doctoral program is completed will be counted toward the doctorate.

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

Time spent in active military service of the United States will not be considered in computing these time limits. However, career members of the armed forces should consult the graduate 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. Leave of absence may be granted by the academic program, which then notifies the Graduate School. **If the student has begun the dissertation and is under the continuous enrollment requirement, a waiver of continuous enrollment must also be requested and approved by the 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 into a doctoral degree.

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

Advanced study that has not been applied towards a master's degree 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 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.

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 academic calendar at www.unt.edu/catalog.

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

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

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

Candidates for graduate degrees to be awarded at the close of any summer session/term must have satisfied the foreign language requirements for the degree sought prior to the first class day of the second term of the session. Candidates for graduation at the close of the spring or fall term/semester must have satisfied the foreign language requirements prior to the last day for filing dissertation in the graduate school. Consult the online academic calendar (visit www.unt.edu/catalog/ and select "Online Academic Calendar") for the proper deadline.

Degree plan

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

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

Specific graduate degree requirements are determined by the *Graduate Catalog* currently in force at the time the student first matriculates.

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

A dissertation is required of all candidates for the doctorate. No more than 9–12 semester hours of dissertation credit are applied to the degree program, even though more dissertation hours may be accumulated. The student is required to enroll for dissertation credit in the major department under the course number 6950 and must maintain continuous enrollment in a minimum of 3 semester hours of 6950 during each fall and spring term/semester until the dissertation has been accepted by the graduate school. Maximum enrollment in 6950 is 9 hours in a fall or spring term/semester. Dissertation registration in at least one summer session/term is required if the student is using university facilities and/or faculty time during that summer session/term or to graduate in August. Doctoral students must maintain continuous enrollment subsequent to passing the qualifying examination for admission to candidacy. Grades of PR will be recorded at the end of each term/semester of enrollment with satisfactory progress until the dissertation is filed with and approved by the Toulouse Graduate School.

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

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

Composition of the dissertation examination committee

Membership of dissertation examination committees will include representatives of the major field and the minor field, if the student is pursuing a minor area. Selection of committee members from disciplines other than the major or minor field is highly encouraged, whenever appropriate. The number of members on such committees will normally be three to five, and at least three are required. The dissertation examination committee must have a minimum of two dissertation discipline members and one additional member that is either from the discipline or an external member. One committee member from the discipline will serve as the student's major professor.

If a student's major professor is a faculty member from outside of the discipline offering the degree, that faculty member can only serve as a co-chair after receiving permission from the program. The dissertation examination committee will then require a co-chair who is a faculty member of the discipline offering the degree.

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

Format

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

Openness of theses and dissertations

The University of North Texas, as a member of the Council of Graduate Schools (CGS), 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 restrict access to their thesis or dissertation. Restriction limits access to the UNT community only (persons with valid EUID) for a period of five years. Interlibrary loans are not permitted during the restriction period. The restricted electronic theses and dissertations (ETDs) will be made available to the entire Internet, via the UNT Libraries online catalog, beginning on the first day of the month following the fifth anniversary of the student's graduation. Students may request a one-time extension for an additional two years by contacting the Toulouse Graduate School in writing within 90 days of the expiration date of the original restriction period. To allow students to receive informed guidance from their faculty advisors, restrictions must be approved by the major professor at the time the ETD is filed with the Graduate School.

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

Completion

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

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

Continuous enrollment

A student must maintain continuous enrollment in a minimum of 3 semester hours of dissertation during each fall and spring term/semester, including the term/semester the dissertation is accepted by the Dean of the Toulouse Graduate School.

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

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

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

Milestones for the doctoral student

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 program.	Graduate Advisor and Department Chair	Major Professor, Department Chair and Dean of Toulouse Graduate School	During first semester.
5. Submit degree plan to the Graduate School for approval.	Advisory Committee, Major Professor, Graduate Advisor and Student	Dean of Toulouse Graduate School	During first 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. Check Graduating Graduate Student website	Orientation and Transition Programs		The beginning or your final year.
10. Submit proposal for dissertation.	Major Professor and Advisory Committee		Well in advance of expected graduation date.
11. Prepare dissertation.	Advisory Committee		Per departmental requirements.
12. Apply to graduate.	Student	Dean of Toulouse Graduate School	During final semester. (See deadline at gradschool.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 gradschool.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 schedule as many as 16 hours during any fall or spring term/semester. For the purpose of fulfilling the graduate residence requirement, a load of 9 graduate semester hours is considered to be a full load.

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

Note: Special restrictions apply to the load permitted to graduate teaching fellows and teaching assistants. The total load of course enrollment *and* teaching assignment may not exceed 16 semester hours in any fall or spring term/semester. Approval of the graduate 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 3.000 may select from sessions for a maximum of 18 hours. Constraints apply to graduate courses. Graduate students may schedule a maximum of 4 hours in a three week session (3W1), a maximum of 7 hours in each five week session (5W1, 5W2), a maximum of 9 hours in each eight week session (8W1, 8W2), 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.

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

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

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

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

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

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

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

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

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

Concurrent enrollment at another institution

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

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

Federation of North Texas Area Universities enrollment

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

UNT graduate students who have been admitted to a jointly offered degree program and who wish to enroll for graduate courses offered by one of the other universities should first secure their major advisor's approval of registration for a specific course or courses. The Federation representative will register students in the desired TAMU–C or TWU courses under the appropriate UNT departmental prefix and course number 5900 or 5910 (for master's-level courses) or 6900 or 6910 (for doctoral-level courses). Section numbers for such enrollment are 790 through 799. The course title appearing on the UNT academic transcript will be "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. 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/chec/, or call the UNT Office of Admissions at 940-565-2681.

University of North Texas Health Science Center at Fort Worth

The University of North Texas Health Science Center at Fort Worth, located three miles west of downtown in Fort Worth's Cultural District, is a graduate university for health care providers, researchers and scientists. Its schools are the Texas College of Osteopathic Medicine, Graduate School of Biomedical Sciences, School of Public Health, School of Health Professions, the UNT System College of Pharmacy and the Texas Christian University and UNTHSC School of Medicine. With a strong culture based on values, HSC uses extraordinary teamwork to produce leaders in health care and science who transform lives.

Evening and Saturday classes

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

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

Off-campus courses

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

Schedule changes

Adding courses

Graduate students must initiate all requests for adding courses in their academic department. Departmentally approved adds must then be delivered to the Toulouse Graduate School for final approval. Consult the online academic calendar for dates during which adds are allowed.

Dropping courses

Students who wish to drop a course before the 12th class day of fall or spring terms/semesters or before the equivalent dates for 8 week and summer sessions may do so in the Registrar's Office or at my.unt.edu. After the 12th class day for fall or spring terms/semesters or the equivalent dates for 8 week and summer sessions, students must first submit a completed Request to Drop Class form to the Registrar's Office. Students applying for financial aid are required to notify Student Financial Aid and Scholarships before dropping any class to learn how it will affect current or future financial aid eligibility.

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

Absence for religious holidays

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

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

Students called to active duty

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

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

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

Withdrawal from UNT

A student may withdraw from UNT at any time prior to two weeks before the first day of final examinations for fall or spring terms/semesters or the equivalent dates for 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.

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 amounts due UNT resulting from post audits and corrections, including all fees and waivers (i.e., registration assessing errors, changing from off-campus to on-campus classes, invalid employment waivers, etc.).

For current information on tuition and fees, visit the Student Financial Services web site (sfs.unt.edu). Student Financial Services is open from 8 a.m. to 5 p.m. Monday through Friday.

Explanation of fees

(Fees are subject to change)

Visit the Student Financial Services web site (sfs.unt.edu) for current fees.

Student service fees

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

Student union fee

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

Technology use fee

The technology use fee is collected in proportion to the number of credit hours for which a student registers to defray costs associated with the addition of instructional equipment in classrooms and student computer laboratories, development of the degree audit system and instruction-related activities in the Computing Center and classroom technology support.

Library use fee

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

Medical services fee

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

International education fee

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

Publication fee

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

Recreational facility fee

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

Transportation fee

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

Undergraduate advising fee

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

International student fee

A fixed international student fee is charged to all non-immigrant visa students for each term in which they enroll in UNT.

Property damage 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 waived for students taking all of their courses off campus and is not charged for summer sessions.

Fees Related to Instruction

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 Financial Services at 940-565-3225 or the Registrar's Office at 940-565-2111.

Academic fees

Academic Fees are assessed at the college/school level based on the estimated costs of goods and services related to instruction at the college/school level. 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

U.S. citizens and permanent resident aliens applying to the University of North Texas Toulouse Graduate School must pay a $75 nonrefundable admission application fee. The fee must be paid in U.S. dollars.

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

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

Contact the Toulouse 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 graduateschool@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 sfs.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 sfs.unt.edu/explanation-fees.

North Central Texas College Math fee

A fee collected for students enrolled in NCTM math courses through North Central Texas College which pays for UNT instruction.

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.

College of Business Graduate Program Fee – Master's

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 College of Business master's students.

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). These students are charged a Distance Delivered Fee. The fee is $892.00 per course. The purpose of the fee is to provide enhanced support services. (Effective Summer 2016)

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) effective for Fall 2018-Summer 2019 can be found at sfs.unt.edu/explanation-fees.

** The following fees are waived if students are only enrolled in courses at locations other than the Denton 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 installment

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

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

1. full payment of tuition and fees upon registration or by the payment deadline for early registration; or
2. selection of the installment plan. By selecting the installment plan, the student understands that it is a contractual agreement and agrees to make the installment payments by the due dates indicated.

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

Non-refundable fees for tuition by installment

Handling fee: $20.00

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

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

See Student Financial Services at sfs.unt.edu for procedures and policies concerning installment payment of tuition.

Tuition and fee payments

Credit card payments (MasterCard, Visa, American Express and Discover) and check payments may be made through self-service at my.unt.edu. Credit and debit card payments are assessed an additional 2.7% 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 Eagle Student Services Center. Student Financial Services requires the student identification number to be recorded on all check and money order payments made in person.

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

Cash payments

Cash payments are accepted at Student Financial Services in the Eagle Student Services Center. Please do not mail cash payments.

Tuition and fee policies

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

Fees charged for late registration, graduation and regalia, late filing for graduation and miscellaneous items are noted at sfs.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 sfs.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 the Texas Higher Education Coordinating Board, College for All Texans web site at www.collegeforalltexans.com. In general, students must domicile and physically reside in Texas for the 12-month period immediately preceding their initial registration in an educational institution in Texas. Other factors may be considered for residency determination for tuition.

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

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

Responsibility of the student

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

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

Change of status nonresident to resident

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

Change of status resident to nonresident

Students who are classified as residents but become nonresidents by virtue of any change of domicile must notify the Registrar of such change immediately. Students who believe they have been erroneously classified have the opportunity for appeal. The appeal is to be made to the authority by whoever assigned the original classification, either in the Office of Admissions or in the Registrar's Office.

Tuition and fee waivers/exemptions

Several exemptions and waivers are available to qualifying students who meet the specific state requirements for each individual waiver or exemption. Brief descriptions of these are listed below. Waiver/exemptions refunds must be requested during the term/semester application is made. Such requests must be made prior to the 12th class day in long terms/semesters, the 4th class day in summer sessions (except 3W1) and the 2nd class day in 3W1 (three-week one). Requests for retroactive refunds will not be honored. Information regarding waivers and exemptions is available at Student Financial Services or at sfs.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 sfs.unt.edu or at Student Veteran Services, General Academic Building, Room 102.

Exemptions and waivers

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

Tuition and fee refunds

A student who drops a course or withdraws from the university within certain time periods may be entitled to a partial refund of tuition and fees. These refunds are calculated according to the category and time schedule listed at sfs.unt.edu/class-drop-and-withdrawal-refunds. Refund periods and rates are subject to change by the state legislature. Delinquent payment fees, late registration charges, publication fees and installment handling fees are non-refundable. Any financial obligation to UNT must be resolved before any refunds will be made.

Class drop refunds

Refunds are made for any course dropped through the 12th class day for the long term/semester; corresponding dates are set for 8 week and summer terms/sessions. See the academic calendar for specific dates. The semester's first class day is always the first official university day of classes and not the first day of an individual's class.

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

Students applying for financial aid are required to notify Student Financial Aid and Scholarships before dropping any class to learn how it will affect current or future financial aid eligibility.

Withdrawal from the university

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

Additional information may be found online at sfs.unt.edu or by contacting Student Financial Services.

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

Schedule of withdrawal refunds, 2019–2020

Please see: sfs.unt.edu/class-drop-and-withdrawal-refunds.

Note: Some fees are non-refundable.

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

Refund of property damage deposit

Each student who enrolls pays a property damage deposit that is refundable on request 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

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

Correction of errors

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

Payments by third party

Checks issued by a third party in payment of a student's tuition, fees or other charges made by UNT should be made payable to UNT. The student's name and/or student ID number should be included on the payment.

Returned checks

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

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

A student may be withdrawn immediately from the university if payment is not made within the stated time period. **Do not** stop attending classes unless you receive official notification of your withdrawal. Notification of withdrawal is made to the address on the check and/or the address in the official university records.

Check issuing privileges 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 are revoked.

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

Stop-payment on tuition checks

A student who has not already done so 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.

Financial assistance

Student Financial Aid and Scholarships (SFAS) at the University of North Texas offers a variety of options to assist students in financing their education. For more information on financial aid and scholarships at UNT, please visit *financialaid.unt.edu*, come by our office in the Eagle Student Services Center, or call 940-565-2302.

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 the Toulouse Graduate School web site at gradschool.unt.edu for a listing of fellowship and scholarship opportunities offered through the Toulouse Graduate School.

Tuition Benefit Program for graduate assistants

UNT will pay some or all of the tuition for certain graduate students. Recipients must be admitted competitively to a specific graduate program awarding one of the following degrees: PhD, DMA, EdD, MA, MEd, MFA, MJ, MM or MS. Additionally, recipients must be awarded competitively a half-time 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) or Renewal FAFSA is available each October 1 for the upcoming UNT academic year (fall, spring, summer). Students are encouraged to apply online at www.fafsa.gov. Students whose application files are completed by the priority dates are ensured first consideration for awards. Application data (from the FAFSA or Renewal FAFSA) is received electronically from the Central Processing System (Federal Student Aid Programs) through which applications are processed. The application data must reach our office before a file can be processed.

UNT's Priority Dates:

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

A separate UNT summer aid interest form/application 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 aid eligibility requirements

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

- establish eligibility by completing and submitting the Free Application for Federal Student Aid (FAFSA) or Renewal Application;
- not be in default on any Title IV loan (Federal Perkins, Direct PLUS, FFEL PLUS, Federal Stafford Loans [FFEL], Federal Direct Subsidized or Unsubsidized Loan), or owe a refund or repayment on educational funds received at any institution;
- be a U.S. citizen or eligible noncitizen*;
- be registered with the Selective Service if you are a male at least 18 years old born after December 31, 1959 (most males between the ages of 18 and 25, including permanent residents and other eligible noncitizens, are required to register with Selective Service);
- enroll in and maintain at least a half-time class load;
- use all funds received through financial aid for educational purposes;
- be accepted for admission by the university and enrolled in a degree or certification program;
- be making Satisfactory Academic Progress (SAP);
- have a valid Social Security Number;
- have a high school diploma or a GED (general equivalency diploma); and
- not be convicted for the possession or sale of illegal drugs for an offense that occurred while receiving federal student aid.

Note: Visiting/transient students are not eligible for financial aid.

*Non-documented students may qualify for state assistance under Texas Senate Bill 1528. Students should visit *financialaid.unt.edu* for more information.

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.

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

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

Official Withdrawal from UNT

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

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

If the student has already made the decision to withdraw, he or she must begin the withdrawal process with UNT's Dean of Students Office. For online information on how to drop a course or withdraw from UNT, including official dates and deadlines, please visit the 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. Factors considered in this federally mandated calculation include: number of days in the payment period, date of withdrawal/number of calendar days the student attends before total withdrawal as determined by SFAS (excluding scheduled breaks of at least 5 days in length), the total amount of Title IV aid eligibility, tuition and fee charges, on-campus room and board charges (if applicable), and class attendance.

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

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

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

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

Summer term official withdrawal from UNT

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 gives the Student Financial Aid and Scholarships office at UNT written confirmation that they will attend a session that begins later in the summer term/semester. The written confirmation must be provided at the time that would otherwise have been a withdrawal.

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 equals $1,373.77 earned aid
- Since earned aid is less than disbursed aid, funds must be returned to the programs from which they were paid to the student (or parent).
- $2,874 disbursed aid minus $1,373.77 earned aid equals $1,500.23 unearned aid.
- It is assumed by regulations that Federal Title IV funds (aid) paid for institutional charges (tuition/fees and room/board if applicable).
- The school pays the lesser of the total unearned ($1,500.23) aid or the unearned institutional charges $547.20 multiplied by 52.2 percent equals $285.64
- The college must return $285.64 to the lender since the loan funds are returned before grant funds and the school pays its share first.
- Once the school repays its unearned share ($285.64), the remaining unearned share ($1,214.59) must be returned (repaid) by the student.
- Of the remaining loan amount to be paid ($1,026.36), the student by regulation will repay the usual monthly repayment by the terms of the loan promissory note. Therefore, there is no immediate repayment of loan funds to the lender.
- The remaining amount of the student's unearned share ($1,214.59 minus $1,026) is $188.23; however, by regulation, 50 percent of all Federal Title IV grant aid disbursed plus Federal Title IV grant aid awarded that could have been disbursed is protected. In this

example, the Federal Title IV grant aid awarded was $1,562 in Federal Pell Grant and it was all disbursed. Therefore, $1,562 multiplied by 50 percent equals $781 is protected.

If circumstances allow the student to remain in school past the sixty percent (60%) completion point of any payment period, then there is a definite advantage. No calculations are required for students who attend past the 60 percent completion point. There will however be other consequences to consider. Withdrawing from classes will affect 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 Student Financial Aid and Scholarships.

Students who do not officially withdraw through the UNT Dean of Students Office/cease attending class are also subject to the federally mandated calculation described above. 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 of their classes, the student is considered an Unofficial Withdrawal. Student Financial Aid and Scholarships (SFAS) 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 e-mail SFAS the student's last date of attendance in an academically related activity. If the instructor provides SFAS with the student's last date of attendance by the prescribed deadline, then SFAS will use this date as the student's withdrawal date in the federally mandated calculation described above. If the student's last date of attendance in an academically related activity is unknown to the school by the prescribed deadline, then the student's last date of attendance used in the federally mandated calculation will be the midpoint of the payment period or the equivalent date for summer sessions of enrollment.

If it is determined that the student never attended any of the classes for which the student (or parent) was paid, then the funds (aid) are considered to have not been earned. As a result, all funds (aid) will be canceled and returned to the programs from which they were awarded. The student will then owe a complete repayment to the university.

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 considered to be ineligible for any Title IV aid.

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

Satisfactory Academic Progress

Federal and state regulations require that each student maintain Satisfactory Academic Progress (SAP) to be eligible for financial aid programs. Minimum standards must be achieved by the end of any given enrollment period at UNT. Satisfactory Academic Progress (SAP) is defined in both pace of progression and qualitative measures. Students must successfully complete at least 67% of cumulative attempted credit hours to be meeting the pace of progression requirements. Pace is measured by dividing the cumulative number of hours successfully completed by the cumulative number of hours attempted.

The minimum cumulative UNT grade point average for graduate students is 2.67 for the first term of enrollment and a 3.0 for all subsequent terms/semesters.

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

Maximum Hour Limit

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

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

Minimum Hour Limit

Students in an academic program under the graduate career (major or concentration) are required to enroll in at least 5 graduate hours per term/semester to be considered for financial aid 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, Student Financial Aid and 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. Financial need is determined by the Free Application for Federal Student Aid (FAFSA).

At UNT, the only application needed annually to be considered for federal, state and institutional aid is the Free Application for Federal Student Aid (FAFSA). 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 Expected Family Contribution (EFC). The earliest applicants with a completed award file have the best opportunity to be considered for available grant funding. We encourage 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 the General Academic Building, Room 102 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.

Hazelwood Act for Texas Veterans

Information on tuition waivers and exemptions for qualified veterans is available online at www.unt.edu/tuition or at Student Accounting and University Cashiering Services, first floor, Eagle Student Services Center.

Employment

Federal Work-Study Program

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

Career Center

The Career Center, located in Sage Hall, Room 202, provides a variety of employment opportunities on and off campus to currently enrolled students in order to help them offset their college expenses and develop good employment records. For information, call 940-565-2105 or e-mail careercenter@unt.edu. Information regarding on- and off-campus jobs can be accessed on each student's my.unt.edu web site. Just click on the Resources and then click on the Jobs icon on the page and use your EUID and password to log into Handshake.

Loan programs

Federal Direct Subsidized and Unsubsidized Loans

Federal Direct Subsidized* Loans are awarded based upon established financial need, cost of attendance, at least half-time enrollment, and maintaining Satisfactory Academic Progress (SAP) standards as defined by Student Financial Aid and Scholarships (SFAS). Federal Direct Unsubsidized Loans, Federal Parent PLUS Loan for undergraduate students and Federal Grad PLUS for graduate students are awarded based on the same terms and conditions with the exceptions of demonstrating financial need. The Free Application for Federal Student Aid (FAFSA) must be submitted before an award will be determined. Maximum and aggregate limits are imposed based upon classification and dependency status.

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

*Effective Fall 2012, graduate and professional students are no longer eligible to receive subsidized loans.

Scholarships

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

The availability of all scholarship funding is affected by many factors such as the state's economy and the stock market's performance. The office of Student Financial Aid and Scholarships (SFAS) coordinates all scholarship awards once they have been 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 graduate students may apply for a number of scholarships through SFAS by completing the General Scholarship Application. These scholarship awards are funded by donors that request SFAS administer their scholarships. The application is available annually in late fall. Students are encouraged to complete the application as early as possible. Applicants must use their campus credentials assigned during the admission process (active EUID and password) to submit an application.

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

Campus resources

Division of Student Affairs

The Division of Student Affairs (DSA) provides opportunities for students and the campus community to cultivate academic, personal and professional success. We enhance the student experience through a wide array of intentional programs, services and activities that support the 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 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, Diamond Eagle Student Resource Center, Dining Services, Distinguished Lecture Series, Emerald Eagle Scholars, Green Jackets, High School Career Connect, Housing and Residence Life, North Texas in D.C., Off-Campus Student Services, Office of Disability Access, Orientation and Transition Programs, Recreational Sports, Spiritual Life, Student Activities, Student Government Association, Student Health and Wellness Center, Student Legal Services, Student Money Management Center, Student Veteran Services, Substance Use Resource Education Center, Survivor Advocacy, TRIO Programs, University Union, and We Mean Green Fund.

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

UNT Libraries

A wide range of student- and faculty-centered services are the cornerstone of the Libraries' integral role in the UNT community. As an essential component of education and research at UNT, the Libraries offer access to more than six million items (print and digital), along with expert personnel to assist patrons in achieving their academic and scholarly goals. 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 Factory in Willis Library, a makerspace promoting the creative use of technology
- Accessible tables, study carrels, and computers in Willis, Eagle Commons, Media, and Discovery Park 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 Government Documents Department, contains U.S. and Texas government documents, including the Texas Register. The library has received national recognition for efforts to preserve online government information through the CyberCemetery and participation in End-of-Term harvests of U.S. government web sites. The UNT Libraries have the distinction of being one of ten affiliated archives of the National Archives.
- Through collaborative efforts such as the Portal to Texas History and the UNT Digital Library, the Libraries provide digital content to a worldwide audience. The Portal is a gateway to Texas history materials from more than 400 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 the World War poster collections.

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

- The Media Library in Chilton Hall, which houses a large collection of audiovisual materials, including videos, 16 mm films and audio CDs. Video-on-demand service is provided for curriculum support. The Media Library is also home to the Nest, an e-sports and game design space.
- The Discovery Park Library, which supports the College of Engineering and the College of Information.
- The Eagle Commons Library in Sycamore Hall is home to the Juvenile and CMC Collections, government documents, law, political science, geography, business collections and is also UNT's Funding Information Network location. 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 Library Annex and the Research Collection Library—both located off-campus—which provide storage and house the preservation department and the Collection Management division.

Computer services

Centralized campus computing services that support instruction, research and student learning are provided through University Information Technology, UIT, it.unt.edu, in various offices of Sage Hall and the General Academic Building. University IT services include support for a wide range of services, including Wi-Fi, research computing platforms, training, consulting and the UIT Help Desk, it.unt.edu/helpdesk, located in Sage Hall, Room 330. An orientation to basic IT services is available through the UIT Technology Tour, it.unt.edu/techtour.

In addition to the services directly supported by UIT, computer services also are available from the University Libraries, Classroom Support Services, Student Computer Labs, and many college, school and departmental computer support centers. Computer networks are installed in all academic departments to provide internet connectivity. Wireless networking, such as the UNT secure network, is available in most campus classroom buildings and public buildings, such as the University Union and UNT Libraries. Online courses are offered with support from the Center for Learning Enhancement, Assessment and Redesign, CLEAR, clear.unt.edu.

Student computing services

Fourteen general access microcomputer labs, computerlabs.unt.edu, housing approximately 1,000 computers, are available for use by all students. The Virtual Statistics Lab, it.unt.edu/virtual-lab, is available through University IT for quick access to statistics, analytics and modeling software packages from your on- or off-campus computer. Laser printing is provided in all labs as well as within UNT Libraries. For students who benefit from adaptive technologies, the UIT Adaptive Computer Lab is available in Sage Hall, it.unt.edu/adaptivelab. Approximately 30 additional special-purpose labs serve students within specific academic disciplines or living in the university residence halls. In addition, all residence hall rooms have network connections, allowing students to have high-speed access to the internet and the campus network on their own computers.

Information Technology Shared Services, ITSS, provides electronic mail to all students via EagleConnect, it.unt.edu/eagleconnect, a web-based email and calendar system. EagleConnect is used as an official communication medium between the university and students. Through the EagleConnect service, currently enrolled students also can download and install Microsoft® Office to their personal computing devices.

Research computing support

University Information Technology provides Research IT Services that include UNT's High-Performance Computing, hpc.unt.edu, and Data Science and Analytics, it.unt.edu/research. Research IT Services support computationally intensive scientific research and provide documentation, training and consultation for UIT-supported statistical programming applications. The Research IT offices are found in the General Academic Building, Room 535.

UIT provides access to multiple statistical analysis and mathematics programming languages, it.unt.edu/researchappsupport, that are available for use in many of the general access computing labs and on personally owned computers. UIT also supports access to machine-readable data collections including the Inter-University Consortium for Political and Social Research, ICPSR. The University Libraries also maintain many databases and other research materials that are accessible through the campus network.

Consulting, training and help desk services

Consulting and training are provided by University Information Technology to facilitate the use of research and instructional computing facilities. Research IT Services in General Academic Building, Room 535 offers workshops on software packages and computational techniques that are of interest to students involved in research activities. Experienced consultants are available to assist students with research computing questions.

University IT operates the university computing help desk, UIT Help Desk, it.unt.edu/helpdesk, to provide students with information and help on a variety of computing problems. The UIT Help Desk is in Sage Hall, Room 330, and is available in person, by phone at 940-565-2324, or email at helpdesk@unt.edu.

Computer-based training programs are accessible within general access computer labs or via the web (it.unt.edu/linkedinlearning).

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 professional development programs are offered year around 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. Chief Executives Round Table provide opportunities for business leaders to collaborate. The UNT Retiree Association offers engagement opportunities, events and activities for UNT's retirees.

Lifelong Learning and Community Engagement is located at 1716 Scripture Street, Denton, TX 76201. 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; *www.unt.edu/sa*; or call 940-565-3807.

Adaptive Computer Lab

Any UNT student, faculty and staff with a valid UNT ID card can use the Adaptive Computer Lab facilities. Students registered with UNT's Office of Disability Access (ODA) have preemptive privileges when the lab is full or when specific adaptive equipment is needed. Students are encouraged to visit the lab early in the term/semester and become familiar with equipment and services. The lab has adaptive consultants on duty 60 hours a week for hands-on help and training.

The Adaptive Computer Laboratory is located in Sage Hall, Room 330. To contact the Adaptive Computer Lab, call 940-565-2324, TDD Access through Relay Texas: 800-735-2989, or write to:

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

E-mail: Sharukh.Mithani@unt.edu

The lab may be accessed through the Internet (it.unt.edu/adaptivelab).

UNT Alumni Association

The UNT Alumni Association is a member-driven organization that creates networking and engagement opportunities for alumni in every stage of life. The organization 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 exercise rooms, Smoothie King and lounge area. The Waranch Tennis Complex has 12 lighted tennis courts.

The Physical Education Building also contains handball/racquetball courts.

Pohl Recreation Center

Open throughout the day for recreation and fitness opportunities, the Pohl Recreation Center provides a variety of facilities, space, and programming to support and inspire the wellness of the UNT community.

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 exercise 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 one individual over the age of 18 living in the same residence for membership. Members can sponsor up to two guests per day for a fee.

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 regarding the Pohl Recreation Center's programs and facilities, contact Recreational Sports in Room 103 or call 940-565-2275. Information is also available through the Rec Sports website 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 that promote and support the recreation and fitness needs 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 other classes. The group exercise

program offers students exciting, instructor-led aerobic activities like cycle, kickboxing, Pilates, yoga, Zumba and others. The Fitness staff also oversee the 14,500 square foot weight room, located in the Rec Center, and offer 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 intramurals through one of three divisions that have men's, women's and co-recreational teams: Residence Hall, Greek or Independent. Team sports are arranged on a round-robin basis, and individual and dual sports are set up by elimination tournaments, meets and special events. Major sports include flag football, outdoor soccer, basketball, softball, volleyball, and indoor soccer while individual events can include racquetball, tennis, PS4 tournaments, Texas Hold 'Em, and dodgeball.

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 includes Hearthstone, 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, and kayak roll.

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. The 34 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 by visiting the Rec Sports web site or by picking up a Sports Clubs contact list in the Rec Center.

Aquatics
The aquatics program offers instructional classes such as adult and kids swimming classes, private swim lessons, and lifeguard certification and water safety instructor courses. The Aquatics program also hosts free special events like a dive-in movie and swim challenge.

Informal Recreation
Informal recreation offers drop-in activity in basketball, indoor soccer, racquetball, swimming, badminton, volleyball and more, and can check out equipment to you at no charge. Informal Recreation also oversees the Waranch Tennis Complex. This facility offers 12 lighted tennis courts and equipment checkout, and is home to the Mean Green women's tennis team. For more information about the Waranch Tennis Complex, please call 940-565-4200.

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 exercise instruction, lifeguarding, outdoor pursuits, or officiating their favorite intramural sports.

For information concerning hours of operation, call the Member Services Desk at 940-369-8347, the Recreational Sports Office at 940-565-2275, or visit the Rec Sports website at recsports.unt.edu.

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. Job fairs 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 student employment orientation, offered in person and online. The student's supervisor may also request the student to attend additional trainings 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.

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 "Resume Writing," "Interviewing Skills," "Using Social Media in Your Job Search" and "What Can I Do with a Major In ...").

Career planning and job search resources can be found at studentaffairs.unt.edu/career-center. These resources assist students and alumni in assessing their career interests, exploring career options and accessing relevant information for making career-related decisions.

Career advisors assist students and alumni in career exploration and research, resume writing, interview preparations, career transitions and general job search strategies through individual advising.

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

More than 1,000 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 recruiting 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; Business Leadership Building (BLB), Room 136; or Discovery Park, Room C111. The Career Center also has an office at the UNT New College at Frisco campus in Room 145. 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.

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 the Internship Series, a number of career- and internship-related workshops open to all enrolled students throughout the academic year.

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, and
- 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, Southwest Airlines, Fidelity Investments, Texas Instruments, Hitachi, Lockheed Martin 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 in order to meet curriculum requirements.

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, child care 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 offcampus.unt.edu 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; vocational counseling for help with selection of a major field of study or career plan; educational related counseling; and couples counseling are offered at the center. Outreach programs and consultation are available for faculty/staff and student groups.

Counseling and Testing's group program includes both workshops as well as group therapy. Daily workshops are designed to increase student's coping skills in a safe space, through a variety of innovative methods such as Animal Assisted Therapy, art activities, and dancing mindfulness. A workshop for Veteran students is also available at Student Veteran Services. Additionally, therapy groups provide students an opportunity to obtain support from both clinicians and other students, regarding topics such as body wellness, grief, sexual and gender identity, and graduation.

In addition to the vocational interest, personality and other tests used in counseling, the center is also a national testing center and administers computer-based testing for the GRE, TOEFL, CLEP, TSI and Praxis. Information and application forms for various national tests are available in the center's Testing Services office in the Gateway Building.

The Counseling Center is in Chestnut Hall, Room 311 or call 940-565-2741.

For information or to sign up for computer-based testing, call 940-369-7617; go by the Gateway Center, Room 140; or visit counselingandtesting.unt.edu.

Dean of Students

The Dean of Students Office fosters the development of leadership, civility, accountability and responsibility in the University of North Texas student; builds community through service and involvement; and serves as an advocate for all students. This office is dedicated to supporting the UNT student who may need assistance in resolving complex 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. Through the SOS (Seeking Options and Solutions) Program, the office assists students and their families in navigating diverse concerns, as well as identifying resources for personal, academic, financial and social issues. We can assist students with absence verification, class absences, pregnancy assistance, medical withdrawals, military activation of enrolled students, temporary disabilities, and temporary illness.

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 deanofstudents.unt.edu/sexual-misconduct.

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.

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.

Absence Verification: 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 with documenting your absences. Students must provide the Dean of Students with official and verifiable documentation related to the reason for absence. Once the absences have been verified the decision to allow a student to make up course work is left to the discretion of the professor and/or the department.

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 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. 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 notification 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 student opts for an incomplete or grades are assigned, no refund will be given.

Pregnant and Parenting Students: The U.S. Department of Education and Office for Civil Rights released new Title IX requirements regarding pregnant and parenting students in June 2013. Students can apply for possible accommodations at report.unt.edu for pregnancy and parenting.

The requirements and suggestions include:

Schools must excuse student's 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."

The UNT Dean of Students Office will provide a Verified Absence slip for parenting students (both male and female) who need to take their children to doctors' appointments or to take care of their sick children as long as they provide proper documentation. Once the absence is verified, professors must accommodate these absences and allow for makeup work. Students needing this documentation should contact the Dean of Students Office.

Temporary Disabilities: Even temporary disabilities are not afforded the same consideration for accommodation and/or waivers that is provided under federal law for permanent disabilities. 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, pregnancy, 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 a CARE Team Chair or another member through our web site 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 Flight Memorial, an event where the UNT community recognizes all students, faculty, staff members and alumni who have passed away over the past year. The Flight Memorial is usually held on a Wednesday in April. 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 persons 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 type of physical activity that subjects a student to an unreasonable risk of harm or that adversely affects the mental or physical health or safety of a student, such as sleep deprivation, exposure to the elements, confinement in a small space or calisthenics.
- 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 requires commission of an illegal act.

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.

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 persons 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 22+ retail restaurants, five dining halls, upscale dining restaurant, central bakery, hydroponic garden and catering department, you're never far from a great meal. Our award-winning food service program is part of the Menus of Change University Research Collaborative. As the largest employer on campus, Dining Services provides resume-building job opportunities to more than 1,000 student employees. Learn more and find hours of operation—including late-night and weekend options —at dining.unt.edu, 940-565-2462 or Dining@unt.edu.

Meal plans for on-campus living

Select upperclassmen rooms are bundled with a Resident Meal Plan Membership. Resident Plans include unlimited meals in any of our 5 dining halls as well as Flex Dollars to use at your favorite on-campus retail restaurants, including Starbucks, Chick-Fil-A and more. Choose your Resident Plan when you apply for Housing or purchase at dining.unt.edu.

Meal plans for off-campus living

Students living off-campus can save big by purchasing a Meal Plan Membership designed specifically for off-campus living, or any Resident Plan. Preparing your own hearty 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 our culinary teams actually do *cook*—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 restaurants 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.

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 issues. In order to administer this process, ODA works with faculty and campus partners to facilitate accommodations and services. Students who are approved for accommodations are responsible for presenting to their instructor a Letter of Accommodation, which is generated on ODA letterhead and emailed to the 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 a Test Center for the administration of accommodated course examinations and works closely with academic departments and course instructors in making such arrangements. For more information, call 940-565-4323, visit Sage Hall room 167; or go to unt.edu/oda.

Distance education (web-based and videoconference)

The University of North Texas offers a selection of undergraduate and graduate courses, degree programs and certificate programs via distance education, primarily through the web. Most web-based courses can be taken from any location worldwide that has Internet access and the appropriate computer equipment available. For more information, visit online.unt.edu.

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. Recent programs have featured President George W. Bush, anthropologist and author Jane Goodall, author Sherman Alexie, former Secretary of Defense Robert Gates, former Secretary of State Condoleezza Rice, financial planner Suze Orman, television hosts Jamie Hyneman and Adam Savage, author Eric Schlosser, activist Cornel West, former Mexican President Vicente Fox, TV scientist Bill Nye, and environmentalist Robert F. Kennedy Jr., and more. For more information, visit studentaffairs.unt.edu/dls.

Eagle Ambassadors

UNT Eagle Ambassadors are student recruiters/tour guides with various majors and backgrounds who are interested in promoting the university. In addition to conducting well-organized, friendly tours of the university for prospective students, parents and other visitors, Eagle Ambassadors represent the student body at various events for the President's Office. They also serve as positive role models for prospective students while assisting the Office of Admissions at college nights and at UNT Preview. The Eagle Ambassadors are responsible for operating the information desk in the Eagle Student Services Center.

The program, started in 1998, offers students an opportunity for personal and professional growth. Following a competitive application and interview process, Eagle Ambassadors are trained extensively. These students receive a $2,500 scholarship as well as an hourly wage and are required to maintain a minimum grade point average and full-time student status.

Eagle Alert

Eagle Alert is an automated system that allows UNT administrators to notify the campus community by phone in the event of an emergency. Eagle Alert sends voice and text messages to phones of everyone with an active EUID account who has registered with the system. 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, it.unt.edu/eagleconnect. Students are automatically assigned email accounts to support a reasonable volume of email. **Students are responsible for reading their e-mail frequently enough to receive important communications from the university.**

Facilities use policy

The term *facilities* describes all structures on the campus or otherwise under the control of the university. Use of such facilities is governed by the university's "Facilities Use" policy and "Off-Campus Speakers" policy. Requests may be made through the 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

The UNT Fine Arts Series began as the Lyceum Series in 1924 during the Normal College era. The series has continued to provide a wide variety of the visual, performing and literary arts for the university and communities in the greater Dallas–Fort Worth region. Coordinated by a committee comprised of students, faculty and staff, the Fine Arts Series provides students with leadership opportunities, arts management skills, participation in the selection of artists and their works, and evaluation skills to discern among various artists.

UNT students may receive free tickets to non-food performances by presenting a current UNT ID to the ticket seller. Faculty and staff are admitted at a discounted price. For more information, call 940-565-3805 or visit www.unt.edu/fas.

Graduate Student Council

The Graduate Student Council assures formal avenues of communication between representatives of the graduate student body and both the Dean of the Toulouse Graduate School and the Graduate Council. It serves as an advisory council to facilitate an interchange of views and information between these groups. Two members of the Graduate Student Council are elected annually to serve as voting members of the Graduate Council. For additional information, contact the Toulouse Graduate School or visit tgs.unt.edu/gsc.

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 Services provides free advice and assistance to currently enrolled students. This office also maintains a variety of legal publications for student use. Students are encouraged to meet with an attorney during Open Legal Clinic hours or contact the department to schedule an appointment. For details, please refer to the web site at *www.unt.edu/legal* or call 940-565-2614.

Living accommodations

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

College Inn, Honors Hall, Legends Hall, Mozart Square, and Traditions Hall are reserved for upperclassmen, including graduate students. Students living in one of these halls may select from an expanded list of meal plan options that include the residential meal plans and commuter

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

The Student Association publishes an apartment evaluation survey that is available in their office on level 4 of the University Union.

Multicultural Center

Location: University Union, Room 335
Phone: 940-565-3424
Web site: edo.unt.edu/multicultural-center

Serving the UNT community for 25 years, the center is committed to cultivating a campus environment where people of all identities and experiences can thrive. It fosters the success and awareness of historically underrepresented student populations with an emphasis on disability, ethnicity, gender, interfaith, race and sexual orientation. The Center provides culturally relevant programs and services that increase the awareness, understanding, and intersectionality of the various identities in the UNT community.

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 long semester 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 office 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 temporary permits and TF permits) are sold online, based on availability.

Spiritual Life

Spiritual Life is an initiative within the Division of Student Affairs that serves and supports members of UNT community as they explore and engage deeply-held beliefs and religious practices during their college experience. Through a variety of programs and events focused on interfaith engagement, improving religious/spiritual literacy, and cultivating practices for spiritual health and wellness, Spiritual Life provides opportunities for students to engage the impact, significance, and value of religion and spirituality in the world today. Spiritual Life is also here to help students find and get connected to spiritual resources, provide assistance to religiously affiliated student organizations looking for more ways to connect to the campus and the student body (including a registration process for faith leaders from non-UNT organizations), and more. For more information, please call 940-565-3288, email SpiritualLife@unt.edu, or visit studentaffairs.unt.edu/office-spiritual-life.

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, swallowing, and hearing disorders. Audiology services include hearing testing, dispensing and repair of hearing aids, management of cochlear implants, assessment of auditory processing disorders, assessment of tinnitus, 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 services designed to meet the needs of UNT students, including testing and support for students with language-learning disabilities or social/pragmatic difficulties. 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.

The Speech and Hearing Center accepts payment through cash, credit card, and we are in network for many major insurance plans. A sliding fee scale is available for clients from the community who meet income qualifications and free or reduced-fee services are available for UNT students. 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), Speed Reading, Supplemental Instruction, Academic Coaching, Learning 101 Series, Graduate Student Services and the Academic Resource Library. For additional information see learningcenter.unt.edu.

Student Financial Aid and Scholarships

Student Financial Aid and Scholarships (SFAS) at the University of North Texas offers a variety of options to assist students in financing their education. For more information on financial aid and scholarships at UNT, please visit financialaid.unt.edu, come by our office in the Eagle Student Services Center, or call 940-565-2302.

Student Health and Wellness Center

The Student Health and Wellness Center, located on the second floor of Chestnut Hall, is equipped with examination and treatment rooms, a clinical laboratory and digital x-ray machine. Medical services are available when classes are in session to enrolled students paying the medical service fee. Medical care is not available between semesters or on official university holidays. The Student Health and Wellness Center 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 www.healthcenter.unt.edu.

Services available to students include routine visits for coughs, colds and other illnesses as well as monitoring of chronic conditions and referrals to outside specialists. Charges are assessed for office visits, ancillary services, including medications, supplies for procedures and treatments, laboratory testing, vaccinations and allergy injections, and specialty provider visits, such as psychiatric, dietitian, massage therapy, travel clinic and women's pap appointments. The Student Health and Wellness Center accepts some major insurance plans and will file claims on behalf of the patient. Students may pay for charges assessed with cash, check, credit card, or make billing arrangements. The Student Health and Wellness Center 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 Student Health and Wellness Center. Patients must have allergy serum and orders from their allergist prior to receiving allergy injections in the clinic. For more information, obtain a current "Allergy Policy" from the Student Health and Wellness Center.

If a student needs medical care when the Student Health and Wellness Center is closed, they have different options based on their insurance coverage. Students enrolled in the student insurance plan may use the 24-hour Telehealth Line by calling 855-355-7998. Students enrolled in other health insurance should consult the back of their insurance card for medical advice options. All students may call Parkland's Nurse Call Line at 214-266-8777 free of charge. If you are having a medical emergency, call 911.

Medical information is confidential and is not released 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 Student Health and Wellness Center provides the information as allowed under the law.

The UNT Pharmacy located on the first floor of Chestnut Hall fills prescriptions for the UNT Student Health and Wellness Center and offers some over-the-counter medications. Prescriptions from outside physicians can also be filled at the UNT Pharmacy. Patients needing medications filled should speak with a pharmacist about their options by calling 940-565-2790. Over-the-counter medications are available at the UNT Pharmacy as well as first aid supplies, hygiene products and other sundry items.

Dental and optical 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 and College Optical Express at 940-369-7441 for pricing, information on services, and other questions.

The Meadows Center for Health Resources provides individual health education and outreach programs for students and campus groups as well as special programs for specific health needs. Go online to healthcenter.unt.edu/meadows-center for information about services and programs. Contact the Meadows Center at 940-565-2787 to request information or schedule a program.

The Student Health and Wellness Center recommends that all students have current immunizations for diphtheria, pertussis, tetanus, rubella, mumps, measles and hepatitis B. Effective January 1, 2012, a bacterial meningitis vaccination is required by Texas state law for any new or transfer student under the age of 30 who is attending UNT for the first time, or for any returning students who have not been continuously enrolled for the previous long semester. Additional information on this requirement, including forms, submission process and other issues relating to possible exemptions, is available at healthcenter.unt.edu/immunization-requirements. The UNT Health Center 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 unt.myahpcare.com.

International students should refer to "International Student Health Insurance Requirement."

International student health insurance requirement

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

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

1. an international student has a government sponsored plan (these waivers are processed in the Sponsored Student Office in Marquis Hall, Room 106),
2. an international student has insurance through a U.S. employer group policy, or
3. an international student is a dependent on a parent or relative's U.S. employer group policy.

Students will be required to go to unt.myahpcare.com to either enroll or 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 group insurance and medical evacuation and repatriation is provided. Enrollment into the Plan and 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 at the Student Health and Wellness Center, Chestnut Hall, second floor payment window or 940-369-7758.

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/or tested for TB during their first term of study on the UNT campus or provide documentation of a previous TB test with results. Testing for TB will start on the 12th class day of each semester and continue for three weeks. For more information, please visit the Student Health and Wellness Center web site at healthcenter.unt.edu or call 940-565-2333.

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, diverse and free for students. UPC is comprised of several student executive positions and a student volunteer board that plan and implement 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 promote and organize events. All of our UPComing events can be found by liking our Facebook page at "UNT University Program Council" or following @UNT_UPC on Twitter or Instagram.

University Union

The Union provides services and programs that members of the campus community need in their daily lives and creates an environment for getting to know and understand others through formal and informal associations.

The Union is home to many different offices, services and student organizations. These groups include: Barnes & Noble at UNT, Union Administration, Student Activities, Student Affairs, Dean of Students, Student Legal Services, banking services, post office, Design Works, Multicultural Center, Center for Leadership and Service, University Program Council (UPC), Orientation and Transition Programs, Eagle Images, Substance Abuse Resource Center (SARC), PRIDE Alliance, Student Government Association (SGA) and Graduate Student Council (GSC). The Union is also home to many dining options, including Starbucks, Jamba Juice, Chick-Fil-A, Taco Bueno, Burger King, Fuzzy's Taco Shop, Which Wich, and much more.

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 Twitter and Instagram @UNTUnion. Contact Union Scheduling Services for catering, event planning and facility use at 940-565-3804 or visit union.unt.edu/scheduling.

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 the General Academic Building, Rooms 102 and 119, 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 English composition students to graduate students writing theses and dissertations.

Our hours are from 9:00–9:00 Monday-Thursday and from 9:00–3:00 on Fridays. We offer walk-ins at Willis Library on Sunday-Thursday evenings from 5:00 to 9:00. You can stop by at 5:00 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 in our main center.

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.

We have one more location exclusively for graduate students in engineering in the library at Discovery Park, room B112. Please e-mail writingcenter-DP@unt.edu for details.

We have online appointments in our main center from 9:00–9:00, Monday–Thursday, and from 9:00–3:00 on Fridays. Please call 940-565-2563 or e-mail us at writingcenter@unt.edu to schedule an online conference.

Our graduate tutors also offer online appointments for graduate students. Please e-mail gradwriting@unt.edu to schedule.

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

UNT Teaching Excellence Seminar

The Center for Learning Enhancement, Assessment and Redesign (CLEAR) holds the Teaching Excellence Seminar, a TA/TF orientation that introduces new TA, TF and adjunct faculty to best practices in teaching and supportive resources. The event is supported by the Office of the Provost. The one-day workshop is mandatory for all new TAs and TFs as stated in the Graduate Catalog.

Policies

The Graduate Council

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

Ex-officio members

Victor Prybutok, PhD, Vice Provost for Graduate Education and Dean of the Toulouse Graduate School
Joseph R. Oppong, PhD, Academic Associate Vice Provost and Academic Associate Dean, Toulouse Graduate School
Jennifer Evans-Cowley, PhD, Provost and Vice President for Academic Affairs
Marilyn Wiley, PhD, Dean of the G. Brint Ryan College of Business
Randy Bomer, PhD, Dean of the College of Education
Hanchen Huang, PhD, Dean of the College of Engineering
Neale R. Chumbler, PhD, Dean of the College of Health and Public Service
Kinshuk, PhD, Dean of the College of Information
Andrea Miller, PhD, Dean of the Frank W. and Sue Mayborn School of Journalism
Tamara Brown, PhD, Dean of the College of Liberal Arts and Social Sciences
Jana Hawley, PhD, Dean of the College of Merchandising, Hospitality and Tourism
John W. Richmond, PhD, Dean of the College of Music
Su Gao, PhD, Dean of the College of Science
Greg Watts, MFA, Dean of the College of Visual Arts and Design
Diane Bruxvoort, MLIS, Dean of Libraries

Elected members

Jordan Frith, PhD, Associate Professor of Technical Communication
Lynne Cagle-Cox, PhD, Lecturer of Learning Technologies
Doug Brozovic, PhD, Associate Professor of Mathematics
Nick Evangelopolous, PhD, Associate Professor of Information Technology and Decision Sciences
Prathiba Natesan, PhD, Associate Professor of Educational Psychology
Gayle Prybutok, PhD, Assistant Professor of Rehabilitation and Health Services
Jennifer Lane, MA, Associate Professor of Vocal Studies
Kris Chesky, PhD, Professor of Instrumental Studies
Gwen Nisbitt, PhD, Assistant Professor of Journalism
Denise E. Catalano, PhD, Associate Professor of Rehabilitation and Health Services

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, fees 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 of 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.

General policies

University diversity, equity and inclusion statement

The University of North Texas has a history of seeking to preserve an atmosphere that supports an awareness and understanding of differences. It is committed to maintaining an inclusive and accepting atmosphere welcoming to anyone who wishes to pursue their educational and developmental goals. UNT values the increasing diversity of race, ethnicity, sexual orientation, gender and gender identity, ability, religion, age, cultural expression, national origin, linguistic heritage, and veteran status among the individuals who make up its community. This is one of UNT's greatest strengths.

Individuals within the UNT community are unified by a primary purpose: learning. With that primary purpose in mind, UNT works to advance ideals of human worth and dignity by facilitating open discussion, supporting rational resolution of conflict and encouraging examination of values and varying perspectives. Individuals who work, study, live and teach within this community are expected to refrain from behavior that threatens the freedom, safety, dignity, and respect deserved by every community member who pursues their educational and professional goals here.

Students, faculty or staff who have concerns or questions related to diversity and inclusion at UNT should contact the appropriate office. Students should call the Dean of Students office at 940-565-2648. Faculty and staff should call the Division of Institutional Equity and Diversity at 940-565-2711. TTY access: 940-369-8652 or 800-735-2989. You may contact Diversity and Inclusion via email at Diversity.Inclusion@unt.edu or by phone at 940-565-3119.

Americans with Disabilities Act

The University of North Texas does not discriminate on the basis of an individual's disability and complies with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act of 1990, as amended (ADA). In accordance with the requirements of the ADA, the university will not exclude any individual with a disability from the full and equal enjoyment of its services and facilities. The university will make reasonable modifications in its policies, practices or procedures to ensure that people with disabilities have an equal opportunity to enjoy all of its programs, services and activities.

The university provides reasonable accommodations in the form of academic adjustments and auxiliary aids to qualified students with disabilities, and provides reasonable accommodations to qualified individuals with disabilities who are employees or applicants for employment. For information about student accommodations, contact the Office of Disability Access at 940-565-4323. Faculty and staff should contact the Office of Human Resources at HRAdministration@unt.edu.

Changes of address

It is the responsibility of the student to provide correct permanent and local mailing address information at all times and on all documents at the university. Students who change their mailing address must notify the Registrar's Office by calling 940-565-2111 or update their address at my.unt.edu.

Identification card regulations

The identification card is distributed during registration. The card entitles the bearer to student admission to athletic events, University Program Council entertainment, Fine Arts Series programs, dances, movies, general access computer laboratories and the Student Health and Wellness Center. It provides identification at the libraries for checking out materials and at Recreational Sports and the Student Health and Wellness Center for use of these facilities. The ID card also serves as the meal card for those students with meal plans. As the student's official university identification, it must be presented to any UNT official upon request.

Lost ID cards may be replaced for a $10 charge in the ID Systems Office of Student Financial Services located in the Eagle Student Services Center, first floor. Misplaced ID cards that have been turned in are held in the ID Systems Office located in Eagle Student Services Center, first floor. Students are asked to retain their ID cards, even though they may not be enrolled. The cards are reactivated upon subsequent enrollment.

Fraudulent use of the ID card subjects the user to a fine of $2,000 and up to one year in jail (Class A Misdemeanor). Anyone who uses the ID card to give false information to a police officer is subject to a fine of $200 (Class C Misdemeanor).

Liability for personal loss

The university is not responsible for and does not assume any liability for loss of or damage to personal property, including damage to vehicles. Students are encouraged to obtain personal insurance coverage for loss of or damage to possessions on campus, including possessions in dormitories and vehicles.

Motor vehicle regulations

Persons who operate motor vehicles and bicycles on the UNT campus must comply with the Texas Transportation Code and published university regulations regarding vehicle and bicycle use, parking, display of decals and penalties for violation. The regulations are available online at transportation.unt.edu.

Emergency closures

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

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

Closings due to 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 weather can also be found by checking Facebook (@northtexas), following Twitter (@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 e-ride 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 Student Financial Aid and Scholarships. International students should consult the International Admissions and Advising Center for information regarding policies and procedures required by federal regulation agencies.

Tuition and fees information is available online at 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 deanofstudents.unt.edu/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 Wellness Resource Service and Substance Abuse Resource Center at 1800 W. Chestnut, Chestnut Hall, Suite 301, or by calling 940-565-2787.

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

Resources

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

Contacts at UNT

General university number

Switchboard 940-565-2000

University metro number

Switchboard 817-267-3731

General university Internet address

www.unt.edu

Online catalogs and academic calendar

www.unt.edu/catalog

Schedule of Classes

registrar.unt.edu/

Web registration

my.unt.edu

Campus tour information

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

Graduate Admissions

Eagle Student Services Center, 3rd Floor

Mailing address:
1155 Union Circle #305459
Denton, TX 76203-5017
940-565-2383
Fax: 940-565-2141

For domestic students:

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

For international students:

Web site: tgs.unt.edu/international
E-mail: international@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

Office of the Dean of the Toulouse Graduate School

Eagle Student Services Center, Room 354

Mailing address:
1155 Union Circle #305459
Denton, TX 76203-5017
940-565-2383
Fax: 940-565-2141
E-mail: graduateschool@unt.edu
Web site: gradschool.unt.edu

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

General offices

The Career Center

Sage Hall, Suite 202
Discovery Park, Room C111
Business Leadership Building, Room 136
UNT New College at Frisco, Room 145

Mailing address:
1155 Union Circle #310859
Denton, TX 76203-5017
940-565-2105
Fax: 940-565-4376
Web site: careercenter.unt.edu

Student Employment: Part-time employment listings for on and off campus; job fairs; customer service training; supervisor conflict assistance.

Counseling and Testing Services

Chestnut Hall, Room 311

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

Computer Based Testing
Gateway Center, Room 140

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

counselingandtesting.unt.edu

Individual and group counseling for career, emotional and personal concerns; interest, aptitude and personality testing; computer-based testing site for GRE, TOEFL, CLEP and Accuplacer; plus information and applications for most national admissions tests.

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

Sage Hall, Room 167

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

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: housing.unt.edu

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

Institutional Equity and Diversity

Hurley Administration Building, Room 175

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

*For more information, you may contact the Division of Institutional Equity and Diver*sity at Equity.Diversity@unt.edu.

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

UNT International Affairs supports international teaching, research and service. At UNT International Affairs, 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 agenda. We provide expertise, assistance, and support to faculty, staff, students and administration in all international activities, and directs and supports the activity of Global Engagement, Intensive English Language Institute, International Recruitment, International Student and Scholar Services, Programming and Communications, and the Study Abroad Office.

Global Engagement Office

Marquis Hall, Room 105

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

Web site: international.unt.edu/globalengagement

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.*

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: ielimainoffice@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 Recruitment

Marquis Hall, Room 125

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

940-369-7624
Fax: 940-565-4822

E-mail: studyatunt@unt.edu

Web site: international.unt.edu/futurestudents

The **International Recruitment Office** *recruits well-qualified and diverse international students to UNT college 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/advising

The **International Student and Scholar Services Office** *provides 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.*

Registrar's Office

Eagle Student Services Center, Room 147 and 209

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

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

Student Financial Services

Eagle Student Services Center, Room 105

Mailing address:
1155 Union Circle #310620
Denton, TX 76203-5017
940-565-3225
Fax: 940-565-3877

Web site: sfs.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 Financial Aid and Scholarships

Eagle Student Services Center, Rooms 134 and 228

Mailing address:
1155 Union Circle #311370
Denton, TX 76203-5017
Local: 940-565-2302

Toll Free: 877-881-1014
Fax: 940-565-2738
Web site: financialaid.unt.edu

Student Health and Wellness Center

Chestnut Hall, Second Floor

Mailing address:
1155 Union Circle #305160
Denton, TX 76203-5017
Main phone: 940-565-2333
Fax: 940-565-4559
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

University Union, Room 411

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

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 local Denton communities.*

Transportation Services Office

Highland Street Parking Garage
620 Central Avenue
Denton, TX 76201

Transportation Services: 940-565-3020
E-Ride 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

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: www.leadandserve.unt.edu

Toulouse Graduate School

Main Office
Eagle Student Services Center, Room 354

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

Victor Prybutok, Vice Provost for Graduate Education and Dean of the Toulouse Graduate School

Joseph R. Oppong, Academic Associate Vice Provost and Academic Associate Dean

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

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

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

Graduate Academic Certificate

Additional graduate academic certificates

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

Disclosures

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

Center for Interdisciplinary Studies

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

Master's Degree

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 written statement of purpose (500-700 words);
3. scores from the GRE (the GRE requirement may be waived if the applicant has 3 or more years of relevant experience, and an undergraduate GPA above a 3.4);
4. 2 letters of recommendation; and
5. a resume or curriculum vitae.

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, programming and up to calculus II (or equivalent) before beginning required courses.

Required courses, 18 hours

- ADTA 5120 - Introduction to Data Analytics
- 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 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 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 written statement of purpose (500-700 words);
3. scores from the GRE (the GRE requirement may be waived if the applicant has 3 or more years of relevant experience, and an undergraduate GPA above a 3.4);
4. 2 letters of recommendation; and
5. a resume or curriculum vitae.

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, programming and up to calculus II (or equivalent) before beginning required courses.

Required courses, 18 hours

- ADTA 5120 - Introduction to Data Analytics
- 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 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

- HLSV 5300 - Information Systems for Healthcare Management
- HLSV 5450 - Health Services Administration
- HLSV 5740 - Financial Issues in Health Services Administration

- HLSV 5820 - Marketing Health Services

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 written statement of purpose (500-700 words);
3. scores from the GRE (the GRE requirement may be waived if the applicant has 3 or more years of relevant experience, and an undergraduate GPA above a 3.4);
4. 2 letters of recommendation; and
5. a resume or curriculum vitae.

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, programming and up to calculus II (or equivalent) before beginning required courses.

Required courses, 18 hours

- ADTA 5120 - Introduction to Data Analytics
- 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 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5760 - Strategic Management
- MGMT 5870 - Leadership Research and Development

Plus one of the following

- MGMT 5120 - Managing Organizational Design and Change
- MGMT 5300 - Entrepreneurship and Venture Management

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 written statement of purpose (500-700 words);
3. scores from the GRE (the GRE requirement may be waived if the applicant has 3 or more years of relevant experience, and an undergraduate GPA above a 3.4);
4. 2 letters of recommendation; and
5. a resume or curriculum vitae.

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, programming and up to calculus II (or equivalent) 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 5120 - Introduction to Data Analytics
- 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 5940 - Analytics Capstone Experience

Sports concentration, 12 hours

Choose four courses (12 hours) from the courses listed below.

- MKTG 5261 - Corporate Partnerships in the Sport Entertainment Industry
- MGMT 5401 - Talent Management in the Sport Entertainment Industry
- MGMT 5490 - Consulting in the Sport Entertainment Industry
- RESM 5520 - Strategic Marketing for Sports and Event Organizations
- RESM 5530 - Sport Law and Risk Management
- 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 written statement of purpose (500-700 words);
3. scores from the GRE (the GRE requirement may be waived if the applicant has 3 or more years of relevant experience, and an undergraduate GPA above a 3.4);
4. 2 letters of recommendation; and
5. a resume or curriculum vitae.

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, programming and up to calculus II (or equivalent) before beginning required courses.

Required courses, 18 hours

- ADTA 5120 - Introduction to Data Analytics
- 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 5940 - Analytics Capstone Experience

Concentration courses, 12 hours

- BIOL 5130 - Biostatistics I
- MATH 5810 - Probability and Statistics

Plus two courses from the following

- BIOL 5140 - Biostatistics II
- BIOL 5810 - Biocomputing
- BIOL 5820 - Computational Epidemiology
- MATH 5700 - Selected Topics in Contemporary Mathematics (when taught as "Bioinformatics")
- MATH 5820 - Probability and Statistics

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 written statement of purpose (500-700 words);
3. scores from the GRE (the GRE requirement may be waived if the applicant has 3 or more years of relevant experience, and an undergraduate GPA above a 3.4);
4. 2 letters of recommendation; and
5. a resume or curriculum vitae.

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, programming and up to calculus II (or equivalent) 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 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 5940 - Analytics Capstone Experience

Interdisciplinary Studies with a concentration in Applied Analytics, 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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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. 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.

For further information about applied 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.

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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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, Eagle Student Services Center, Room 354; 1155 Union Circle #305459, Denton, TX 76203-5017; 940-565-2383; insd@unt.edu.

Interdisciplinary Studies with a concentration in Applied Data Science, 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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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 data science concentration

Data science is one of the fastest growing areas across almost every field of industry and government. Although data is widely available, many entities have no systematic way to turn data into action. The concentration in applied data science at UNT meets this challenge, providing talented students the opportunity to enter a rapidly expanding job market, working professionals a chance to update their skills and businesses with resources to compete in a data-rich marketplace. Students admitted to the concentration take 15 credit hours in a data science core and are able to integrate the applied data science core with two additional fields to create a degree option that is unique to specific industry needs.

Requirements

The MS with a major in interdisciplinary studies is a 30-hour program across three different fields of study. The courses required for the applied data science concentration are listed below. The remaining 15 hours are distributed across two fields. Students work with an advisor to identify appropriate and relevant supporting fields.

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

- INSD 5940 - Interdisciplinary Capstone Experience
  For further information about applied data science 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.

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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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.

Student 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, Eagle Student Services Center, Room 354; 1155 Union Circle #305459, Denton, TX, 76203-5017; 940-565-2383; insd@unt.edu.

Interdisciplinary Studies with a concentration in Applied Gerontology, 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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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.

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 graduate 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, Eagle Student Services Center, Room 354; 1155 Union Circle #305459, Denton, TX 76203-5017; 940-565-2383; 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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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 Alexis Palmer (alexis.palmer@unt.edu), UNT Discovery Park, Suite B201A, 3940 North Elm, Denton, Texas 76203; or by phone at (940) 369-8079.

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 - Computational Linguistics I
- LING 5415 - Computational Linguistics II
- LING 5990 - Professional Development for Linguists (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 - Digital Curation Fundamentals
- 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 Fitness Management, 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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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.

Fitness management concentration

- HLTH 5800 - Studies in Health Promotion
  (3 hours)

- INSD 5940 - Interdisciplinary Capstone Experience
- KINE 5290 - Current Topics in Exercise Physiology (when topic is "Professional Development in Strength and Conditioning")
- KINE 5302 - Sport Performance Analytics
- KINE 5330 - Sport Nutrition and Metabolism
- RESM 5050 - Management of Recreation and Sport Organizations
- RESM 5080 - Program Design in RESM
- RESM 5200 - Dynamics of Commercial Recreation, Event and Sport Tourism
- RESM 5850 - Trends and Issues in Recreation, Event and Sport Management
- RESM 5860 - Practicum in Recreation, Event and Sport Management

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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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, 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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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.

For further information about humanities at UNT, please contact the humanities concentration director, Toulouse Graduate School, Eagle Student Services Center, Room 354; 1155 Union Circle #305459, Denton, TX 76203-5017; 940-565-2383; insd@unt.edu.

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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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 written, visual and technical competencies required to successfully communicate in the 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 5500 - Integrated Communications
  or
- JOUR 5320 - New Technologies of Mass Communication

Electives

- JOUR 5030 - Visual Journalism
- JOUR 5100 - Case Problems in Public Relations

- JOUR 5250 - Quantitative Research
- JOUR 5260 - Qualitative Research
- JOUR 5800 - Professional Internship
- JOUR 5900 - Advanced Problems in Journalism
- JOUR 5910 - Advanced Problems in Journalism

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 - Learning Technologies Telecommunications
- 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. 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. 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.

For further information about interactive and virtual digital communications at UNT, please contact the graduate advisor in the Mayborn Graduate Institute of Journalism via e-mail (MaybornGraduateInstitute@unt.edu); in the General Academic Building, Room 207; or by phone at 940-565-4564.

Interdisciplinary Studies with a concentration in Interactive and Virtual Digital Communication, MS

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

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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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 written, visual and technical competencies required to successfully communicate in the 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 5500 - Integrated Communications
  or
- JOUR 5320 - New Technologies of Mass Communication

Electives

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

Thesis courses (if required)

Department of Learning Technologies requirements

Computer education and cognitive systems courses:

- 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 - Learning Technologies Telecommunications
- LTEC 5900 - Special Problems
- LTEC 5910 - Special Problems

Thesis courses (if required)

Department of Library and Information Sciences 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

Thesis courses (if required)

Other course work

Students intending to graduate with a thesis must reserve 6 out of the required 30 hours of credit for thesis studies. 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.

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

For further information about interactive and virtual digital communications at UNT, please contact the graduate advisor in the Mayborn Graduate Institute of Journalism via e-mail (MaybornGraduateInstitute@unt.edu); in the General Academic Building, Room 207; or by phone at 940-565-4564.

Interdisciplinary Studies with a concentration in Strength and Conditioning, 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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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.

Strength and conditioning concentration

- HLTH 5800 - Studies in Health Promotion (3 hours)
- INSD 5940 - Interdisciplinary Capstone Experience
- KINE 5302 - Sport Performance Analytics
- KINE 5330 - Sport Nutrition and Metabolism
- KINE 5390 - Physiological Assessment in the Health Sciences
- KINE 5860 - Practicum, Field Problem or Internship (3 hours)
- KINE 5920 - Research Problems in Lieu of Thesis
- RESM 5060 - Areas and Facilities for Recreation and Sport
- RESM 5080 - Program Design in RESM
- RESM 5200 - Dynamics of Commercial Recreation, Event and Sport Tourism

Interdisciplinary Studies with a concentration in Women's Studies, MA

Interdisciplinary Studies master's degrees

The interdisciplinary studies program offers students a high degree of flexibility in designing a program of study that cuts across disciplinary boundaries. Applicants to the master's program can pursue one of two approaches — either a self-styled plan or a recognized concentration. Under a self-styled plan, students design a program to address a particular intellectual interest or study a multidisciplinary issue that combines existing courses from any graduate area of the university. Applicants should contact the Graduate School to discuss their intention to seek a self-styled plan. A recognized concentration 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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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.

Women's Studies concentration

The women's studies concentration in the interdisciplinary studies master's program allows students to explore multiple aspects of women's experience. Students choose courses that focus on women and that have been approved by the Women's Studies program. This degree option provides advanced training and skills for both the workplace and nonprofit organizations.

Courses are provided from a variety of disciplines as well as from the women's studies program itself. This structure allows students to tailor their course work to their career goals and creates a wide network of faculty interaction across campus. Courses examine women's roles, activities and experiences through history and across cultures. The program expands understanding of gender differences, cultural diversity and social change through critical analysis and community interaction.

One course, WMST 5200 - Gender and Globalization, is required, and internships are encouraged. A total of 30 credit hours is required for either the Master of Arts or the Master of Science. Students may choose to complete the degree with a thesis (24 semester hours plus 6 hours of thesis) or take the full 30 hours in course work and complete one of the non-thesis options.

As this is an individually-tailored program, prospective students are encouraged to contact the women's studies program at 940-565-2098 or e-mail wmst@unt.edu for more information. The office is located in the General Academic Building, Room 467.

Interdisciplinary Studies with a concentration in Women's Studies, MS

Interdisciplinary Studies master's degrees

The interdisciplinary studies program offers students a high degree of flexibility in designing a program of study that cuts across disciplinary boundaries. Applicants to the master's program can pursue one of two approaches — either a self-styled plan or a recognized concentration. Under a self-styled plan, students design a program to address a particular intellectual interest or study a multidisciplinary issue that combines existing courses from any graduate area of the university. Applicants should contact the Graduate School to discuss their intention to seek a self-styled plan. A recognized concentration 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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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.

Women's Studies concentration

The women's studies concentration in the interdisciplinary studies master's program allows students to explore multiple aspects of women's experience. Students choose courses that focus on women and that have been approved by the Women's Studies program. This degree option provides advanced training and skills for both the workplace and nonprofit organizations.

Courses are provided from a variety of disciplines as well as from the women's studies program itself. This structure allows students to tailor their course work to their career goals and creates a wide network of faculty interaction across campus. Courses examine women's roles, activities and experiences through history and across cultures. The program expands understanding of gender differences, cultural diversity and social change through critical analysis and community interaction.

One course, WMST 5200 - Gender and Globalization, is required, and internships are encouraged. A total of 30 credit hours is required for either the Master of Arts or the Master of Science. Students may choose to complete the degree with a thesis (24 semester hours plus 6 hours of thesis) or take the full 30 hours in course work and complete one of the non-thesis options.

As this is an individually-tailored program, prospective students are encouraged to contact the women's studies program at 940-565-2098 or e-mail wmst@unt.edu for more information. The office is located in the General Academic Building, Room 467.

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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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 are also required for the self-styled degree. A faculty advisory committee will be formed to help the student develop the degree plan and supervise progress.

Knowledge of at least one foreign language or tool subject acceptable to the Toulouse Graduate School is required for the Master of Arts degree, but not for the Master of Science.

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.

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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

E-mail: mbacob@unt.edu
Web site: www.cob.unt.edu/programs/masters

Marilyn Wiley, Dean

Terry Pohlen, Associate Dean
Tracy Dietz, Associate Dean
Audhesh Paswan, Associate Dean

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 college offer graduate programs leading to the Master of Science with majors in accounting, finance (S.T.E.M.), business analytics (S.T.E.M.) and taxation.

Master of Business Administration concentrations are available in business analytics (S.T.E.M.), business studies, finance, health services management, information technology, marketing, marketing analytics, organizational behavior and human resource management, sport entertainment management, strategic management, supply chain management, and the full-time cohort in management.

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.

Responding to a great demand by people employed in the Dallas–Fort Worth–Denton area, the G. Brint Ryan College of Business inaugurated an evening schedule of graduate classes in 1960. Since that time, individuals employed on a full-time basis have been able to earn Master of Business Administration or Master of Science degrees by scheduling classes entirely in the evenings. Courses are also available in the afternoon, for some programs, and online. The college offers six programs, strategic management and organizational behavior and human resource management, supply chain management, and supply chain analytics, that are offered 100 percent online in an accelerated 8-week format.

For further information about classes, contact the G. Brint Ryan College of Business (CoB) Graduate Programs Office.

Admission requirements

Admission deadlines

Before being admitted to either a master's or a doctoral program in the G. Brint Ryan College of Business, the applicant must meet the requirements for admission to the Toulouse Graduate School. U.S. citizens and permanent residents submit the application, application fee and official transcripts to the Toulouse Graduate School. International applicants submit materials to the Toulouse Graduate School.

All MBA/MS students seeking on-time registration should submit application materials according to the dates specified by the Toulouse Graduate School. PhD candidates must submit application materials by April 1 to be considered for the following fall. With the exception of the full-time cohort MBA in Management, which had a May deadline, all MBA and MS programs work in a model of rolling admission.

- Fall – June 15
- Spring – October 15
- Summer (all sessions) – April 15

Criteria for admission to master's degree programs

In the determination of an applicant's eligibility for admission to the G. Brint Ryan College of Business for the MBA/MS degree, the following measures are of critical importance.

1. Overall undergraduate grade point average (GPA) or GPA on approximately the last 60 semester hours. (The academic record must meet minimum requirements of the Toulouse Graduate School.)
2. A satisfactory score on the Graduate Management Admission Test (GMAT) or Graduate Record Examination (GRE). Scores more than five years old at the time of application for admission will not be considered.
3. Applicants whose native language is not English must either present a score of at least 550 (paper version) or 79 (Internet-based) on the Test of English as a Foreign Language (TOEFL) or be a graduate of a college or university in the United States or present a score of at least 6.0 on the IELTS. For a complete list of ways to demonstrate English Language Proficiency go to tgs.unt.edu/international.
4. Additional admission materials as specified in the next section and on our web site at cob.unt.edu/masters/admission.

Procedure for applying

Students may enter the master's degree programs at the beginning of any term/semester or summer sessions. Applicants should complete the requirements listed below and meet the deadlines set forth in "Admission Deadlines" above. Students applying to programs taught in an accelerated format may also apply for October or March start dates.

1. Obtain admission to the university and the Toulouse Graduate School by filing the following items with the Toulouse Graduate School:
    a. complete official transcripts of college and university credits;
    b. online application for admission to the Toulouse Graduate School; and
    c. results of the Graduate Management Admission Test or Graduate Records Examination (three to four weeks for the test to be received by the Graduate School).

    Information about the GMAT/GRE may be obtained from the Toulouse Graduate School or the CoB Graduate Programs Office. Undergraduate students who intend to enter a master's degree program in the College of Business should take the GMAT or GRE in the final term/semester of the senior year. Students who hold an undergraduate degree and intend to enter a master's degree program in the College of Business must file a GMAT or GRE score in sufficient time for the graduate admission application to be considered prior to the term/semester/session of intended first enrollment.

    With the exception of the MS in accounting and MS in taxation, a waiver of the GMAT/GRE will be considered for applicants who earned a:

    - Doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
    - Master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.5 or higher on the master's degree.
    - Bachelor'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 applicants to the MS in accounting and MS in taxation who eared a:

- Doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
- Master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.5 or higher on the master's degree.
- Bachelor's degree from UNT, or any other AACSB accredited institution, with a cumulative, or last 60 hour, GPA of 3.5 or higher.

2. The following additional admission materials are submitted to the CoB Graduate Programs Office:
    a. essay – please share with the admissions committee any unique events, life experiences, and qualifications that you feel distinguish your candidacy and will add value to the class;
    b. three letters of recommendation (professional, not personal); and
    c. resume (work/academic experience).

Applications forwarded by the Toulouse Graduate School cannot be considered until the above information is submitted.

Applications and supporting documentation will be reviewed using a holistic approach by the CoB admission committee. The Graduate Programs Office will notify applicants of their status once the information has been reviewed. Applicants may also check the status by visiting my.unt.edu.

Students admitted under the graduate non-degree (GNDE) classification may take up to 12 hours of 5000-level business courses prior to admission in the MBA or MS programs. The 12 hours chosen may consist of the background courses or the 36 hours required of the MBA/MS degree. **No additional 5000-level business courses may be taken prior to admission to a graduate degree program.** See the graduate academic advisor for further information.

Comprehensive examination

Candidates in all business MBA degree programs are required to complete BUSI 5190, with a minimum grade of C for the course and a minimum grade of B for the comprehensive experience. Candidates in the MS programs will take a capstone course specified by the major. These courses must be taken during the student's last term/semester in order to meet the comprehensive examination requirement of the G. Brint Ryan College of Business and the Toulouse Graduate School.

Minimum academic standards for master's students

The master's programs in the G. Brint Ryan College of Business require that a student maintain a minimum grade point average of 3.0 (B) or better. The master's program committee of the G. Brint Ryan College of Business will recommend dismissal of a student from the master's program if the student receives two course grades below C, or three course grades of C, and all duplication requests have been exhausted.

Master's students may not graduate with more than two grades of C in their core and/or concentration courses.

Students may not graduate with any grades of D or F in their core and/or concentration courses.

If a student receives 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

College of Business MBA/MS students are restricted to changing majors/concentrations no more than two times within the College of Business. This excludes changing from graduate non-degree seeking status, or from a major outside the CoB to a CoB 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, Associate Dean

The Information and Learning Technologies Center of the College of Business is housed in the newly opened Business Leadership Building and comprises the Associate Dean for Technology and Operations, an IT manager, a lab manager, four IT specialists and an administrative coordinator. A technical support team of part-time student assistants aids the full-time staff in installations, troubleshooting, web development, and working with faculty and staff when problems or questions arise concerning software and/or hardware. More than 300 Dell Core 2 Quad desktop systems in the Business Leadership Building are networked together with a multi-node, high-availability cluster using multi-core dual Xeon blade servers. Each node has at least 4 gigabytes of memory and 4.5 terabytes of available storage in an external storage area network (SAN) disk array. Each of the desktop systems is configured with 2.66 GHz Core 2 Quad CPU, 250 gigabyte hard drive, 4 gigabyte memory, 22-inch widescreen flat-panel LCD monitor, DVD-RW drive, USB 2.0 connections, and gigabit network interfaces.

The 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 over 100 hours per week and staffed by 24 student lab monitors. These labs are divided into two major areas. The General Access Lab consists of more than 60 computers and is designed for the general business student who is required to use computers but may also be used by all UNT students. As an extension of the General Access Lab, a number of public access kiosks are provided on Level 0 of the Business Leadership Building for walk-up e-mail access and general web browsing. The Business Lab consists of more than 68 desktop computers and is designed for and limited to students taking College of Business courses. This lab includes course-related software for such courses as Introduction to Database Applications; Distributed Systems and Teleprocessing; Data Communications and Networking; Information Resource Management; Decision Support Systems; Visual Display; and Fundamentals of Information Technology Security. For team and group work, students can use their own notebook computers or check-out mobile thin clients to take to the Biz Café adjacent to the labs, 15 study rooms available by reservation or informal seating areas around the Business Leadership Building to access the college's "Virtual Lab." This virtual desktop environment provides remote access to all major College of Business applications. There are also several "Virtual Classrooms" utilizing this same virtual desktop environment for hands-on instruction when needed.

Professional Development Institute

Scott Belshaw, Executive Director

Since 1973, the Professional Development Institute (PDI) has provided education, information and training. By attending PDI programs, more than 500,000 professionals, managers and salespeople have gained tools and ideas that increase individual and company performance. PDI works with a diverse network of leading experts from around the world to provide solution- and results-oriented programs.

Working closely with experts in a variety of industries, PDI understands the critical issues and defines the educational needs of professionals within an organization. PDI works directly with clients to further specify and define the needs particular to the customer's organization. Once needs have been determined, PDI develops and designs educational tools and training and works in conjunction with leading industry, academic and governmental experts globally to provide targeted results.

PDI assists employees in being more efficient and effective. Instructors and staff are in constant contact to ensure that programs address issues and help create solutions. Programs enable employees to immediately utilize the information and positively impact the bottom line.

Institute of Petroleum Accounting

Harvey Zimmerman, Director

The Institute of Petroleum Accounting (Institute) was created in 1980 with 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 research activities of the Institute and about current developments the extractive industries through the Petroleum Accounting and Financial Management Journal; and
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 Institute has access to research that directly impinges upon the accounting, finance, tax and economics issues facing the petroleum industry today. The Institute's ties to 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 Institute has enjoyed a strong relationship with the oil and gas industry to the mutual benefit of both. The Institute is the conduit through which academic research in the oil and gas industry reaches the working professional.

Beta Gamma Sigma

This national honorary society of business administration students was founded in 1913. The UNT chapter was established in 1962. The primary objective of Beta Gamma Sigma is to encourage and honor high academic achievement by students of business and management through chapters

in all American Assembly of Collegiate Schools of Business accredited schools. Membership is a signal honor and is limited to outstanding students who show promise of success in the field of business and who rank in the upper 10 percent of their junior, senior or graduate class. More information may be obtained from the dean's office in the College of Business.

Master's Degree

Business Administration, MBA

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.

Procedure for applying

All MBA/MS students seeking on-time registration should submit application materials according to the dates specified by the Toulouse Graduate School. With the exception of the full-time cohort MBA in management, which has a May deadline, all MBA and MS programs work in a model of rolling admission.

- Fall – June 15
- Spring – October 15
- Summer (all sessions) – April 15

Students may enter the master's degree programs at the beginning of any term/semester or summer sessions. Applicants should complete the requirements listed below and meet the deadlines set forth in "Admission Deadlines" above. Students applying to programs taught in an accelerated format may also apply for October or March start dates.

1. Obtain admission to the university and the Toulouse Graduate School by filing the following items with the Toulouse Graduate School:
    a. complete official transcripts of college and university credits;
    b. online application for admission to the Toulouse Graduate School; and
    c. payment of online application fee.

Applicants whose native language is not English must either present a score of at least 550 (paper version) or 79 (Internet-based) on the Test of English as a Foreign Language (TOEFL) or be a graduate of a college or university in the United States or present a score of at least 6.0 on the IELTS. For a complete list of ways to demonstrate English Language Proficiency go to tgs.unt.edu/international.

2. The following additional admission materials are submitted to the CoB Graduate Programs Office:
    a. results of the Graduate Management Admission Test or Graduate Records Examination (three to four weeks for the test to be received by the Graduate School).

    b. three letters of recommendation; and
    c. resume (work/academic experience).

Applications forwarded by the Toulouse Graduate School cannot be considered until the above information is submitted.

Information about the GMAT/GRE may be obtained from the Toulouse Graduate School or the CoB Graduate Programs Office. Undergraduate students who intend to enter a master's degree program in the G. Brint Ryan College of Business should take the GMAT or GRE in the final term/semester of the senior year. Students who hold an undergraduate degree and intend to enter a master's degree program in the G. Brint Ryan College of Business must file a GMAT or GRE score in sufficient time for the graduate admission application to be considered prior to the term/semester/session of intended first enrollment.

With the exception of the MS in accounting and MS in taxation, a waiver of the GMAT/GRE will be considered for applicants who earned a:

- Doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
- Master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.5 or higher on the master's degree.

- Bachelor'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 applicants to the MS in accounting and MS in taxation who earned a:

- Doctoral or professional doctoral degree from a regionally accredited institution, or its equivalent.
- Master's degree from a regionally accredited institution, or its equivalent, with a cumulative GPA of 3.5 or higher on the master's degree.
- Bachelor's degree from UNT, or any other AACSB accredited institution, with a cumulative, or last 60 hour, GPA of 3.5 or higher.

Applications and supporting documentation will be reviewed using a holistic approach by the CoB admission committee. The Graduate Programs Office will notify applicants of their status once the information has been reviewed. Applicants may also check the status by visiting my.unt.edu.

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 and Managerial Accounting, Business Law, Finance, Micro and Macro Economics, and Calculus.

Deficiencies can be completed via traditional academic course work or through Ivy Software and Responsive.net. Ivy Software and Responsive.net deliver self-paced online learning modules that provide background content without the need to formally enrolling in courses at UNT. For more information go to cob.unt.edu/background.

While not required, students without academic backgrounds in business computer information systems, statistics and marketing are encouraged to complete modules delivered through Ivy Software and Responsive.net.

Additional requirements

The nature of the MBA program requires that the student possess a proficiency in computer skills, including word processing, spreadsheet and database software. Finally, the program requires students to possess communication skills that allow one to identify relevant information and, in turn, to provide that information to others in written or verbal format. It is the student’s responsibility to acquire these competencies prior to taking courses in the program of study. These competencies will be assumed. However, the departmental advisors will recommend courses for students not possessing these competencies.

Additional advanced undergraduate courses in the proposed major field may be required as prerequisite work of students who have a different specialization at the undergraduate level or who hold a bachelor’s degree in some area other than business.

Background requirements must be removed prior to enrollment in courses that count as part of the 36 semester hours required for a master’s degree, unless the consent of the departmental advisor is first obtained.

Program requirements

Students are required to complete the following core courses.

- ACCT 5130 - Accounting for Management
- BCIS 5150 - Leveraging Information Technology for Business
- BUSI 5190 - Administrative Strategy (capstone taken in last term)
- DSCI 5180 - Introduction to the Business Decision Process
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- 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
- Health services management
- Information technology
- Logistics and supply chain management
- Marketing (Accelerated Online Program)
- Marketing analytics (Accelerated Online Program)
- Organizational behavior and human resource management (Accelerated Online Program)
- Strategic management (Accelerated Online Program)
- Supply chain analytics (Accelerated Online Program)
- Supply chain management (Accelerated Online Program)

Additional information

Program approval

Each graduate student should receive academic counseling prior to registration each term/semester.

During the first term/semester of a master's program, the student must submit a degree plan through the departmental advisor. The degree plan must be approved by the associate dean of the CoB Graduate Programs Office and by the Toulouse Graduate School. A maximum of 9 hours of transfer work may be applied toward the 36-hour portion of the program. The final decision on applicability of transfer work rests with the departmental advisor.

Students are responsible for seeking consent for any degree plan changes. Specific information about degree plan changes may be obtained from the CoB Graduate Programs Office.

Admission to candidacy is granted by the dean of the Toulouse Graduate School only after the degree plan has been approved.

Concentrations for the MBA

The terms *concentrations* (MBA degree programs) and *majors* (MS degree programs) are used to designate the primary area of study.

For specific course and concentration/major requirements, see the respective departmental sections that follow.

Doctorate

Business, PhD

Philosophy

Doctoral study in business is structured to challenge men and women who possess the ability to analyze complex problems and synthesize solutions.

Objectives

The doctoral program in business is designed to prepare men and women 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 the command of the technical aspects of a business discipline and to develop expertise in the conduct of meaningful research.

Procedure for admission

For admission consideration, the following items are required by the G. Brint Ryan College of Business PhD Program and Research Office. The complete PhD application packet can be found at www.cob.unt.edu/phd/ or may be requested by e-mail from PhDCOBA@unt.edu.

In the determination of an applicant's eligibility for admission to the G. Brint Ryan College of Business for the PhD degree, the following items are required:

1. Processed application for admission forwarded by the Toulouse Graduate School.
2. Provide the Toulouse Graduate School with an official copy of the score made on either the Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE), an official copy of the TOEFL score, if required, and official transcripts from all universities previously attended. Any test scores (GMAT, GRE, TOEFL) submitted in support of an application for admission to the G. Brint Ryan College of Business PhD program must have been earned no more than five years prior to the date sought for admission.
3. Submit a completed Supplementary Information Form to the Graduate Programs Office, G. Brint Ryan College of Business.
4. Request three individuals (usually university professors) to complete and return a Doctoral Applicant Evaluation Form. These forms are available in the application package located on the web at www.cob.unt.edu/phd/ or by request from the PhD Program and Research Office in the G. Brint Ryan College of Business.

For further information concerning the doctoral program in business administration and specific admission requirements, contact: the PhD Program and Research Office, G. Brint Ryan College of Business. Contact information and destination of documents are as follows:

Both U.S. and international applicants

PhD Program and Research Office
G. Brint Ryan College of Business
University of North Texas

Mailing address:
1155 Union Circle #311160
Denton, TX 76203-5017

PhDCOBA@unt.edu
www.cob.unt.edu/phd

Phone: 940-369-8491
Fax: 940-369-8978

Submit a Supplementary Information Sheet (Form A), statement of purpose essay, resume and three recommendation letters using Doctoral Applicant Evaluation Forms (Form B).

U.S. citizens only

Toulouse Graduate School
Graduate Admissions Office
Eagle Student Services Center, Room 354

Mailing address:
1155 Union Circle #305459
Denton, TX 76203-5017

gradadmission@unt.edu
tgs.unt.edu

Phone: 940-565-2383 or toll-free 888-UNT-GRAD [868-4723]

Submit a U.S. application, fee, official transcripts and official GMAT or GRE scores.

International applicants only

International Admissions Office
University of North Texas
Marquis Hall, Room 105

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

international@unt.edu
Phone: 940-565-2442

Submit an International Application, fee, official transcripts, official TOEFL, financial statement, and official GRE or GMAT scores. (Please note that all official GRE and GMAT scores are received by the Toulouse Graduate School, listed above.)

Retention policy for doctoral programs in business

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, logistics systems, 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, pre-dissertation research, and dissertation research. The total program requires a minimum of 69 hours of graduate credit beyond the master's degree or 99 hours of graduate credit beyond the bachelor's degree.

The minimum course work consists of the following:

- Research track, 12–18 hours
- Concentration and minor areas, 27–33 hours
- Pre-dissertation research, 12 hours
- Dissertation, 12 hours

The above may include no more than 12 semester hours of 5900, 5910 or 6900 credit prior to pre-dissertation research.

The two research tracks consist of 12–18 hours of course work designed to develop the research capabilities of the student and to prepare the student for conducting research of dissertation quality. The student's choice of track must be approved by the major area PhD coordinator. The required courses for each track are described below:

Research track 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 (3 hours)

Concentrations

Students should contact the department for more information on other specific course work required for each of the concentrations offered.

- accounting
- business computer information systems
- business information assurance
- finance
- logistics systems
- management
- marketing
- management science

Additional requirements

Students entering the doctoral program upon completion of a bachelor's degree must complete the MBA core requirements and 12 additional hours in the major and/or minor areas. In addition, all students must demonstrate a calculus proficiency.

The qualifying examination, given upon completion of all course work, is designed to measure attainment of expected levels of knowledge in the major and minor areas and to determine the student's ability to synthesize information acquired. The examination is both written and oral, 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 CoB PhD Programs and Research Office. All students, at the time of admission, are responsible for obtaining a copy of the Handbook for Doctoral Students to familiarize themselves with all requirements.

Admission to Candidacy

Admission to candidacy is granted by the dean of the Toulouse Graduate School after satisfactory completion of the qualifying examination.

Dissertation

Upon admission to candidacy and with the consent of the student's committee, the student is required to make a formal presentation of the dissertation proposal at an open forum consisting of graduate faculty of the 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 CoB PhD Programs and Research Office and the Toulouse Graduate School.

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Department of Accounting

Main Departmental Office
Business Leadership Building, Room 213

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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 also is being conducted in the professional areas of cash flow, savings and loan problems, and capital budgeting.

The Institute of Petroleum Accounting supports a wide variety of faculty research related to the oil and gas industry. The institute publishes the *Petroleum Accounting and Financial Management Journal*, and several faculty members conduct sponsored research to provide solutions for practical accounting and tax problems that emerge in the oil and gas sector. Ongoing research efforts continue in the areas of auditing and accounting standard setting, taxation, and management decision making related to the oil and gas industry. The department also has been a leader in the use of technology in accounting instruction, and several faculty members continue to pioneer research in this area.

The accounting faculty contribute to a wide range of journals and actively 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 College of Business section.

Master's Degree

Accounting with a concentration in Audit and Assurance, 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.

Prospective students may contact the CoB Graduate Programs Office for an estimate of the program requirements and the length of time required to complete the program.

Admission requirements

Students may apply for admission to the Master of Science with a major in accounting in either of two ways:

1. Students pursuing the five-year, 153-semester-hour BS/MS program are admitted to the master's portion of the program upon satisfactory completion of 103 hours of the 120-hour undergraduate portion of the professional program.
2. Students who previously have earned a baccalaureate (or higher) degree from an accredited institution in any discipline may apply for admission directly to the graduate portion of the program.

Students who apply and meet the following requirements may be admitted to the Master of Science with a major in accounting program:

1. Admission to UNT and to the Toulouse Graduate School.
2. Satisfactory GMAT scores that are no more than five (5) years old.
    a. 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.
    b. 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 3.5 or higher on the master's degree. Certain programs may have departmental admission requirements mandating submission of additional materials including standardized test scores.
    c. A waiver of the GMAT/GRE will be considered for UNT Honors College graduates with a cumulative GPA of 3.5 or higher.
    d. A waiver of the GMAT/GRE will be granted for the Master of Science in Accounting and Master of Science in Taxation programs for students with a bachelor's degree (BS/MS or BBA) from UNT with a cumulative GPA of 3.6 or higher.
    e. For the Master of Science degree in Accounting and Master of Science degree in Taxation, students with undergraduate business degrees with a cumulative GPA of 3.6 or higher from AACSB accredited institutions will also be eligible for a GMAT waiver; subject to the approval of the department.
    f. Work experience will not be considered in lieu of exam scores;
    g. Appropriate GMAT scores are one of many factors utilized in rendering admissions decisions; and
    h. The CoB Graduate Programs Office recommends that students sit for the GMAT no later than one month prior to the application deadline to ensure timely reporting of scores.
3. The following additional admission materials are to be submitted to the CoB Graduate Programs Office:
    a. essay – The applicant is asked to share with the admissions committee any unique events, life experiences, and qualifications that distinguish the applicant's candidacy and will add value to the class;
    b. two letters of recommendation (professional, not personal); and
    c. resume (work/academic experience).

Applications forwarded by the Toulouse Graduate School will not be considered until all of the above information is submitted.

The applications and supporting documentation will be reviewed by the CoB admission committee. The Graduate Programs Office will notify applicants of their status once the information has been reviewed. Applicants may also check the status by visiting my.unt.edu.

Degree requirements

Students earning the Master of Science with a major in accounting and a concentration in audit and assurance must meet the following requirements:

1. completion of background courses in accounting and business as necessary;
2. completion of at least 33 semester hours of graduate work beyond background courses assigned by the department;
3. a GPA of at least a 3.0 on all graduate work taken at UNT;
4. a GPA of at least a 3.0 on all accounting courses (excluding ACCT 5800) taken at UNT after admission to graduate school;
5. a GPA of at least a 3.0 on all courses taken for graduate credit;
6. 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
7. minimum academic standards for master's students.

Background courses

Students entering the Master of Science with a major in accounting and concentration in audit and assurance program, after obtaining an undergraduate degree, may need to complete background courses in accounting or business before beginning the 33-hour program of study. Some or all of the following courses may be assigned to remedy deficiencies.

- MATH 1190 - Business Calculus

The College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include business calculus, financial and managerial accounting, business information systems, statistics, business law, finance, marketing, micro and macro economics, operations management, and calculus. Deficiencies can be completed via traditional academic course work or through Ivy Software and Responsive.net. Ivy Software and Responsive.net deliver self-paced online learning modules that provide the needed background content without the need to formally enroll in courses at UNT. For more information, go to cob.unt.edu/background.

Accounting background/deficiencies assigned upon admission might include:

- ACCT 3110 - Intermediate Accounting I (All students entering ACCT 3110 are required to pass an entrance exam administered by the Department of Accounting.)
- ACCT 3120 - Intermediate Accounting II
- ACCT 3270 - Cost Accounting
- ACCT 4100 - Accounting Systems
- ACCT 4140 - Advanced Accounting Principles
- ACCT 4300 - Federal Income Taxation
- ACCT 4320 - Federal Income Taxation II
- ACCT 4400 - Auditing – Professional Responsibilities

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 at UNT. General requirements include the following.

Concentration in audit and assurance

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 5410 - External Auditing
- ACCT 5440 - IT Auditing
- 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

One course (3 semester hours) from the following accounting courses.

- 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 CoB Graduate Programs Office for an overview of the program requirements and the length of time required to complete the program.

Admission requirements

Students may apply for admission to the master's program in either of two ways:

1. Students pursuing the five-year, 153-semester-hour program are admitted to the graduate portion of the program upon satisfactory completion of 103 hours of the 120-hour undergraduate portion of the professional program.
2. Students who previously have earned a baccalaureate (or higher) degree from an accredited institution in any discipline may apply for admission directly to the graduate portion of the program.

Students who meet the following requirements may be admitted to the Master of Science with a major in accounting program:

1. admission to UNT and to the Toulouse Graduate School as specified previously in this section; and
2. GMAT scores no more than five (5) years old are required for admission purposes;
    a. 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.
    b. 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 3.5 or higher on the master's degree. Certain programs may have departmental admission requirements mandating submission of additional materials including standardized test scores.
    c. A waiver of the GMAT/GRE will be considered for UNT Honors College graduates with a cumulative GPA of 3.5 or higher.
    d. A waiver of the GMAT/GRE will be granted for the Master of Science in Accounting and Master of Science in Taxation programs for students with a bachelor's degree (BS/MS or BBA) from UNT with a cumulative GPA of 3.6 or higher.
    e. For the Master of Science degree in Accounting and Master of Science degree in Taxation, students with undergraduate business degrees with a cumulative GPA of 3.6 or higher from AACSB accredited institutions will also be eligible for a GMAT waiver; subject to the approval of the department.
    f. Work experience will not be considered in lieu of exam scores;
    g. Appropriate GMAT scores are one of many factors utilized in rendering admissions decisions; and
    h. The CoB Graduate Programs Office recommends that students sit for the GMAT no later than one month prior to the application deadline to ensure timely reporting of scores.
3. additional admission materials are submitted to the CoB Graduate Programs Office:

a. essay – The applicant is asked to share with the admissions committee any unique events, life experiences, and qualifications that distinguish the applicant's candidacy and will add value to the class;
b. two letters of recommendation (professional, not personal); and
c. resume (work/academic experience).

Applications forwarded by the Toulouse Graduate School cannot be considered until the above information is submitted.

The applications and supporting documentation will be reviewed by the CoB admission committee. The Graduate Programs Office will notify applicants of their status once the information has been reviewed. Applicants may also check the status by visiting my.unt.edu.

Degree requirements

The student earning the Master of Science with a major in accounting and a concentration in corporate accounting must meet the following requirements:

1. completion of background courses in accounting and business as necessary;
2. completion of at least 33 semester hours of graduate work beyond background courses assigned by the department;
3. a GPA of at least a 3.0 on all graduate work taken at UNT;
4. a GPA of at least a 3.0 on all accounting courses (excluding ACCT 5800) taken at UNT after admission to graduate school;
5. a GPA of at least a 3.0 on all courses taken for graduate credit;
6. 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
7. minimum academic standards for master's students.

Background courses

Students entering the MS with a major in accounting, after obtaining an undergraduate degree, may need to complete background courses in accounting or business before beginning the 33-hour program of study. Some or all of the following courses may be assigned to remedy deficiencies.

- MATH 1190 - Business Calculus

The College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include financial and managerial accounting, business information systems, statistics, business law, finance, marketing, micro and macro economics, operations management and calculus. Deficiencies can be completed via traditional academic course work or through Ivy Software and Responsive.net. Ivy Software and Responsive.net deliver self-paced online learning modules that provide the needed background content without the need to formally enroll in courses at UNT. For more information go to cob.unt.edu/background.

Note: All students entering ACCT 3110 are required to complete and pass an entrance exam. This policy applies to both UNT students and transfer students. The exam will be administered at least three times a year and the student must obtain a passing grade. The exam will be composed by the full-time financial accounting faculty and administered by the Department of Accounting.

- ACCT 3110 - Intermediate Accounting I
- ACCT 3120 - Intermediate Accounting II
- ACCT 3270 - Cost Accounting
- ACCT 4100 - Accounting Systems
- ACCT 4140 - Advanced Accounting Principles
- ACCT 4300 - Federal Income Taxation
- ACCT 4320 - Federal Income Taxation II
- ACCT 4400 - Auditing – Professional Responsibilities

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 5710 - Oil and Gas Accounting
- ACCT 5800 - Internship
- ACCT 5890 - International Accounting
- ACCT 5480 - Fraud Examination

Taxation, MS

The Master of Science with a major in taxation 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 CoB Graduate Programs Office for an overview of the program requirements and the length of time required to complete the program.

Admission requirements

Students may apply for admission to the Master of Science program in either of two ways:

1. Students pursuing the five-year, 153-semester hour BS/MS program are admitted to the master's portion of the program upon satisfactory completion of 103 hours of the 120-hour undergraduate portion of the program.
2. Students who previously have earned a baccalaureate (or higher) degree from an accredited institution in any discipline may apply for admission directly to the graduate portion of the program.

Students who apply and meet the following requirements may be admitted to the Master of Science with a major in taxation program:

1. admission to UNT and to the Toulouse Graduate School; and
2. satisfactory GMAT scores that are no more than five (5) years old;
    a. 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.
    b. 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 3.5 or higher on the master's degree. Certain programs may have departmental admission requirements mandating submission of additional materials including standardized test scores.
    c. A waiver of the GMAT/GRE will be considered for UNT Honors College graduates with a cumulative GPA of 3.5 or higher.

d. A waiver of the GMAT/GRE will be granted for the Master of Science in Accounting and Master of Science in Taxation programs for students with a bachelor's degree (BS/MS or BBA) from UNT with a cumulative GPA of 3.6 or higher.
e. For the Master of Science degree in Accounting and Master of Science degree in Taxation, students with undergraduate business degrees with a cumulative GPA of 3.6 or higher from AACSB accredited institutions will also be eligible for a GMAT waiver; subject to the approval of the department.
f. Work experience will not be considered in lieu of exam scores;
g. Appropriate GMAT scores are one of many factors utilized in rendering admissions decisions; and
h. The CoB Graduate Programs Office recommends that students sit for the GMAT no later than one month prior to the application deadline to ensure timely reporting of scores.

3. The following additional admission materials are to be submitted to the CoB Graduate Programs Office:
   a. essay—the applicant is asked to share with the admissions committee any unique events, life experiences and qualifications that distinguish the applicant's candidacy and will add value to the class;
   b. two letters of recommendation (professional, not personal); and
   c. resume (work/academic experience).

Applications forwarded by the Toulouse Graduate School cannot be considered until the above information is submitted.

The applications and supporting documentation will be reviewed by the CoB admission committee. The Graduate Programs Office will notify applicants of their status once the information has been reviewed. Applicants may also check the status by visiting my.unt.edu.

Degree requirements

Students earning the Master of Science with a major in taxation must meet the following requirements:

1. Completion of background courses in accounting and business as necessary;
2. Completion of at least 33 semester hours of graduate work beyond background courses assigned by the department;
3. A GPA of at least a 3.0 on all graduate work taken at UNT;
4. A GPA of at least a 3.0 on all accounting courses (excluding ACCT 5800) taken at UNT after admission to graduate school;
5. A GPA of at least a 3.0 on all courses taken for graduate credit;
6. At least 27 hours in 5000-level accounting courses 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
7. Minimum academic standards for master's students.

Background courses

Students entering the Master of Science with a major in taxation, after obtaining an undergraduate degree, may need to complete background courses in accounting or business before beginning the 33-hour program of study. Some or all of the following courses may be assigned to remedy deficiencies.

- MATH 1190 - Business Calculus

The College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include business calculus, financial and managerial accounting, business information systems, statistics, business law, finance, marketing, micro and macro economics, operations management, and calculus. Deficiencies can be completed via traditional academic course work or through Ivy Software and Responsive.net. Ivy Software and Responsive.net deliver self-paced online learning modules that provide the needed background content without the need to formally enroll in courses at UNT. For more information, go to cob.unt.edu/background.

Accounting background courses/deficiencies assigned upon admission may include:

- ACCT 3110 - Intermediate Accounting I (All students entering ACCT 3110 are required to pass an entrance exam administered by the Department of Accounting.)
- ACCT 3120 - Intermediate Accounting II
- ACCT 3270 - Cost Accounting
- ACCT 4100 - Accounting Systems
- ACCT 4140 - Advanced Accounting Principles
- ACCT 4300 - Federal Income Taxation
- ACCT 4320 - Federal Income Taxation II
- ACCT 4400 - Auditing - Professional Responsibilities

Concentration in taxation

The 33 hour program for the Master of Science in Taxation requires the following courses.

Required courses

Substitutions to the following may be approved by the accounting department chair.

- 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 5350 - Multijurisdictional Taxation
- ACCT 5370 - Family Tax Planning
- ACCT 5380 - Tax Practice and Procedures
- ACCT 5780 - Professional Exam Competency
- BLAW 5400 - Law for Accountants and Managers

Accounting electives

One course (3 semester hours) from the following accounting courses. Substitutions to the following may be approved by the accounting department chair.

- ACCT 5120 - Data Analysis in Accounting
- ACCT 5340 - Oil and Gas Taxation
- ACCT 5800 - Internship

Other program requirements

Students must also take the following course.

- DSCI 5360 - Data Visualization for Analytics

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Department of Finance, Insurance, Real Estate and Law

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John Puthenpurackal, 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 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 Quantitative Finance and Accounting;* and *South Carolina Law Review*.

Degree programs

The Department of Finance, Insurance, Real Estate and Law offers a graduate program leading to the Master of Science with a major in finance.

The college offers a Master of Business Administration with a major in business administration and a Doctor of Philosophy with a major in business, both with a concentration in finance.

The program admission and degree requirements are the same as those listed for the College of Business unless stated otherwise by the department.

Scholarships

Scholarships are awarded each year in the FIREL department for students majoring in finance. 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.

Admission requirements

Students seeking a Master of Science with a major in finance must satisfy the admission requirements of the College of Business.

Background requirements

A bachelor’s degree from an accredited institution and admission to the Toulouse Graduate School are needed for graduate standing. Students who do not have a bachelor’s degree in a business field from an accredited institution may be required to complete some or all of the following courses as determined by the department:

- ACCT 5020 - Accumulation and Analysis of Accounting Data
- DSCI 5180 - Introduction to the Business Decision Process
- ECON 5000 - Economic Concepts
- FINA 5170 - Financial Management
- MATH 1190 - Business Calculus

Degree requirements

Required courses, 15 hours

- FINA 5210 - Investment Analysis and Management
- FINA 5220 - Theory and Application of Financial Derivatives
- FINA 5310 - Advanced Topics in Financial Management
- FINA 5400 - Financial Markets and Institutions
- FINA 5500 - International Financial Management

Elective courses

Students will select at least four elective courses to complete at least 27 hours of the minimum 30-hour requirement for the degree. The capstone course below comprises the remaining 3 hours. DSCI 5180 is the only prerequisite course that may be used as an elective. The following are some possible elective choices, but other courses would be considered subject to the approval of the major field advisor.

- DSCI 5210 - Model-Based Business Intelligence
- DSCI 5240 - Data Mining and Machine Learning for Business
- FINA 5230 - Portfolio Management and Security Analysis in Investments
- FINA 5410 - Advanced Management of Financial Institutions
- FINA 5510 - Theory of Finance

Capstone course, 3 hours

Prerequisites for the capstone course

- FINA 5210 - Investment Analysis and Management
- FINA 5310 - Advanced Topics in Financial Management
- FINA 5400 - Financial Markets and Institutions
- FINA 5500 - International Financial Management
- 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

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Department of Information Technology and Decision Sciences

Main Departmental Office
Business Leadership Building, Room 208

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1155 Union Circle #305249
Denton, TX 76203-5017
940-565-3111

Web site: www.cob.unt.edu/itds

Leon Kappelman, Chair

Faculty

Research

Faculty in the Department of Information Technology and Decision Sciences (ITDS) are pursuing research in areas dealing with computer information systems, business analytics, decision technologies, information technologies, management science and statistics. Research in the computer information systems and information technologies areas spans the broad spectrum from technical issues to managerial and behavioral issues. Topics currently being investigated by faculty in the department include database systems, business intelligence, networks, decision-support systems, evaluation of psychometric factors in systems design, business intelligence, and end-user computing.

Faculty in decision sciences are engaged in research in the areas of business intelligence/analytics, operations research and operations management. Research topics include analysis of forecasting models, mathematical programming, business analytics, sampling and the effects of correlation on observations in experimental designs. Research topics also include quantitative models in operations supply chain management.

Degree programs

The Department of Information Technology and Decision Sciences offers graduate programs leading to the Master of Science with a major in business analytics and an MBA in business analytics that are STEM designated programs.

The department also supports an interdisciplinary doctorate with a major in information science. See the College of Information section of this catalog for more information.

The college offers a Master of Business Administration with a major in business administration and 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.

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 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 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.

Master's Degree

Business Analytics, MBA

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 requirements

Students seeking an MBA with a major in business analytics must satisfy the admission requirements of the G. Brint Ryan College of Business.

Background requirements for the MBA with a major in business analytics

A bachelor's degree from an accredited institution and admission to the Toulouse Graduate School are needed for graduate standing. Students may have acquired this background in their undergraduate programs by the completion of courses equivalent in content to UNT's business

foundation requirements for the bachelor's degree in business administration. In addition, students are required to have a working knowledge of computer-based business tools. The Ryan College of Business Graduate Programs Office works with students to determine if there are background deficiencies. Students are strongly encouraged to complete deficiencies. Background content might include Financial and Managerial Accounting, Business Information Systems, Statistics, Business Law, Finance, Marketing, Micro and Macro Economics, Operations Management and Calculus. Deficiencies can be completed via traditional academic coursework or through Ivy Software and Responsive.net. Ivy Software and Responsive.net deliver self-paced online learning modules that provide the needed background content without the need to formally enroll in courses at UNT. For more information go to cob.unt.edu/background.

MBA core required courses, 18 hours

- ACCT 5130 - Accounting for Management
- DSCI 5180 - Introduction to the Business Decision Process
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MKTG 5150 - Marketing Management
- BUSI 5190 - Administrative Strategy (taken in the last semester)

Required courses, 12 hours

- DSCI 5210 - Model-Based Business Intelligence
- DSCI 5240 - Data Mining and Machine Learning for Business
- DSCI 5260 - Business Process Analytics
- DSCI 5330 - Enterprise Applications of Business Intelligence

Supporting courses, 6 hours

Students select 6 hours from the following list.

- DSCI 5250 - Statistical Techniques in Simulation
- DSCI 5320 - Quality Control
- DSCI 5340 - Predictive Analytics and Business Forecasting
- DSCI 5350 - Big Data Analytics
- DSCI 5360 - Data Visualization for Analytics

Business Analytics, MS

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 or business analytics 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

Students seeking a Master of Science with a major in business analytics must satisfy the admission requirements of the College of Business.

Degree requirements

The student earning the MS with a major in business analytics must meet the following requirements:

1. completion of at least 36 semester hours of graduate work beyond background courses assigned by the department;
2. a GPA of at least a 3.0 on all graduate work taken at UNT;

3. a GPA of at least a 3.0 on all BCIS and DSCI 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; and
5. minimum academic standards for master's students.

In addition, the Ryan College of Business Graduate Programs Office works with students to determine if there are background deficiencies. Students are strongly encouraged to complete deficiencies. Background content might include Financial and Managerial Accounting, Business Information Systems, Statistics, Business Law, Finance, Marketing, Micro and Macro Economics, Operations Management and Calculus. Deficiencies can be completed via traditional academic coursework or through Ivy Software and Responsive.net. Ivy Software and Responsive.net deliver self-paced online learning modules that provide the needed background content without the need to formally enroll in courses at UNT.

Background requirements for the MS with a major in business analytics

The College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Statistics and Calculus. Deficiencies can be completed via traditional academic coursework or through Ivy Software and Responsive.net. Ivy Software and Responsive.net deliver self-paced online learning modules that provide the needed background content without the need to formally enroll in courses at UNT. For more information go to cob.unt.edu/background.

Foundation requirements, 15 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 5210 - Model-Based Business Intelligence
- DSCI 5240 - Data Mining and Machine Learning for Business
- DSCI 5340 - Predictive Analytics and Business Forecasting

- DSCI 5260 - Business Process Analytics
  or
- BCIS 5700 - Strategic Use of Information Technology

Remaining courses, 15-21 hours

Students will choose 15-21 hours from the following list. Up to 6 hours may be taken outside the department with prior department consent. DSCI 5180 may not be taken for credit in this program.

- BCIS 5120 - Information Systems Development
- BCIS 5140 - Artificial Intelligence in Business
- BCIS 5740 - Information Security Management
- DSCI 5250 - Statistical Techniques in Simulation
- DSCI 5320 - Quality Control
- DSCI 5330 - Enterprise Applications of Business Intelligence
- DSCI 5350 - Big Data Analytics
- DSCI 5360 - Data Visualization for Analytics
- DSCI 5690 - Topics in Decision Sciences

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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

Mark Davis, 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, 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, electronic communication technology, 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, organizational behavior and organizational theory.

Master's Degree

Management, MBA

The MBA with a major in management is a full-time cohort. This is a general management program, with a cohort structure that offers a lock-step, planned curriculum. It is a full-time, highly intensive program with strong industry interaction. The goal of this program is to provide students a comprehensive knowledge about business and help develop the capability of dealing with real business situations. The program will not only expose students to explicit knowledge about various aspects of business, but also help translate this into tacit knowledge and capability. The goals are achieved through a learning environment that relies heavily on experiential learning, teamwork and strong industry interaction. The aim is to develop and nurture future managers and business leaders who are change agents, and create value by integrating diverse resources, knowledge and capabilities.

Procedures for applying

Students may enter the master's degree programs at the beginning of any term/semester or summer sessions. Applicants should complete the requirements listed below and meet the deadlines set forth in "Admission deadlines" on the G. Brint Ryan College of Business page. Students applying to programs taught in an accelerated format may also apply for October or March start dates.

1. Obtain admission to the university and the Toulouse Graduate School by filing the following items with the Toulouse Graduate School:

    a) complete official transcripts of college and university credits;

    b) online application for admission to the Toulouse Graduate School; and

    c) payment of online application fee.

Applicants whose native language is not English must either present a score of at least 550 (paper version) or 213 (computer version) or 79 (Internet version) on the Test of English as a Foreign Language or be a graduate of a college or university in the United States.

2. The following additional admission materials are submitted to the CoB Graduate Programs Office:

    a) results of the Graduate Management Admission Test or Graduate Record Examination (please allow three to four weeks for the test to be received by the graduate school.)

    b) three letters of recommendation;

    c) resume (work/academic experience); and

    d) personal interview.

A GMAT/GRE waiver will be considered for the following:

- 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 3.5 or higher on the master's degree.
- A waiver of the GMAT/GRE will be considered for UNT Honors College graduates with a cumulative GPA of 3.5 or higher.
- A waiver of the GMAT/GRE will be considered for students with a bachelor's degree from a regionally accredited institution, or its equivalent, with a cumulative, or last 60 hour, GPA of 3.5 or higher.

Applications forwarded by the Toulouse Graduate School cannot be considered until the above information is submitted.

Applications and supporting documentation will be reviewed using a holistic approach by the CoB admission committee. The Graduate Programs Office will notify applicants of their status once the information has been reviewed. Applicants may also check the status by visiting my.unt.edu.

Degree requirements

Course requirements for the MBA with a major in management include the MBA core courses and 18 hours of courses in the major.

Background requirements

A bachelor's degree from an accredited institution and admission to the Toulouse Graduate School are needed for graduate standing.

Students may have acquired this background in their undergraduate programs by the completion of courses equivalent in content to UNT's business foundation requirements for the bachelor's degree in business administration. In addition, students are required to have a working knowledge of computer-based business tools. The College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial and Managerial Accounting, Business Information Systems, Statistics, Business Law, Finance, Marketing, Micro and Macro Economics, Operations Management and Calculus. Deficiencies can be completed via traditional academic coursework or through Ivy Software and Responsive.net. Ivy Software and Responsive.net deliver self-paced

online learning modules that provide the needed background content without the need to formally enrolling in courses at UNT. For more information go to cob.unt.edu/background.

Additional requirements

The nature of the MBA program requires that the student possess a proficiency in computer skills, including word processing, spreadsheet and database software. Finally, the program requires students to possess communication skills that allow one to identify relevant information and, in turn, to provide that information to others in written or verbal format. It is the student's responsibility to acquire these competencies prior to taking courses in the program of study. These competencies will be assumed. However, the departmental advisors will recommend courses for students not possessing these competencies.

Additional advanced undergraduate courses in the proposed major field may be required as prerequisite work of students who have a different specialization at the undergraduate level or who hold a bachelor's degree in some area other than business.

Background requirements must be removed prior to enrollment in courses that count as part of the 36 semester hours required for a master's degree, unless the consent of the departmental advisor is first obtained.

MBA core courses, 18 hours

- ACCT 5130 - Accounting for Management
- BUSI 5190 - Administrative Strategy
- DSCI 5180 - Introduction to the Business Decision Process
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MKTG 5150 - Marketing Management

Major course work, 18 hours

- DSCI 5240 - Data Mining and Machine Learning for Business
- MGMT 5660 - International Management
- MGMT 5710 - Seminar in Business Ethics and Social Responsibility
- MGMT 5760 - Strategic Management
- MGMT 5870 - Leadership Research and Development
- MGMT 5900 - Special Problems

Sport Entertainment Management, MBA

ADMISSION:

STEP 1: Apply to the University of North Texas Toulouse Graduate School.

- Complete and Submit your Application: Please complete the Texas Common Application at www.applytexas.org. The application fee is $75.
- 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 must arrive by the application deadline. Contact the colleges and universities you have attended about their processes for providing official transcripts. The transcripts must show you have earned a bachelor's degree from a regionally accredited institution (or equivalent).
    - By U.S. Postal Service:
      Toulouse Graduate School
      1155 Union Circle #305459
      Denton, TX 76203-5017

- By UPS/FedEx:
  Toulouse Graduate School
  1147 Union Circle, ESSC 354
  Denton, TX 76203-5459

For additional information regarding international student credential requirements click here cob.unt.edu/masters/admission/international-admissions

STEP 2: Submit Materials to the G. Brint Ryan College of Business

- Submit Essay. Essay should consist of unique events, life experiences, and qualifications that you feel distinguish your candidacy and will add to the value of the class. This should not exceed 600 to 700 words.
- Submit Resume. The G. Brint Ryan College of Business requires submission of a standard resume detailing work and academic experience.
- Submit Three (3) Letters of Recommendation. Recommendations must be signed, dated, and submitted on company or university letterhead. Alternatively, recommendation forms can be downloaded or picked up in BLB 201. 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.
- Submit Official GMAT/GRE Scores. GMAT Scores may be waived at the discretion of the department based on GPA or work experience in the Sport Entertainment Industry. Contact the Graduate Programs Office for additional information regarding GMAT/GRE Waiver qualifications.

Submit the above documentation to:

- G. Brint Ryan College of Business
  Graduate Programs Office
  1155 Union Circle #311160, Denton, TX 76203-5017 (USPS)
  1307 W. Highland St. Room 201, Denton, TX 76201 (UPS/FedEx)
  Email: mbacob@unt.edu
  Phone: 940.369.8977
  Fax: 940.369.8978

Background courses:

The College of Business Graduate Programs Office works with students to determine if background deficiency courses will be necessary. Background content might include Financial and Managerial Accounting, Business Information Systems, Statistics, Business Law, Finance, Marketing, Micro and Macro Economics, Operations Management and Calculus. Deficiencies can be completed via traditional academic coursework or through Ivy Software and Responsive.net. Ivy Software and Responsive.net deliver self-paced online learning modules that provide the needed background content without the need to formally enroll in courses at UNT. For more information go to cob.unt.edu/background.

Required courses:

- ACCT 5130 - Accounting for Management
- BUSI 5190 - Administrative Strategy
- DSCI 5180 - Introduction to the Business Decision Process
- DSCI 5240 - Data Mining and Machine Learning for Business
- FINA 5170 - Financial Management
- MGMT 5140 - Organizational Behavior and Analysis
- MKTG 5150 - Marketing Management
- MKTG 5261 - Corporate Partnerships in the Sport Entertainment Industry
- MGMT 5401 - Talent Management in the Sport Entertainment Industry
- MGMT 5490 - Consulting in the Sport Entertainment Industry
- RESM 5530 - Sport Law and Risk Management
- RESM 5600 - Sport in the Global Marketplace

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Department of Marketing, Logistics and Operations Management

Main Departmental Office
Business Leadership Building, Room 215

Mailing address:
1155 Union Circle #311396
Denton, TX 76203-5017
940-565-3120

Web site: www.cob.unt.edu/mktg

Jeff Ogden, 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 Lockheed Martin Aeronautics Company, Texas Logistics Education Foundation, Texas Motor Transportation Association, DHL, IBM, and Edventure Partners/General Motors Marketing Internship Program.

Degree programs

The college offers a Master of Business Administration with a major in business administration and concentrations in marketing, marketing analytics, supply chain management, supply chain analytics and in logistics and supply chain management.

The college offers a Doctor of Philosophy with a major in business and concentrations in marketing and logistics systems.

Minimum admission standards are established by the graduate faculty of the College of Business and the Department of Marketing, Logistics and Operations Management. Satisfaction of the minimum standards does not guarantee admission to a degree program. The graduate faculty of the marketing and logistics department have established additional requirements specific to the academic programs within the department.

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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
Gwenn Pasco, Senior Assistant Dean

Matthews Hall, Room 105
940-565-2736

Mailing Address:
1155 Union Circle #311337
Denton, TX 76203-5017

Web site: www.coe.unt.edu

Randy Bomer, Dean

Brian McFarlin, Associate Dean
Alexandra Leavell, Associate Dean

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 12 master's and 7 doctoral degree majors in four academic departments. These departments are Counseling and Higher Education; Educational Psychology; Kinesiology, Health Promotion and Recreation; and Teacher Education and Administration. This arrangement provides graduate students with opportunities for collaborative research and interdisciplinary course work.

Prospective graduate students 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 by the Council for the Accreditation of Educator Preparation (1140 19th St. NW, Suite 400, Washington, DC 20036; 202-223-0077; http://www.ncate.org) and 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/). The program in recreation and leisure studies is accredited by the National Recreation and Park Association/American Association of Leisure and Recreation Council on Accreditation (22377 Belmont Ridge Road, Ashburn, VA 20148; 703-858-0784).

Programs of study

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

    - Autism intervention
    - Emotional/behavioral disorders
    - Mild/moderate disabilities
- 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

Kinesiology, Health Promotion and Recreation

- Master of Science with a major in kinesiology
- Master of Science with a major in recreation, event and sport management
    - Program management
    - Sport management
- Collaborative PhDs
    - Biology-Exercise physiology
    - Educational Psychology-Psychological aspects of sport and exercise
    - Educational Psychology-Sport pedagogy

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 36 semester hours of graduate credit. Some programs require more than 36 hours. All hours must be taken at the master's level or higher (courses numbered 5000 or above if taken at UNT).
2. A checklist of the process for master's students is available in the Student Advising Office, Matthews Hall, Room 105 or at www.coe.unt.edu/sao.
3. Each program requires the completion of a core of courses that depends upon the major field.
4. For detailed degree requirements, candidates should consult the appropriate graduate program coordinator and the program web site.
5. Ordinarily the requirements for the professional certificate can be met in the master's degree program. When planning the program, students must designate any certificate they seek so appropriate courses are included.

Master's Degree in Interdisciplinary Studies

College of Education faculty members are involved in the master's degree with a major in interdisciplinary studies offered by the Toulouse Graduate School. This course of study is unrelated to the undergraduate major in interdisciplinary studies leading to initial teacher certification in grades EC–6 or 4–8. For further information about the degree, consult the Toulouse Graduate School section of this catalog.

Doctor of Philosophy and Doctor of Education

Note: Each program may have additional requirements that take precedence over the general requirements. See each program area for specific program requirements.

General requirements

1. A minimum of 90 semester hours beyond the bachelor's degree, or 60 hours beyond the master's degree, is required (see individual degrees for exact number). Course work beyond the 60-hour minimum ordinarily is required if the student changes the field of specialization when beginning doctoral study.
2. A checklist for all doctoral students is available in the Student Advising Office, Matthews Hall, Room 105 or in the Graduate Student section of www.coe.unt.edu/sao.
3. A maximum of 24 hours beyond the master's degree may be transferred from other institutions; all such credit must be earned in residence at institutions that offer the doctoral degree. Transfer credit is evaluated for quality and appropriateness for the selected major. All transfer credit must be approved by the candidate's advisory committee and by the dean of graduate studies.
4. The mere accumulation of credits does not prepare one for the doctoral degree. Emphasis is placed on the ability of the candidate to demonstrate proficiency in the major field. Leadership, overall scholastic attainment, research ability and formal examinations also are important factors in evaluating competency.
5. Candidates for doctoral degrees ordinarily are required to select a minor field. A minor is defined as graduate work completed outside the student's major department or school; however, minors may not be required on certain graduate degrees. Consult subsequent sections of this publication for specific program regulations governing the degree sought.
6. PhD programs prepare candidates for positions in universities and for community and corporate environments. EdD programs prepare candidates for leadership positions in fields of educational practice and service. Consult the doctoral programs listed within each department for specific definitions and requirements.

Admission requirements

1. Requirements for full graduate standing are substantially the same as those established for the university, described in the Admission section of this catalog. Admission to the individual program is done through a holistic review of the application portfolio of each candidate.
2. For degrees with an admission exam, apply for the admission examination prior to completion of 12 semester hours. All applications are available at the departmental web sites.
3. Complete other program requirements of the major area department.
4. Meet with the appropriate graduate program coordinator to request an advisory committee, subject to approval by the College of Education and the dean of graduate studies.
5. Prepare and follow a degree plan with the aid of the advisory committee, to be approved by the advisory committee and dean of graduate studies.

Residency

See "Residence requirement" in the Doctoral degree requirements section.

Qualifying examinations

1. **Written qualifying examination**. During the final term/semester of course work and upon completion of all the previously stated requirements, most doctoral students must pass a written qualifying examination. The examination covers the major, minor, educational research and statistics, and related fields. Students must have completed EPSY 6010 and EPSY 6020 or equivalent prior to taking the examination.
2. **Oral qualifying examination**. The primary purpose is to ensure an adequate evaluation of the student's knowledge in the major and minor fields. This examination is conducted by the advisory committee.

Students who pass the qualifying examinations are eligible to continue as candidates for the doctoral degree. Less than satisfactory performance on any one or more phases of the qualifying examinations may result in modification of the degree program, repetition of one or more portions of the examinations, or termination of candidacy for the doctoral degree.

Admission to candidacy

Admission to candidacy is granted by the dean of the Toulouse Graduate School after satisfactory completion of all the above listed requirements.

Dissertation proposal and defense

Upon admission to candidacy and with approval of the advisory committee and at least 10 days after completion of the oral examination, the candidate presents the dissertation proposal to the committee. The application and procedures for scheduling the defense are available in the Student Advising Office, Matthews Hall, Room 105 and in the Graduate Student section of www.coe.unt.edu/sao.

Approval of data collection methods

Prior to initiating collection of any data, the candidate is required to obtain the necessary approval(s) of the appropriate university committee(s) regarding the use of human subjects and/or use of university computing services. Candidates may obtain the necessary forms to request approval from their departmental office or major professor.

Dissertation

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)
- Gifted and Talented Supplemental (Grades NA)
- 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

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.

Administration certification, principal as instructional leader

- A master's degree.
- Current Texas teacher certificate.
- Two or more years of creditable classroom teaching experience completed before new certification application is made to apply for Texas Principal Certification.

Administration, principal as instructional leader, 21 hours

- EDLE 5390 - Campus-Level School Law
- EDLE 5400 - Management of School Resources
- EDLE 5500 - Internship in Educational Administration
- EDLE 5610 - School Communications and Public Relations
- EDLE 5620 - Administration and Leadership for Student Educational Services
- EDLE 5650 - Professional Development and Supervision
- EDLE 5680 - Administration of the K–12 Curriculum

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

- The principal or mid-management certificate.

Educational administration:

- EDLE 6033 - Internship Under School Superintendent
- EDLE 6110 - Advanced Theory and Research in Administration
- EDLE 6510 - Seminar in Advanced Education Law
- EDLE 6570 - Seminar in Advanced Educational Finance
- EDLE 6590 - The Superintendency

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 mathe 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 by the end of the first term/semester of enrollment. See specific program requirements for any differences.

Certification

1. Completion of all courses including field experience (early field experience/student teaching/practicum); see individual plans for details.
2. Passing scores on the appropriate Pedagogy and Professional Responsibilities (PPR) and the appropriate teaching field(s) subtest of the TExES examinations.
3. Making application, fulfilling all state requirements, and paying fees to SBEC for teacher certification.

Program-specific requirements

Candidates must meet the program requirements for the specific teacher certification option selected. Requirements completed as part of the undergraduate degree may be counted toward initial teacher certification, when applicable, but not toward a graduate degree. Students may use up to 12 graduate semester credit hours taken while in non-degree, certification-only status toward certain graduate degrees. Students must consult with a faculty program coordinator prior to enrolling in classes. Performance requirements to remain in a program may vary. See program advisor for details.

All-level special education (Project IMPACT)

- Bachelor's degree.
- Successfully complete a pre-admission interview with IMPACT faculty and written agreement to abide by IMPACT policies and procedures.

Special education, 18 hours

- EDSP 5240 - Collaboration with Parents, Paraeducators and Professionals
- EDSP 5510 - Educational Appraisal of Exceptional Learners
- EDSP 5710 - Special Education Programs and Practices
- EDSP 5730 - Educational Aspects of Students with Mild to Moderate Disabilities
- EDSP 5740 - Learning Strategies for Promoting Proficiency in Reading and Language Arts for Exceptional Learners
- EDSP 5750 - Learning Strategies for Promoting Proficiency in Math and Content Area Subjects for Exceptional Learners

Practicum, 6 hours

Proof of employment on a Probationary Teaching Certificate by a school district for the period of the practicum, EDSP 5430 (taken once in fall and once in the spring of the year of employment).

Disclosures

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

EC-6 Generalist Bilingual teacher certification

Routes to certification for graduate students

Initial certification without an advanced degree

Admission

Some certification plans have additional or alternative program-specific requirements.

1. A bachelor's degree from an accredited institution of higher education, with an undergraduate GPA of 2.8 overall or 3.0 in the last 60 hours.
2. Admission to the Toulouse Graduate School as a non-degree-seeking, certification-only student. Students who are not U.S. citizens or U.S. permanent residents must meet the "Admission Requirements for International Students" printed in the Admission section of this catalog.
3. Acceptable 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 mathe 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 by the end of the first term/semester of enrollment. See specific program requirements for any differences.

Certification

1. Completion of all courses including field experience (early field experience/student teaching/practicum); see individual plans for details.
2. Passing scores on the appropriate Pedagogy and Professional Responsibilities (PPR) and the appropriate teaching field(s) subtest of the TExES examinations.
3. Making application, fulfilling all state requirements, and paying fees to SBEC for teacher certification.

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 - Everyone Can Learn: 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 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 mathe 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 by the end of the first term/semester of enrollment. See specific program requirements for any differences.

Certification

1. Completion of all courses including field experience (early field experience/student teaching/practicum); see individual plans for details.
2. Passing scores on the appropriate Pedagogy and Professional Responsibilities (PPR) and the appropriate teaching field(s) subtest of the TExES examinations.
3. Making application, fulfilling all state requirements, and paying fees to SBEC for teacher certification.

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 - Everyone Can Learn: 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)

- Current Texas special education teaching certification earned through university course work.
- A master's degree.
- Special education (variable hours): All courses required for Educational Diagnostician certification with master's degree. An audit of transcripts is conducted to determine which courses have been taken and passed already and which are needed as part of this plan.
- Three years of appropriate teaching experience in special education by time of program completion.

Gifted and Talented (all-level) supplemental certification

Advanced or supplemental certification without an advanced degree

These certificates are available as additional content areas for those who hold a valid Teacher Certificate. Candidates must meet the following requirements prior to being recommended for the certificate.

1. Completion of all courses including field experience if one is required (student teaching/practicum/mentorship). See individual plans for details.
2. Passing scores on the appropriate TExES examination.
3. Making application, fulfilling all state requirements, and paying fees to SBEC for the advanced or supplemental certification.

Program specific requirements

Candidates must meet the program requirements for the specific advanced or supplemental certification option selected. Students may later use up to 12 graduate semester credit hours taken while in non-degree, certification-only status toward a graduate degree. Acceptance of the hours requires program approval. Students must consult with a faculty program coordinator prior to enrolling in classes.

Requirements

- Bachelor's degree.
- Current Texas teacher certificate.

Required courses

- EPSY 5105 - Nature and Needs of the Gifted and Talented Student (Successfully completing this course also earns the Texas Association for the Gifted and Talented 45-clock-hour Awareness Certificate, which fulfills the TEA requirement for teaching gifted and talented.)
- EPSY 5110 - Social and Emotional Components of Giftedness
- EPSY 5120 - Program Planning for the Education of Gifted and Talented Students
- EPSY 5130 - Methods and Curriculum for Teaching Gifted and Talented Students

Mathematics Education 4–8 (initial certification without an advanced degree)

Admission requirements

1. Bachelor's degree from an accredited institution of higher education, with an undergraduate GPA of 2.8 overall or 3.0 in the last 60 hours. (GPA based on a 4.0 scale.)
2. Passing scores on the 4–8 Mathematics Pre-admission Content Test (PACT)

Program requirements

Teacher education courses, 12 hours

- EDCI 5010 - Everyone Can Learn: Applying Theory to Teaching Practice
- EDCI 5030 - Maintaining Classroom Discipline
- EDCI 5860 - Instructional Methodologies in Mathematics and Science
- EDSE 5004 - Literacy for All

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

- Master’s degree.
- Current Texas teacher certificate.
- Two years of creditable classroom teaching experience.

Administration

- EDLE 5300 - Introduction to Educational Administration
- EDLE 5330 - Instructional Leadership
- EDLE 5390 - Campus-Level School Law
- EDLE 5400 - Management of School Resources

School Counseling (elementary or secondary) teacher certification

School counseling (elementary or secondary)

- A master’s degree
- Current Texas teacher certificate
- Two years of teaching experience in a TEA-accredited school
- Admission to counseling program

Elementary school counseling

- COUN 5460 - Program Development, Leadership and Ethics in School Counseling
- COUN 5470 - Career Development and Information Resources
- COUN 5660 - Advanced Counseling Skills
- COUN 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 Development and Information Resources
- 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 2.8 overall or 3.0 in the last 60 hours. (GPA based on a 4.0 scale.)
2. Passing score on the 4–8 Science Pre-admission Content Test (PACT).

Program requirements

Teacher education courses, 12 hours

- EDCI 5010 - Everyone Can Learn: Applying Theory to Teaching Practice
- EDSE 5004 - Literacy for All
- EDCI 5030 - Maintaining Classroom Discipline
- EDCI 5860 - Instructional Methodologies in Mathematics and Science

Secondary teaching or practicum, 6 hours

Either student teaching EDEE 5103 and EDEE 5104 (taken concurrently) or practicum for students hired as teachers of record on probationary teacher certificate, 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 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 mathe 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 by the end of the first term/semester of enrollment. See specific program requirements for any differences.

Certification

1. Completion of all courses including field experience (early field experience/student teaching/practicum); see individual plans for details.
2. Passing scores on the appropriate Pedagogy and Professional Responsibilities (PPR) and the appropriate teaching field(s) subtest of the TExES examinations.
3. Making application, fulfilling all state requirements, and paying fees to SBEC for teacher certification.

Program-specific requirements

Candidates must meet the program requirements for the specific teacher certification option selected. Requirements completed as part of the undergraduate degree may be counted toward initial teacher certification, when applicable, but not toward a graduate degree. Students may use up to 12 graduate semester credit hours taken while in non-degree, certification-only status toward certain graduate degrees. Students must consult with a faculty program coordinator prior to enrolling in classes. Performance requirements to remain in a program may vary. See program advisor for details.

Secondary Education

- Bachelor's degree with at least 24 hours in the content area for which certification is desired. Twelve of these hours must be upper level. Applicants must have a 2.8 GPA or better in the content area.
- Teaching field: No additional courses if student passes the TExES content exam for the area in which certification is sought. This test is taken in the first term/semester of course work. If the student does not pass this exam, additional course work is required.

Teacher education (online courses)

- EDCI 5010 - Everyone Can Learn: Applying Theory to Teaching Practice
- EDCI 5020 - Curriculum Development for Culturally Diverse Learners
- EDCI 5030 - Maintaining Classroom Discipline
- EDSE 5004 - Literacy for All

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).

Disclosures

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

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Faculty

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The Department of Counseling and Higher Education provides programs designed to prepare professionals for leadership positions in schools, colleges, universities and the public sector.

Counseling offers graduate programs leading to the Master of Education, the Master of Science and the Doctor of Philosophy, all with a major in counseling.

These programs are designed for people who wish to become professional counselors and/or counselor educators and supervisors in schools, colleges, universities and community agencies or to become student services professionals.

The Council for Accreditation of Counseling and Related Educational Programs (CACREP) (1001 North Fairfax Street, Suite 510, Alexandria, VA 22314; 703-535-5990), a specialized accrediting body recognized by the Council 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; accredited as same), elementary and secondary school counseling (MEd, MS; accredited as school counseling), and the PhD program in counseling (accredited as counselor education and supervision). All accreditations are effective through March 2019.

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 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. Certification also requires at least two years of teaching experience in an accredited school.

Master's Degree

Counseling, MEd

Admission requirements

Admission to the master's degree programs in counseling is competitive because available facilities do not permit admission of all qualified applicants.

Admission to the master's program in counseling is a three-stage process.

First, the student must be admitted to the Toulouse Graduate School. The general requirements for admission are specified in the College of Education section in this catalog. Second, applicants must submit a satisfactory GPA and scores on the Graduate Record Examination (GRE) to the Toulouse Graduate School prior to admission to the counseling program. Third, applicants must submit to the counseling program a counseling program application, three letters of recommendation (completed on special forms provided by the program), a writing sample, submission of GRE scores and any other program-specific admission materials. Contact the academic program for information concerning acceptable admission test scores.

All required admission materials must be filed in the program office by March 15 preceding the fall term/semester or October 15 preceding the spring term/semester, for which the applicant wishes to begin the program. Shortly after the application deadline, each applicant is required to participate in an orientation and interview session.

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 are required to enroll in COUN 5710 during the first term/semester of enrollment in graduate school and must receive a grade of B or higher. Concurrent enrollment in COUN 5680 and COUN 5710 is encouraged.

Students must 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 5460 - Program Development, Leadership and Ethics in School Counseling
- COUN 5470 - Career Development and Information Resources
- 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
- COUN 5290 - Ethical, Legal and Professional Issues in Clinical Mental Health Counseling
- COUN 5480 - Diagnosis and Treatment Planning in Counseling
- COUN 5610 - Addiction Counseling

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.

Admission to the master's program in counseling is a three-stage process.

First, the student must be admitted to the Toulouse Graduate School. The general requirements for admission are specified in the College of Education section in this catalog. Second, applicants must submit a satisfactory GPA and scores on the Graduate Record Examination (GRE) to the Toulouse Graduate School prior to admission to the counseling program. Third, applicants must submit to the counseling program a counseling program application, three letters of recommendation (completed on special forms provided by the program), a writing sample, submission of GRE scores and any other program-specific admission materials. Contact the academic program for information concerning acceptable admission test scores.

All required admission materials must be filed in the program office by March 15 preceding the fall term/semester or October 15 preceding the spring term/semester, for which the applicant wishes to begin the program. Shortly after the application deadline, each applicant is required to participate in an orientation and interview session.

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 are required to enroll in COUN 5710 during the first term/semester of enrollment in graduate school and must receive a grade of B or higher. Concurrent enrollment in COUN 5680 and COUN 5710 is encouraged. Students must 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 comprehensive examination (written, oral or both) 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 supervisor and must be approved by the program.

All degree program areas listed below meet the educational requirements for licensure as a professional counselor in Texas. The K-12 school counseling program areas meet the educational requirements for certification as a public school counselor in Texas. Students who wish to become licensed professional counselors or certified school counselors in Texas are required to have specified supervised experiences. Counseling program area heads should be consulted for details. 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 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 Development and Information Resources
- 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 Development and Information Resources
- 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 1,000 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, 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.

The standard master's degree in higher education allows the student to specialize in one of three tracks: student affairs, community college leadership, or general administration. The online option allows students to complete their degree fully online. The master's cohort program in college student personnel focuses on student affairs and includes immediate consideration for a graduate assistant position in student affairs or a related area.

Admission Requirements

Student's seeking admission to the master's program in higher education should submit the following items to the UNT Toulouse Graduate School:

1. UNT Toulouse Graduate School application form;
2. official transcripts from all colleges and universities attended;
3. official GRE or GMAT scores no older than five years (GRE/GMAT requirement is waived for applicants whose undergraduate GPA is 3.3 or higher);

The following materials must be submitted to the Higher Education Program Office:

1. three recommendation forms, including at least one from a faculty member with whom the student has studied or conducted research;
2. a curriculum vitae or resume; and
3. 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 (GRE/GMAT requirement is waived for applicants whose undergraduate GPA is 3.3 or higher);
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 on-campus 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

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
- 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
- EPSY 5050 - Foundations of Educational Research Methodology
- EDHE 6850 - Studies in Higher/Adult Education

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 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
- EPSY 5050 - Foundations of Educational Research Methodology
- EDHE 6850 - Studies in Higher/Adult Education
- EDHE 5620 - Student Risk Management in Higher Education

Master of Education (online)

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 (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
- 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's Cohort 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
- EDHE 6710 - Organization and Administration of Higher Education

Year 1 Spring Semester

- EDHE 5120 - Student Development Programming Administration
- EPSY 5210 - Educational Statistics
- EDHE 5220 - Cultural Pluralism in 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

Counseling, PhD

Admission requirements

Applicants to the doctoral program must meet requirements for admission to the Toulouse Graduate School. The general requirements for admission are described in the College of Education section.

A completed application for admission to the doctoral program, including the names of three professional references, must be submitted to the program.

Applicants must submit evidence of holding a master's degree from an accredited college or university and have a grade point average of 3.5 or higher on all graduate credit hours. Applicants are expected to meet requirements of a CACREP-accredited master's degree in counseling. Applicants who do not meet this criterion must complete deficiency course work to meet CACREP-equivalent standards. Applicants must submit GRE scores and any program-specific admission materials. Contact the academic program for information concerning holistic admissions process including possible deficiency course work.

The admission examination and interview process for the counseling program are administered once each year early in the spring term/semester for acceptance to the doctoral program cohort for the fall semester. All required admission materials must be filed in the program office by the deadline indicated on the department web site, usually November 30. 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 counseling 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 will recommend that the student continue or continue with specific conditions attached, 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.

Degree requirements

The Doctor of Philosophy degree in counseling 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 Counseling 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 counseling, UNT requires that all doctoral students satisfy a 9-hour tool requirement. The tool-subject area is determined by program areas. For students pursuing a PhD in counseling, the required tool subject is 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 counseling. Students are required to meet the UNT doctoral residence requirement during fall and spring semester of their first year of doctoral study. The Counseling Doctoral Program Handbook provides specific details regarding course work requirements, mandatory clinical experiences, and additional professional experiences required in fulfillment of the counseling doctoral portfolio. Students are expected to pursue Texas counselor licensure while enrolled in the doctoral program.

Higher Education, EdD

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, 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 organizational, behavioral and learning theories applicable to higher education; to conduct applied and/or original research in the field of higher education; to become familiar with past, present and emerging patterns of organization and professional administrative practice in higher education; and to observe and participate in the actual practice of higher education administration and/or research. However, the two programs differ significantly in length and emphasis and in course work, research tool, minor field and dissertation requirements.

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.

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;
- 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. 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 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 and are in the last 9 hours or less of course work (exclusive of dissertation) and will complete these hours in the current semester 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 organizational, behavioral and learning theories applicable to higher education; to conduct applied and/or original research in the field of higher education; to become familiar with past, present and emerging patterns of organization and professional administrative practice in higher education; and to observe and participate in the actual practice of higher education administration and/or research. However, the two programs differ significantly in length and emphasis and in course work, research tool, minor field and dissertation requirements.

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.
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;
- 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 and are in the last 9 hours or less of course work (exclusive of dissertation) and will complete these hours in the current semester 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: you 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 6060 - History and Philosophy of the Community College
- EDHE 6065 - Community College Administration
- EDHE 6070 - The Effective College Instructor
- EDHE 6075 - Economic Development and Higher Education
- EDHE 6080 - Community College Leadership
- EDHE 6085 - Contemporary Issues in the Community College

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Department of Educational Psychology

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Matthews Hall, 316

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1155 Union Circle #311335
Denton, TX 76203-5017
940-565-2093

Web site: www.coe.unt.edu/educational-psychology

Robin K. Henson, 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; sport pedagogy and motor behavior; and sport psychology.

Certification and degree programs in the department focus on such areas as non-traditional education, research and evaluation design, special education, gifted education, human development and family 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; statistics and measurement.

Grants and Assistantships

The department has a limited number of competitive assistantship positions for which newly admitted 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 your experiences). While on an assistantship, students are required to be enrolled full-time (9 credit hours each fall and spring) and have no additional employment.

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. 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; sport pedagogy and motor behavior; and psychosocial aspects of sport and exercise.

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.

Applicants must also meet requirements for admission to the Toulouse Graduate School. For admission to any of the programs in this department, the applicant should submit all required materials to the department. Please contact the EPSY Coordinator of Graduate Admissions for details.

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. 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

Applying to a graduate program in the Department of Educational Psychology is a two-step process.

Step 1: Toulouse Graduate School application

Apply through the Toulouse Graduate School at www.applytexas.org. See the Admission section of this catalog for Toulouse Graduate School application and admission requirements, or go to the graduate school web site at tgs.unt.edu/future-students/graduate-admissions.

Step 2: Departmental application requirements

1. Two or more written letters of recommendation. These letters should be sent from the reference, signed and on official letterhead. Academic references are strongly preferred and should be in an appropriate position to make recommendation (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. [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.
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

Applying to a graduate program in the Department of Educational Psychology is a two-step process.

Step 1: Toulouse Graduate School application

Apply through the Toulouse Graduate School at www.applytexas.org. See the Admission section of this catalog for Toulouse Graduate School application and admission requirements, or go to the graduate school web site at tgs.unt.edu/future-students/graduate-admissions.

Step 2: Departmental application requirements

1. Two or more written letters of recommendation. These letters should be sent from the reference, signed and on official letterhead. Academic references are strongly preferred and should be in an appropriate position to make recommendation (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

Course selection made with advisor's approval.

- EDSP 5240 - Collaboration with Parents, Paraeducators and Professionals
- EDSP 5330 - Classroom and Behavior Management Strategies for Exceptional Learners

- 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 5670 - Teaching Social Skills to Children and Youth with Disabilities
- 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 5670 - Teaching Social Skills to Children and Youth with Disabilities
- 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
- One special education elective course with advisor's approval

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 5600 - Characteristics of Children/Youth with Emotional and Behavioral Disorders
  or
- EDSP 5670 - Teaching Social Skills to Children and Youth with Disabilities

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

Completion of master's comprehensive exam

Doctorate

Educational Psychology, PhD

Admission is selective and restricted. Applicants are considered throughout the year.

Applicants must meet requirements for admission to the Toulouse Graduate School.

Admission process/requirements for master's and doctoral applications

Applying to a graduate program in the Department of Educational Psychology is a two-step process.

Step 1: Toulouse Graduate School application

Apply through the Toulouse Graduate School at www.applytexas.org. See the Admission section of this catalog for Toulouse Graduate School application and admission requirements, or go to the graduate school web site at tgs.unt.edu/future-students/graduate-admissions.

All requirements, including GPA, must be met before the department can begin reviewing an application.

Step 2: Departmental application requirements

1. Submission of official GRE scores is required: verbal, quantitative and analytical writing sections. 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 book stores. Current UNT students can also participate in exam preparation workshops through the Learning Center.
2. Three or more written letters of recommendation. These letters should be sent from the reference, signed and on official letterhead. Academic references are strongly preferred and should be in an appropriate position to make recommendation (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
- 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 6230 - Theory and Application of Hierarchical Linear Modeling
- EPSY 6280 - Qualitative Research in Education
- EPSY 6290 - Multivariate Statistics in Education

Concentration, 21 hours

Select one of the following:

Research, measurement and statistics

- EPSY 6005 - Statistical Theory and Simulations
- EPSY 6240 - Technology in Research
- EPSY 6250 - Item Response Theory
- EPSY 6270 - Structural Equation Modeling
- plus 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

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

Applying to a graduate program in the Department of Educational Psychology is a two-step process.

Step 1: Toulouse Graduate School application

Apply through the Toulouse Graduate School at www.applytexas.org. See the Admission section of this catalog for Toulouse Graduate School application and admission requirements, or go to the graduate school web site at tgs.unt.edu/future-students/graduate-admissions.

All requirements, including GPA, must be met before the department can begin reviewing an application.

Step 2: Departmental application requirements

1. Submission of official GRE scores is required: verbal, quantitative and analytical writing sections. 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 book stores. Current UNT students can also participate in exam preparation workshops through the Learning Center.
2. Three or more written letters of recommendation. These letters should be sent from the reference, signed and on official letterhead. Academic references are strongly preferred and should be in an appropriate position to make recommendation (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 in one of the following two concentrations:

- Developmental Disabilities and Autism Concentration
- Learning Disabilities and Behavior Disorders

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, 21 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 6120 - Advanced Program Evaluation
- EPSY 6122 - Single-Subject Research Methodology
- EDSP 6295 - Seminar in Professional Leadership in Special Education
- One elective with advisor's approval (3 hours).

One of the following concentrations, 9 hours

Developmental disabilities and autism spectrum disorders

- EDSP 6520 - Biomedical Aspects of Autism
- EDSP 6530 - Advanced Studies in Autism
- One elective course with advisor's approval (3 hours).

Learning disability and behavior disorders concentration

- EDSP 6420 - Advanced Studies in Learning Disabilities and Emotional/Behavior Disorders
- EDSP 6430 - Literacy Research for Special Populations
- One elective course with advisor's approval (3 hours).

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 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

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Department of Kinesiology, Health Promotion and Recreation

Main Office
Physical Education Building, Room 209

Mailing address:
1155 Union Circle #310769
Denton, TX 76203-5017
940-565-2651

Web site: www.coe.unt.edu/khpr

Jakob Vingren, Chair

Faculty

The Department of Kinesiology, Health Promotion and Recreation offers graduate programs leading to the Master of Science with majors in kinesiology and in recreation, event and sport management.

The Department of Biology, in conjunction with the Department of Kinesiology, Health Promotion and Recreation, offers a PhD with a major in biology and concentration in exercise physiology.

The Department of Educational Psychology, in conjunction with the Department of Kinesiology, Health Promotion and Recreation, offers a PhD with a major in educational psychology and a concentration in psychosocial aspects of sport and exercise and a PhD with a major in educational psychology and a concentration in sport pedagogy.

The Department of Counseling and Higher Education, in conjunction with the Department of Kinesiology, Health Promotion and Recreation, offers a PhD with a cognate area in recreatoin, event and sport management.

The degrees offered and the career opportunities afforded by the degree programs are outlined in the program descriptions below.

Kinesiology, MS

Admission requirements

Applicants for admission into the department's graduate program are expected to have the following qualifications to obtain unconditional admission:

1. Bachelor's degree from an accredited college or university.
2. Candidates must meet minimum master's admissions requirements to the Toulouse Graduate School.
3. Minimum undergraduate grade point average (GPA) of 3.0 overall or a 3.25 for the last 60 hours or a minimum 3.4 master's GPA.
4. A typed candidate statement which includes the candidate's purpose in pursuing graduate study at the University of North Texas, career objectives, goals and a discussion of the candidate's particular interest area.

Recreation, Event and Sport Management, MS

Admission requirements

Applicants for admission into the department's graduate program are expected to have the following qualifications to obtain unconditional admission:

1. Bachelor's degree from an accredited college or university.
2. Candidates must meet minimum master's admissions requirements to the Toulouse Graduate School.
3. Minimum undergraduate grade point average (GPA) of 2.8 overall or a 3.0 for the last 60 hours or a minimum 3.4 master's GPA. A lower GPA (2.6 overall or 2.8 in the last 60 hours) may be considered on an individual basis at the departmental level along with other factors (e.g., undergraduate academic institution, course work listed on the student's transcript, completion of a previous master's degree).
4. Submission of verbal, quantitative and analytical writing GRE scores are required. Miller Analogies Test (MAT) or Graduate Management Admissions Test (GMAT) scores can be substituted for the GRE. The program views high test scores as a predictor of future success. Lower test scores will be considered if other criteria indicate ability to be successful in the program.
5. A typed, 300-word candidate's statement which includes the candidate's purpose in pursuing graduate study at the University of North Texas, career objectives, goals and a discussion of the candidate's particular interest area.

Individual programs may have additional requirements. Applicants should contact the program for details.

Center for Sport Psychology (CSP)

The CSP is a multidisciplinary center devoted to offering sport psychology interventions, research and training. The center combines the expertise of faculty in psychology and kinesiology to produce the most comprehensive and state-of-the-art sport psychology services available.

Master's Degree

Kinesiology, MS

The primary purposes of the program in kinesiology are to provide students with an understanding of basic research methodology; to acquaint students with the professional literature, trends and research being conducted in kinesiology; and to enable students to develop a concentration in exercise physiology, sport and exercise psychology, sport pedagogy/physical education, or sport pedagogy with physical education certification.

Career opportunities for graduates are generally found in the private sector with health clubs, wellness centers, corporations, rehabilitation centers, athletic groups and other private groups; or within the teaching profession as teachers, coaches, athletic trainers and administrators.

Research

Examples of current research projects include the study of physical activity; social and psychological factors associated with physical fitness and body composition; effective coaching behavior; mental skills related to performance success; physiology of resistance exercise related to

hormones, nutrition, health and performance; measurement and evaluation of physical fitness; and concurrent feedback and practice organization on the learning of motor skills.

Financial support for the research programs comes from internal faculty research grants and instructional grants, as well as external funding agencies.

Degree requirements, 36 hours

The Master of Science 36-hour degree includes a 15-hour core curriculum of courses in kinesiology. The student takes 21 hours of additional course work (which may include thesis) that allow development of an interest area such as exercise physiology, sport and exercise psychology, or sport pedagogy.

Kinesiology core, 15 hours

All students will complete a 15-hour core of graduate courses in kinesiology.

- KINE 5090 - Motor Behavior
- KINE 5100 - Research Perspectives in Kinesiology, Health Promotion and Recreation
- KINE 5125 - Sport and Exercise Psychology
- KINE 5150 - Quantitative Procedures in Exercise and Sport Sciences
- KINE 5301 - Physiology of Exercise

Electives

The remaining 15–21 hours will be electives approved by the major professor with no more than 6 hours outside of KINE.

Thesis option

Thesis students will complete 6 hours of

- KINE 5950 - Master's Thesis

Non-thesis option

Master of Science candidates who select the non-thesis option are required to successfully complete a culminating experience consisting of (1) a comprehensive examination or (2) a graduate project (enroll in KINE 5910). If choosing the comprehensive examination, it must be taken after a minimum of 24 hours including all KINE core courses. A student who fails the comprehensive examination must wait until the next administration of the exam. This will delay the student’s graduation.

Recreation, Event and Sport Management, MS

The Master of Science degree program with a major in recreation, event and sport management (RESM) is designed to prepare students for management-level positions within the recreation, event and sport management industries, or for further graduate work in recreation, event, or sport.

Career opportunities include leadership and management positions in various agencies such as municipal recreation departments, not-for-profit agencies, resorts, military bases, commercial recreation enterprises, sport facilities, schools, state or federal agencies, parks, outdoor education centers, camps, YMCAs, intramural and campus recreation programs, corporations and fitness clubs, and professional and semi-professional sports organizations as well as college athletics.

Research

In their research, RESM faculty employ various methods and techniques also used in professional practice. Specific research examples include administration of leisure services, community and economic aspects of recreation and sport events, and recreation opportunities for persons with disabilities.

Financial support for research programs is generated by the faculty from internal university resources and external grants and contracts.

Degree program

The graduate program in RESM provides a 30-hour Master of Science degree.

Additional admission requirements

Applicants for admission into the RESM graduate program must submit a letter of application, current resume, one page statement of career interest and two letters of reference pertaining to the applicant's aptitude for graduate work. These materials should be sent to the RESM program coordinator.

Degree requirements

Students are required to take eight courses (24 hours) and complete a culminating experience under the supervision of an RESM graduate faculty member (6 hours).

Required courses (24 hours)

- RESM 5050 - Management of Recreation and Sport Organizations
- RESM 5100 - Survey Research Design and Analysis
- RESM 5120 - Diversity and Inclusion in Recreation, Event and Sport Management
- RESM 5510 - Revenue Generation and Sales in Sport Organizations
- RESM 5520 - Strategic Marketing for Sports and Event Organizations
- RESM 5530 - Sport Law and Risk Management
- RESM 5850 - Trends and Issues in Recreation, Event and Sport Management
- RESM 5080 - Program Design in RESM

Options under the degree

Students must complete a culminating experience under the supervision of a Graduate RESM faculty member.

Thesis option

Students selecting the thesis option will register for 6 hours of thesis credit and will complete a 6-hour minor.

- RESM 5950 - Master's Thesis

Non-thesis option

Students selecting the non-thesis option will complete one of the following:

- RESM 5860 - Practicum in Recreation, Event and Sport Management
  OR
- RESM 5900 - Special Problems in Recreation, Event and Sport Management

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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: coe.unt.edu/teacher-education-and-administration

Misty Sailors, Chair

Faculty

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

Elementary and Secondary Certification
Matthews Hall, Room 206
940-565-2920

Post Baccalaureate Certification Programs
Matthews Hall, Room 206
940-565-2920

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

The Department of Teacher Education and Administration seeks to improve educational practice through the generation of knowledge and to prepare education professionals who serve all students in an effective, inclusive and equitable manner. Its focus is on the preparation of highly competent educators, researchers and administrators who employ current theory and research as they fill these important roles. The department also provides service to educational institutions, governmental agencies and practitioners at all levels.

Master's degrees in curriculum and instruction, early childhood 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 Council for the Accreditation of Educator Preparation (CAEP) and the State Board for Educator Certification (SBEC) (1710 North Congress Avenue, 5th Floor, Austin, TX 78701; 888-863-5880). Programs are approved by and operate according to the guidelines and policies of the Texas Higher Education Coordinating Board (P.O. Box 12788, Austin, TX 78711-2788; 512-483-6101).

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.

Child Development Laboratory

The Child Development Laboratory is an accredited preschool program for young children ages 3 through 5. In addition, it serves as a model, an observation site for undergraduate and graduate students in fields related to young children. Research related to early childhood issues is conducted by graduate students and faculty members from across the university.

Admission requirements

In addition to the requirements for admission to the graduate school at the University of North Texas and the College of Education, each degree program may specify additional requirements for acceptance into programs. Please refer to the admission requirements listed for each degree program.

Admission, Review and Retention (ARR) Committee

Faculty in the Department of Teacher Education and Administration have the right and responsibility to refer a student to the departmental ARR Committee if they have a concern about the student's academic progress, behavioral characteristics or communication skills that indicate potential problems in school settings. The ARR Committee reviews referrals made by faculty and determines a course of action. The ARR Committee also reviews student appeals and determines a course of action regarding changes in the student's course of study.

Graduate scholarships and assistantships

A limited number of teaching fellowships and assistantships are available for graduate students.

These opportunities include working with professors on research grants and projects or serving as a teaching assistant, working with undergraduate students in advising and degree plans, or teaching undergraduate classes and supervising student teaching. Application is made to the department chair by letter of application and a current resume. The letter should address particular strengths and interests. The application is available online.

A limited number of doctoral fellowships are available through the Toulouse Graduate School. Applications may be obtained through that office.

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, educational leadership, and secondary education.

Certification options

The department offers several options at the graduate level leading to educator certification, including:

- MEd program in secondary education, which includes initial certification
- MEd program in elementary education, which includes initial certification
- Post-baccalaureate, non-degree programs in
    - EC–6 Core Subjects and ESL
    - EC–6 Core Subjects and Bilingual Education
    - Grades 4–8 Mathematics or Science
    - Grades 6–12 Secondary in various content areas
- Principal Certification Program, offered in conjunction with the MEd in educational 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

The Master of Education with a major in curriculum and instruction is designed to enhance the knowledge and expertise of practicing teachers, combining theoretical perspectives and research-based practice with multiple opportunities for field-based projects and action research. Its goal is to support teachers as they assume leadership roles at the campus and district levels.

The program includes course work related to curriculum and instruction in one or more academic resource areas, such as mathematics education, content area teaching, literacy education, early childhood studies, school administration, gifted and talented education, technology, diversity, English as a second language, bilingual education, counseling, and special education.

Admission requirements

The student 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

This degree requires a minimum of 30 semester credit hours.

Core courses, 12 hours

- EDCI 5130 - Schooling in a Multicultural Society
- EDCI 5320 - Curriculum Development
- EDCI 5360 - Advances in Teaching
- EDCI 5710 - Research in Classroom Settings

Specialization resource areas, 12 hours

An additional 12 hours are selected by the candidate from one of the resource areas with the approval of the departmental advisor and program coordinator.

- Bilingual education
- Diversity
- Early childhood education
- Educational leadership
- English as a second language education
- Literacy education
- Instructional technology
- Social studies education
- Mathematics education (can be used for dual credit credentialing)
- Other specializations can be requested

Electives, 6 hours

In addition, 6 hours of electives are selected from courses in curriculum and instruction, early childhood studies, literacy, bilingual education, or ESL, but students whose resource areas are in these fields may choose electives from other programs.

Note

Students will satisfactorily complete an oral comprehensive capstone presentation at the end of the program.

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 a Multicultural 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

- EPSY 5210 - Educational Statistics
- EDEC 5013 - Research Strategies in Early Childhood Education

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

A Master of Education degree program in educational leadership is available. This program leads to certification as a principal. Individuals applying to the educational leadership program must have all application materials in the program office by the following dates:

- For Summer term/semester – May 1
- For Fall term/semester – August 1
- For Spring term/semester – December 1

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, and providing evidence that he or she will be a successful educational leader in an increasingly multicultural environment. Applicant documentation should show evidence of experience with diverse learners and populations.
    - 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 - Race, Class and Gender Issues 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 5700 - Educational Leadership Applications

Additional requirements for principal as instructional leader certification

- Valid teaching certificate
- Two years of teaching experience in an accredited EC-12 school.
- EDLE 5500 - Internship in Educational Administration (required for principal as instructional leader certification)

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, 4–8 or secondary education certification tracks. Specifically, the certification programs offered are as follows: EC–6 ESL generalist, EC–6 bilingual generalist, 4–8 mathematics, 4–8 science or secondary education at the post-baccalaureate level.

The MEd with a major in teaching requires 36 semester credit hours (30 hours for secondary 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 certification,
3. 6 hours of education foundations and/or pedagogy courses, and
4. 6 hours of student teaching or internship/practicum.

Of the 36 hours required, 24 hours overlap with requirements for the EC–6 post-baccalaureate certification-only program, and 18 hours overlap with requirements for the 4–8 or secondary post-baccalaureate certification-only program.

Admission requirements

Admission requirements for the MEd with a major in teaching program with initial teacher certification include:

1. GPA of 2.8 overall or 3.0 in the last 60 hours of undergraduate course work or 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 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 - Everyone Can Learn: Applying Theory to Teaching Practice
- EDCI 5020 - Curriculum Development for Culturally Diverse Learners
- EDCI 5030 - Maintaining Classroom Discipline

- EDRE 5070 - Literacy Development for English Learners (for EC–6 certification)
  or
- EDSE 5004 - Literacy for All (for 4–8 or secondary education)

Additional required course work, 18-24 hours

Secondary certification requires 18 semester credit hours in addition to the core; all other certifications require 24 semester credit hours in addition to the core.

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 engage in educational efforts focused on social justice and equity; (4) to develop research agendas to pursue in their own professional careers; and (5) to be prepared to be leaders in research and pedagogy.

This 60 credit hour doctoral program has three concentration areas: curriculum studies, early childhood studies, and language and literacy studies.

Admission requirements

All students accepted into this doctoral program must meet admission requirements established by the Toulouse Graduate School including application form, official transcripts and test scores. Also, for admission into this program, students are expected to have competitive scores on the Graduate Record Exam (verbal, quantitative, and analytical writing); and, for applicants whose native language is not English, a score of at least 550 on the Test of English as a Foreign Language (TOEFL) is required. Applicants must provide the following to the department:

1. three letters of recommendation from individuals who can address the applicant's ability to pursue doctoral-level studies and potential for contributing to a field of study related to the degree;
2. a detailed statement of purpose describing research interests and plans and purpose for pursuing the PhD in curriculum and instruction; and
3. a curriculum vitae demonstrating prior educational and professional experience.

Decisions about admission are based on a holistic review of the information from all these sources.

Residency requirement

The doctoral degree must be completed within the time frame, guidelines and residency requirements established by the Graduate School and /or the UNT College of Education.

Curriculum and instruction core courses, 12 hours

Required of all students.

- EDUC 6040 - Traditions of Inquiry
- EDUC 6050 - Culture, Identity and Education
- EDUC 6120 - Theoretical Foundations for Educational Studies
- EDUC 6220 - Issues of Educational Law and Policy

Research courses, 15 hours

The required research courses (9 hours) provide a foundation in research approaches that are considered quantitative and those considered qualitative.

- EPSY 6010 - Statistics for Educational Research
- EPSY 6020 - Research Methods in Education

- EDCI 6280 - Qualitative Research in Education
  or
- EPSY 6280 - Qualitative Research in Education

Two additional courses

Within the research area, the student experiences some flexibility and has some choice for the additional two courses (6 hours) that are most relevant to the research that he or she intends to do.

Concentration courses, 18 hours

In each concentration area there are four mandatory courses (12 hours) in that concentration plus two courses (6 hours) relevant to the student's interests and goals that will be selected by the student and advisor.

Curriculum studies

- EDCI 6220 - Conceptual Models of Curriculum Development
- EDCI 6230 - Implementation and Evaluation of Curriculum
- EDCI 6340 - Conceptual Models of Learning and Instruction
- EDCI 6360 - Critical Issues in Curriculum Studies
- Two additional courses selected by the student and advisor

Early childhood studies

- EDEC 6533 - Current Readings and Research in Early Childhood Studies
- EDEC 6543 - Contemporary Critical Issues in Early Childhood Studies
- EDEC 6623 - Advocacy/Activism in Early Childhood Studies
- EDEC 6800 - Special Topics in Early Childhood Studies
- Two additional courses selected by the student and advisor

Language and literacy studies

- EDLL 6060 - Research Design in Literacy and the Language Arts
- EDLL 6070 - Politics of Literacy
- EDLL 6080 - Survey of Literacy Research
- EDLL 6100 - Seminar in Language, Literacy and Culture
- Two additional courses selected by the student and advisor

Note

Additional course work may be required of students who do not have a master's degree in the relevant concentration.

Elective, 6 hours

For the electives included in the course plan, students are encouraged to take courses that complement their program. Electives may come from other departments and colleges outside teacher education and administration.

Dissertation, 9 hours

After advancing to candidacy, students are required to take a total of 9 semester credit hours for the dissertation, EDUC 6950.

Transfer courses

With consent of the advisor, relevant transfer courses can be included in the degree plan in accordance with the policy of the UNT Graduate School.

Educational Leadership, EdD

The Doctor of Education degree is designed for students who plan careers as school or district-level leaders. 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 may consider 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 May 1. Any application materials received beyond that date my not be reviewed in time for you to be accepted for the Fall semester. Applicants

must submit an application to the Toulouse Graduate School and send official scores for one of the following tests: GRE (verbal, quantitative, and analytical writing), MAT, or GMAT. They must also submit an application portfolio directly to the educational leadership program office that includes the following:

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 his or her best written work in the form of a research term paper, a published article or book chapter, or a district agency report.

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 doctoral courses at UNT.
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 - Theories of Organizational Development and Reform
- EDLE 6130 - Cultural Foundations in Educational Leadership
- EDLE 6160 - Professional Learning Communities: Research and Practice
- EDLE 6580 - Administration and Supervision of the Instructional Program

Focus areas, 24 hours

Superintendent certification

- EDLE 6110 - Advanced Theory and Research in Administration
- EDLE 6450 - Public School Finance, Business Management, and Facilities
- EDLE 6510 - Seminar in Advanced Education Law
- EDLE 6590 - The Superintendency

Educational leadership

- EDLE 6150 - Ethics, Social Justice and Policy
- EDLE 6520 - Personnel Administration in the Public Schools
- EDLE 6530 - 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 - Doctoral Dissertation

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.

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 May 1. Any application materials received beyond that date my not be reviewed in time for you to be accepted for the Fall semester. Applicants must submit an application to the Toulouse Graduate School and send official scores for one of the following tests: GRE (verbal, quantitative, and analytical writing), MAT, or GMAT. The applicant must submit an application portfolio to the educational leadership program.

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 his or her best written work in the form of a research term paper, a published article or book chapter, or a district agency report.

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 doctoral courses at UNT.
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 - Theories of Organizational Development and Reform
- EDLE 6160 - Professional Learning Communities: Research and Practice
- EDLE 6400 - Politics of Educational Administration
- EDLE 6570 - Seminar in Advanced Educational Finance
- EDLE 6580 - Administration and Supervision of the Instructional Program

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 Theory and Research in Administration
- EDLE 6450 - Public School Finance, Business Management, and Facilities
- EDLE 6510 - Seminar in Advanced Education Law
- EDLE 6590 - The Superintendency

Educational leadership electives

- EDLE 6200 - Current Issues in Educational Administration
- EDLE 6310 - Research Practicum
- EDLE 6520 - Personnel Administration in the Public Schools
- EDLE 6530 - 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 - Doctoral Dissertation

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 except for the internship in educational administration, which is a full semester. 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 internship in educational administration gives the candidates hands-on experience in school leadership and management.

Requirements

To apply for this Graduate Academic Certificate Program, candidates must apply for Toulouse Graduate School Admission on www.applytexas.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 teaching experience are required for this program. Contact the Educational Leadership Program office or advisor for forms describing these requirements.

- EDLE 5390 - Campus-Level School Law
- EDLE 5400 - Management of School Resources
- EDLE 5500 - Internship in Educational Administration
- EDLE 5610 - School Communications and Public Relations
- EDLE 5620 - Administration and Leadership for Student Educational Services
- EDLE 5650 - Professional Development and Supervision

- EDLE 5680 - Administration of the K–12 Curriculum

Disclosures

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

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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

Hanchen Huang, Dean

Yan Huang, Associate Dean
Nandika Anne D'Souza, Associate Dean

Programs of study

The College of Engineering, through its disciplines of science, engineering and technology, offers course work leading to the Master of Science and the Doctor of Philosophy.

Master's degrees are offered by all academic departments in the college.

Doctoral programs in the college typically reflect the areas of academic specialization or focus of the various departments (see individual departmental descriptions in this catalog for specific information). All areas offer challenging programs that provide students with the opportunity to become experts in their chosen fields. A major emphasis in the college is to train graduate students in the fundamentals of engineering and scientific research and to prepare them, especially on the doctoral level, to be critical thinkers who can advance human knowledge through research.

The college is composed of the following five academic departments.

- Department of Biomedical Engineering
- Department of Computer Science and Engineering
- Department of Electrical Engineering
- Department of Materials Science and Engineering
- Department of Mechanical Engineering

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; 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 databases, game programming, wired and wireless networks, computer security, cloud security, network security, artificial intelligence, natural language processing, computer systems architecture, collaborative learning, parallel and distributed processing, numerical analyses, wireless communication, image understanding and computer vision, sensor fusion, data mining, computational epidemiology, VLSI design, medical imaging, compilers, algorithm analyses, human factors, cryptography, 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, radar systems, VLSI design and testing, analog and mixed-signal IC design, nano-scale semiconductor device modeling and design, wireless sensor network design, radio-frequency identification (RFID) systems, sensor and sensor interface design, coding theory, bioinformatics, artificial intelligence, pattern recognition and multisensor fusion.

Research programs in the Department of Materials Science and Engineering are focused in the areas of advanced functional and structural materials, metallic materials, polymers, electronic materials and devices, ceramics and glass, nanomaterials and nanotechnology, material processing and additive manufacturing, computational materials and materials characterization. The graduate programs emphasize student-centered hands-on multi-disciplinary research with modern world-class equipment and facilities housed in the department.

Research areas within the Department of Mechanical Engineering include novel energy conversion systems for solar and wind energy applications, energy conservation technology for built environment, zero-energy buildings, environmental monitoring and modeling to study urban and regional-scale air quality, biomedical heat transfer, environmentally friendly electronic systems, stress analysis in thin films, fracture and failure of solid materials, nanomaterials, micro- and nano-scale machining, fabrication, characterization, small target visibility, noise cancellation, VLSI design of antenna array, logic circuit design, applications of technology to education, biomedical optics, telemedicine, mechanical behavior of materials for structures and micromechanical systems, control systems, field emissions and corrosion engineering.

Advising

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

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 a minimum of 33 semester hours beyond the bachelor's degree. These courses will include bridge courses, core courses, and courses in a chosen concentration.

Students will choose from one of the concentration areas.

- Machine Learning
- Biomedical Engineering
- Autonomous Systems

All graduate students pursuing the MS with a major in artificial intelligence must create their degree plan in consultation with their advisor.

Required courses

Students take 6 hours of bridge courses, 12 hours of core courses, and 15 hours of courses in their chosen concentration.

The bridge courses give students the necessary background in programming for artificial intelligence. These courses include Introduction to Programming in Artificial Intelligence and Foundations of Artificial Intelligence.

The core courses include:

Bridging courses

Students will take 6 hours of bridging coursework that introduce 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

Core courses

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

Validations methods course

Students will select a course related to validation methods as determined by their concentration.

- BMEN 5007 - Research Methods in Biomedical Engineering
- CSCE 5310 - Methods in Empirical Analysis
- EENG 5320 - Systems Modeling and Simulation
- MEEN 5140 - Advanced Mathematical Methods for Engineers

Concentration areas

Students will complete 12 hours of concentration coursework. Students will select 4 courses from the list available courses in their chosen concentration.

Machine learning concentration

- 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 5900 - Special Problems

Biomedical engineering concentration

Students will choose 4 courses from the available list of courses.

- 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

Autonomous systems concentration

- EENG 5310 - Control Systems Design
- EENG 5640 - Computer Vision and Image Analysis
- EENG 5610 - Digital Signal Processing

- EENG 5900 - Special Problems

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.

Students can choose from the following available concentrations.

- Energy
- Construction Management

Core

Students will take 21 hours in engineering and management courses.

- MGMT 5300 - Entrepreneurship and Venture Management
- MGMT 5760 - Strategic Management
- MSET 5020 - Design of Experiments
- MSET 5050 - Supervision of Projects in Engineering Technology
- MSET 5060 - Technology Innovation
- MSET 5130 - Product Reliability and Quality
- MSET 5280 - Management in Human and Societal Development

Concentrations

Students will select a concentration and take 12 hours of courses from their chosen concentration.

Energy concentation

- MEEN 5000 - Energy: The Fundamentals
- MEEN 5110 - Renewable Energy
- MEEN 5240 - Energy: A World Perspective
- MEEN 5800 - Topics in Mechanical and Energy Engineering (when taught as "Energy and Environmental Sustainability")

Construction management concentration

- MSET 5200 - Advanced Construction Scheduling
- MSET 5220 - Building Information Modeling
- MSET 5230 - Risk Management in Construction
- MSET 5240 - Heavy Civil Construction Management

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Department of Biomedical Engineering

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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 bioinformatics; 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 and master's level. Additionally, PhD degrees are offered in materials science and engineering, electrical engineering, and mechanical and energy engineering, respectively with a biomedical engineering concentration. 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 5310 - Clinical Instrumentation

- BMEN 5312 - Advanced Signal Processing in Biomedical Engineering
- 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 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 or BIOL.

Health management and policy electives option

HMAP 5320, HMAP 5321, HMAP 5330 from the Department of Health Management and Policy at the UNT Health Science Center.*

*These three courses are offered online by the UNTHSC in Fort Worth. Students may take an additional elective (BIOS 5300 [online]) to obtain a certificate in Health Services Management, offered online by the UNTHSC in Fort Worth.

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 - Health Care 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

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.

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Department of Computer Science and Engineering

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Barrett Bryant, Chair

Faculty

The Department of Computer Science and Engineering offers the Master of Science with majors in computer engineering and in computer science and the Doctor of Philosophy with a major in computer science and engineering.

The objective of the master's degree is to produce professional computer scientists capable of contributing technically to the basic core areas of computer science and computer engineering as well as to application areas. The objective of the doctoral degree is to produce professionals capable of conducting and directing research within the discipline of computer science and engineering.

The department is committed to overall excellence in graduate education. Consequently, the programs of study for these degrees include a mixture of course, laboratory and research work designed to place graduates at the forefront of technical excellence.

The department also supports an interdisciplinary doctorate with a major in information science. See the Department of Information Science section of this catalog for more information.

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 are organized into the following research laboratories.

Algorithms and computational science

The **Algorithms, Combinatorics, and Graph Theory Laboratory (ACG)** improves the theoretical/practical efficiency of algorithms. We aim at developing new branches of graph theory/combinatorics that can aid in modeling, and effectively solving (exactly or approximately), a wide range of computationally difficult problems.

The **Computational Epidemiology Research Laboratory (CERL)** applies computational science paradigms to the domain of public health, thereby providing tools for epidemiologists and public health researchers. CERL is part of CeCERA (the UNT Center for Computational Epidemiology and Response Analysis).

Artificial intelligence and data science

The **Computer Vision and Intelligent Systems (CoVIS) Laboratory** works to advance the understanding of the theories of machine learning for processing complex data and to develop applications in areas such as medicine and geo-information. The research focuses on both algorithm innovation and hardware integration, which includes computer vision, pattern recognition, data mining and artificial intelligence. The CoVIS lab is facilitated with state-of-the-art computing resources and various imaging technologies. The lab provides both graduate and undergraduate students a unique, collaborative research cohort to further their career goals.

The **Data Mining and Information Retrieval Lab (DMIR)** focuses on data mining for emerging applications (e.g., spatial, spatio-temporal, streaming, web and sensor databases) and on developing a variety of general techniques for representing, searching, filtering, organizing, and mining text information, with applications in multiple domains, including the Web, homeland security, and biomedical and health informatics. The lab conducts both fundamental and applied research and development to enable the use of information technology for many application domains, such as environmental monitoring, transportation and social networking.

The **Human Intelligence and Language Technologies (HILT) Lab** focuses on research on natural language processing (NLP), machine learning (ML), and cognitive science, with an emphasis on computational semantics and applications in spoken-dialogue educational health and wellbeing companion robots (companionbots), educational technology, health and clinical informatics, and end-user software engineering.

The **Multimedia Information Laboratory** conducts research on multimedia big data computing, multimedia material (videos and images) processing, multimedia information extraction, and multimedia information modeling and retrieval, which include video and image segmentation, motion and color analysis, image quality analysis, image texture analysis, and object recognition and detection by clustering and classification.

The **Uncertainty Quantification and Biomedical AI (UQBioAI) Lab** conducts research with a focus on the applications of UQ and UQ algorithm development, wearable analytics and the biomedical applications of Artificial Intelligence.

Computer systems and networks

The **Computer Systems Research Laboratory** focuses its work on next-generation processors and memory technologies including 3D stacked DRAMs, Phase Change Memories, Near Data Processing, dataflow and other innovative processor architectures. Research includes work on software tools and simulation environments that aid in developing both hardware and software solutions to improve performance, reduce energy consumption and prevent security breaches. Research also includes the analysis of security vulnerabilities and approaches to improve the security of computer systems.

The **Smart Electronic Systems Laboratory (SESL)** conducts research in Smart Electronics for the efficient realization of Internet-of-Things (IoT) based components for Smart Cities. The key aspects of the smart electronics are envisioned to be Energy-Smart, Security-Smart, and Response-Smart. Energy-Smart ensures that energy consumption of electronics is minimal for longer battery life. Security-Smart deals with the security/protection of electronics as well as that of the information/media that these systems capture, process, or store. Response-Smart refers to accurate sensing, intelligent processing, and fast actuation/response. Smart Electronics in the framework of IoT can provide 3Is (Instrumentation, Interconnection, and Intelligence) to the Smart Cities. Optimal combinations of hardware and software modules are explored for ESR-smartness of electronic systems.

The **Wireless Sensor Laboratory (WiSL)** was established with the following mission: to increase general wireless communications awareness among computer science and engineering graduates, produce skilled wireless specialists, and conduct research and development activities to advance the state-of-the-art in wireless sensors.

The **Connected Autonomous Vehicle (CAV) Lab** has identified research interests in cooperative perception, vehicular edge computing, deep learning, trustworthy communication, intervehicular communication and roadway infrastructure, and has received contributions from Toyota, the U.S. Department of Transportation, and the Texas Department of Transportation.

Cybersecurity

The **Network Security Laboratory** was established to increase general wireline and wireless security awareness of computer science and engineering graduates, to produce skilled security specialists, and to conduct research and development activities to advance the state-of-the-art in wireline and wireless security and communication.

Software engineering

The **Research Innovation in Software Engineering (RISE)** laboratory explores advances in software engineering through the areas of compiler design, domain-specific programming languages, game programming, human-computer interaction, logic programming, model-driven engineering, and software testing.

Research centers

Research centers housed within the department include:

The **Center for Computational Epidemiology and Response Analysis (CeCERA)** is a UNT center that operates under the Provost and Vice President for Academic Affairs. The Department of Computer Science and Engineering's Computational Epidemiology Research Laboratory (CERL) is part of CeCERA. CERL applies computational science paradigms to the domain of public health researchers.

The **Center for Information and Cyber Security (CICS)** has helped UNT earn the designations of "Center of Academic Excellence in Cyber Defense Education" and "Center of Academic Excellence in Cyberdefense Research" from the National Security Agency for its strong information and cyber security program. This designation places UNT among the top institutions in the country in the field of cyber security.

The **Net-centric and Cloud Software and Systems Center (NCSS)** is an NSF Industry/University Cooperative Research Center that focuses on a collaborative approach of research and development in net-centric and cloud computing systems. This allows us to draw on the expertise of industry and academia. The center explores the development, verification, validation of applications and systems for net-centric and cloud environments, such that the applications and services meet service level agreements (SLAs) including response time, reliability and security.

Faculty research has been supported through grants from federal and state institutions and private industry including the Army Research Office, Fujitsu Labs, Los Alamos National Laboratory, National Aeronautics and Space Administration, National Geospatial-Intelligence Agency, National Institutes of Health, National Institute for Standards and Technology, National Science Foundation, National Security Agency, and Toyota. The department enjoys a friendly working relationship with local and national companies. The department's Industrial Advisory Board is composed of representatives from high-tech firms. They help obtain research funding, fellowships and internships for students in the department.

Admission to degree programs

Admission to graduate degree programs in computer science and computer engineering is competitive. Applications, complete with transcripts, GRE scores (UNT computer science and engineering graduates are exempt.) and English language proficiency scores, if applicable, must be submitted by the following dates to be given consideration for the term/semester indicated.

April 1 — fall term/semester
October 15 — spring term/semester

Assistantships

Students who wish to be considered for an assistantship must submit a graduate application complete with transcripts, GRE scores (UNT computer science and engineering graduates are exempt), and English language proficiency scores, if applicable, must be submitted by the following dates to be considered for the term/semester indicated.

January 15 — fall term/semester
September 15 — spring term semester

In addition to completing an application for admission, students who wish to be considered for an assistantship must complete an assistantship application by January 15 for the fall semester and by September 15 for the spring semester. Assistantship applications are available on the department's web site.

Additional information

Programs are listed below. Information regarding the department's degree programs, including admission requirements and degree requirements, can be obtained from the department's web site.

Master's Degree

Computer Engineering, MS

The department offers the Master of Science with a major in computer engineering.

Admission requirements

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 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.
- 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.

Admission to candidacy

After removal of any deficiencies, graduate students who have been enrolled in 18 or more semester credit hours will be required to submit a degree plan. If a degree plan is not submitted on time, a registration block will be placed, and not removed, until an approved degree plan is submitted to and approved by the Graduate School.

Admission to candidacy is granted by the Dean of the Graduate School after the degree plan has been approved.

A change in program from our Computer Engineering Master's program to our Computer Science Professional Master of Science with concentrations in Cybersecurity or Data Science will not be approved by the CSE Graduate Committee. If you wish to change to any other program, you must have completed one long semester in your initial program.

Leveling courses

- CSCE 2100, Computing Foundations I
- CSCE 2110, Computing Foundations II
- CSCE 3612, Embedded Systems Design
- CSCE 3730, Reconfigurable Logic
- EENG 3510, Electronics I (Devices and Materials)

All entering students must demonstrate knowledge of the material covered in these courses. An entering student may demonstrate knowledge of the material by:

- Completing the courses at UNT
- Completing similar courses at another institution
- Evidence based on employment experience

A student may be required to successfully pass a placement exam to demonstrate their knowledge of the material.

Degree requirements

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 and internship courses cannot be counted.

Option B: Course option (33 hours). Leveling and internship courses cannot be counted.

Academic standards

If a student's GPA on all graduate and/or deficiency courses falls below 3.0, the student will be placed on probation the following term/semester. Students who cannot raise their GPA above 3.0 during that term/semester will be dropped from the program. To qualify for the master's degree, the student must earn a grade of B or better in each of the core courses.

Course selection

- Computer engineering 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.
- No more than 3 hours in non-organized courses (such as directed study or special problems) are permissible.
- Leveling course(s) are typically required if the applicant does not have a BS with a major in computer engineering.

Group A

- CSCE 5510 - Wireless Communications
- CSCE 5520 - Wireless Networks and Protocols
- CSCE 5580 - Computer Networks

Group B

- CSCE 5160 - Parallel Processing and Algorithms
- CSCE 5610 - Computer System Architecture

- CSCE 5640 - Operating System Design

Group C

- CSCE 5440 - Real-Time Software Development
- CSCE 5612 - Embedded Hardware/Software Design
- CSCE 5620 - Real-Time Operating Systems

Group D

- CSCE 5730 - Digital CMOS VLSI Design
- CSCE 5740 - Topics in Modern Electronic System Design
- CSCE 5760 - Design for Fault Tolerance

Computer Science with concentrations in Professional Master of Science in Cybersecurity or Data Science, MS

The Professional Master of Science concentrations at Frisco under the Computer Science major provides an opportunity for experienced professionals to obtain a high-quality master's degree in Computer Science targeted toward industry professionals of today and tomorrow.

A unique aspect of the PMCS program is the collective-professional experience of its participants, which greatly enriches the educational environment. A team approach is often used to allow for sharing of diverse perspectives on various topics; this interaction results in challenging and stimulating experience providing for maximum return on time and resources invested.

Admission requirements

Admission deadlines

Before being admitted to a master's program in the College of Engineering, Department of Computer Science and Engineering, the applicant must meet the requirements for admission to the Toulouse Graduate School. All PMCS students seeking on-time registration must submit application materials by April 1 to be considered for the following fall. Students submitting applications after the dates specified by the Toulouse Graduate School, if accepted, will have to register during the late registration period and pay a late registration fee.

Procedure for applying

A number of factors are considered in selecting candidates for the PMCS program. In most cases, each applicant is evaluated holistically on his or her professional performance, academic records, GRE scores, professional recommendations and a demonstrated ability to accomplish graduate-level course work. PMCS students typically enter the program with five or more years of professional and/or industrial experience.

Evaluation of students for admission to an PMCS program is a very individualized process. While test scores, grade point averages and other objective criteria are all considered, a prospective student's background, work experience, career goals, desire to succeed and numerous other factors are considered in making an admission decision.

Applicants should complete the requirements listed below and meet the deadlines set forth in "Admission Deadlines" above.

1. Obtain admission to the university and the Toulouse Graduate School by filing the following items with the Toulouse Graduate School:

- complete official transcripts of college and university credits;
- online application for admission to the Toulouse Graduate School; and
- results of the GRE test. Evidence of high professional and educational success may be considered in lieu of the GRE test.

Applicants whose native language is not English must either present a score of at least 83 (Internet version) on the Test of English as a Foreign Language (TOEFL) or be a graduate of a college or university in the United States.

2. The following additional admission materials are submitted to the CSE Graduate Committee:

- essay - please share your career goals and how the PMCS program at UNT will help you achieve them. Include qualifications that you feel distinguish your candidacy and will add value to the class;
- two letters of recommendation (typically from a member of senior level management and above);
- resume (work/academic experience); and
- letter of support (signed on company letterhead from an authorized representative of the applicant's firm).

Applications forwarded by the Toulouse Graduate School cannot be considered until the above information is submitted.

Applications and supporting documentation will be reviewed using a holistic approach by the CSE Graduate Committee. The Graduate Committee will notify applicants of their status once the information has been reviewed. Applicants may also check the status by visiting my.unt.edu.

Degree requirements

Background requirements

A bachelor's degree from an accredited institution and admission to the UNT Toulouse Graduate School are needed for graduate standing. The Professional Master of Science in Computer Science concentration requires, as a minimum background, the equivalent of the Common Body of Knowledge in Computer Science. Students may have acquired this background in their undergraduate programs by completion of courses equivalent in content to UNT's Department of Computer Science and Engineering requirements for the bachelor's degree in computer science.

Graduate students should remove any deficiencies by completing leveling courses designed for this purpose. Contact the CSE Graduate Coordinator for any current changes in these courses. These leveling courses follow:

- CSCE 1030 Computer Science I
- CSCE 1040 Computer Science II
- CSCE 2100 Computing Foundations I
- CSCE 2110 Computer Foundations II
- CSCE 2610 Assembly Language and Computer Organization
- CSCE 3110 Data Structures and Algorithms

Program requirements, 30 hours

Students must complete 30 hours of graduate courses in computer science and engineering, including 18 hours in one of the concentration areas described below and 12 hours of electives.

Concentration, 18 hours

Students may choose one of the following concentration areas:

Cybersecurity

- CSCE 5050 - Applications of Cryptography
- CSCE 5550 - Introduction to Computer Security
- CSCE 5555 - Computer Forensics
- CSCE 5560 - Secure Electronic Commerce
- CSCE 5565 - Secure Software Systems
- CSCE 5585 - Network Security

Data Science

- 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

Select one text predictive analytics course:

- CSCE 5200 - Information Retrieval and Web Search
- CSCE 5290 - Natural Language Processing

Select one other predictive analytics course:

- CSCE 5215 - Machine Learning
- CSCE 5216 - Pattern Recognition
- CSCE 5380 - Data Mining

Electives, 12 hours

12 semester hours taken from a list of approved 5000-level courses, preferably in Computer Science and Engineering, but up to two courses in related areas but offered by different departments may be approved. See your academic advisor for approval.

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 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 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.

Admission to candidacy

After removal of any deficiencies, graduate students who have been enrolled in 18 or more semester credit hours will be required to submit a degree plan. If a degree plan is not submitted on time, a registration block will be placed, and not removed, until an approved degree plan is submitted to and approved by the Graduate School.

Admission to candidacy is granted by the dean of the Graduate School after the degree plan has been approved.

A change in program from our Computer Science Master's program to our Professional Master of Science with concentrations in Cybersecurity or Data Science will not be approved by the CSE Graduate Committee. If you wish to make a change in program to any other program, it is permissible after you have completed one long semester in your initial program.

Leveling courses

- CSCE 1030, Computer Science I
- CSCE 1040, Computer Science II
- CSCE 2100, Computing Foundations I
- CSCE 2110, Computing Foundations II
- CSCE 2610, Assembly Language and Computer Organization
- CSCE 3110, Data Structures and Algorithms

All entering students must demonstrate knowledge of the material covered in these courses. An entering student may demonstrate knowledge of the material by:

- Completing the courses at UNT
- Completing similar courses at another institution
- Evidence based on employment experience

A student may be required to successfully pass a placement exam to demonstrate their knowledge of the material.

Degree requirements

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 and internship courses cannot be counted.

Option B: Course option (33 hours). Leveling and internship courses cannot be counted.

Academic standards

If a student's GPA on all graduate and/or deficiency courses falls below 3.0, the student will be placed on probation the following term/semester. Students who cannot raise their GPA above 3.0 during that term/semester will be dropped from the program. To qualify for the master's degree, the student must earn a grade of B or better in each of the core courses.

Course 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.
- No more than 3 hours in non-organized courses (such as directed study or special problems) will be permissible.
- Leveling course(s) are typically required if the applicant does not have a BS with a major in computer science.

Group A

- CSCE 5430 - Software Engineering
- CSCE 5450 - Programming Languages
- CSCE 5650 - Compiler Design

Group B

- CSCE 5580 - Computer Networks

- 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

Required courses

Students will take 6 required courses for a total of 18 credit hours. These courses give students a foundation in cybersecurity.

- CSCE 5050 - Applications of Cryptography
- CSCE 5550 - Introduction to Computer Security
- CSCE 5555 - Computer Forensics
- CSCE 5560 - Secure Electronic Commerce
- CSCE 5565 - Secure Software Systems
- CSCE 5585 - Network Security

Electives courses

- CSCE 5170 - Graph Theory
- 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

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

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Department of Electrical Engineering

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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 the 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 **Autonomous Systems Laboratory** focuses on information assurance, decision making and video communications aspects in autonomous systems, such as unmanned aerial vehicles (UAVs) and unmanned ground vehicles (UGVs). This laboratory consists of infrastructure and simulation tools necessary to develop protocols for autonomous systems and to analyze their performance. The laboratory has several indoor and outdoor robots that are used to develop and test decentralized decision-making and task-scheduling algorithms. The laboratory's infrastructure includes a wireless video sensor network platform suitable for simulating applications such as video surveillance.

The **Communications and Signal Processing Laboratory (CSPL)** focuses on design and development of advanced communication techniques to provide efficient and robust information transmission over wired and wireless networks. Working in concert with academia and industry partners, CSPL is dedicated to research in coding and information theory; aerial communication and networks; drone system design and applications, especially in emergency response; and wireless sensor networks.

The **Computer-Aided Design (CAD) Laboratory** supports high quality research activities related to analog, digital, mixed signal, VLSI/SoC (system-on-a-chip) design, test and test verification. Resources include Cadence, Xilinx, LabVIEW, MATLAB, MultiSim, Advanced Design Systems, and Mentor Graphics.

The **Cyber-Physical Energy Systems Laboratory** focuses on control and optimization for networked cyber-physical systems with applications to power systems. Current research topics include: efficient distributed control and optimization algorithms for networked systems under cyber communication and physical constraints, accelerated distributed optimization algorithms for distributed energy resource (DER) coordination hearing prosthetics, and distributed energy management for microgrids.

The **Embedded Sensing & Processing Systems (ESPS) Laboratory** focuses on research in the areas of statistical signal processing, real-time embedded systems, and wireless sensor networks with applications in wireless localization and tracking, environmental monitoring, smart home, smart buildings, and Internet of Things. The overarching goal of our research is to solve real-life system-level challenges through theoretical research in statistical signal processing, networking protocol design and analysis, and practical system developments with hardware and software implementations.

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 **Integrated Biomedical Circuits and Systems Laboratory (iBioCASL)** supports teaching, research and development of analog, mixed-signal RF and microwave circuits and systems, and antenna designs. Research includes designing, fabricating, and testing of new analog, mixed-signal and RF circuits both in the board-level and chip-level, as well as antenna design on flexible and rigid substrates. Program features facilities for simulations, prototyping, and measurement of integrated circuit components and systems for various biomedical applications. Software resources include Cadence, Ansys HFSS, LabVIEW, MATLAB, and Advanced Design Systems. Hardware resources such as high-frequency Vector Network Analyzer (VNA), Spectrum Analyzer (SA), signal generators, anechoic chamber, and antenna characterization are available as well.

The **Networked Intelligent Control Systems Laboratory** focuses on intelligent control, computational intelligence and their applications in cyber-physical systems and robotics. Research topics include new intelligent control architecture design, development of networked control systems/cyber-physical systems, multi-agent learning-based development, autonomous mobile robots learning process, and deep learning for end-to-end intelligent design.

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

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

Option A, Thesis option

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

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. Levelling 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 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 the graduate advisor.

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. Levelling 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 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 the graduate advisor.

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.

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Nigel Shepherd, 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 viscolastic and rheological property evaluation. Reliability of dielectric property retention is being examined through simultaneous effects of radiation and electrical fields using thermally stimulated depolarization currents and thermoluminescence.

The **Materials Synthesis and Processing Laboratory** has research interests focused on the development of aerogels and other novel ceramics for dielectric, sensor and high temperature applications. A complete synthesis laboratory is available with several spin coaters for thin film development and with a BET surface area/pore size analyzer for structural characterization as well as high temperature furnaces and a critical point dryer.

The **Laboratory for Electronic Materials and Devices** is a cross-disciplinary laboratory performing basic and applied research on novel materials for advanced electronic devices of all kinds. The laboratory includes a Group IV molecular beam epitaxy system, a 3 MV ion beam accelerator, a comprehensive surface science system and several scanning probe microscopes. The primary areas of research include advanced dielectric materials, high electric field chemical reactions and molecular electronic devices.

The **Advanced Metallic Materials Laboratory** has research focused on the structure-property-processing relationships in metallic structural materials. Current investigations are in the areas of bulk metallic glasses; nanocrystalline materials; development of better aluminum, titanium and nickel alloys for structure applications; and shape memory alloys. Emphasis is on advanced processing and characterization.

The **Laboratory for Moving Mechanical Assemblies** is engaged in applied research on tribology (friction, wear and lubrication) of materials. Processing, structure and property interrelationships of thin film coatings and bulk materials are being studied with applications to moving mechanical assemblies, such as bearings, gears, MEMS and orthopedic implants.

The **Optoelectronics and Thin Film Materials Laboratory** studies the processing-structure-property relationships of compound semiconductors and oxides for applications including solar cells, light emitting diodes, thin film batteries and thin film transistors. Growth mechanisms, defects, luminescent properties, carrier transport properties and device physics are key emphases.

The **Laboratory for Laser Materials Synthesis and Fabrication** houses several high power (multi kilowatt) lasers, and is among the nation's best. These lasers include 400J Nd-Yag pulse lasers with pulse shaping capabilities (Lumonics JK701 400W and Rofin Sinar Starweld 250) and a recently purchased 3000 W, Ytterbium YAG (IPG3000) laser equipped with a high speed galvanometric scanning mirror system for scanning the laser beam at extremely high speed. All lasers are equipped with 5-axis CNC workstations and fiber optic beam delivery for remote operation. This laser equipment is routinely employed in research work toward a broad understanding of interactions of lasers with materials and engineering aspects of the laser-materials interactions. Implementation of high power lasers for materials processing such as joining and surface engineering. Address fundamental issues in laser surface engineering of materials for application of this knowledge in the development of new corrosion/oxidation and wear/erosion resistant surfaces in challenging and extreme chemical and mechanical environments. A unique blend of in-situ diagnostics with post process analytical analysis for development of structure-property relationships in laser engineered surfaces of engineering and bio materials. Such a multi-dimensional approach has been envisioned for advanced manufacturing of the next generation materials.

The **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 or related fields, as approved by the major professor and the advisory committee.

Seminar in materials science and engineering, 2 hours minimum

Please see "Seminar in Current Topics in Materials Science" below.

- MTSE 5700 - Seminar in Materials Science and Engineering

Thesis, 6 hours minimum

Work for the master's thesis is comprised of independent and original studies that may be experimental, computational, theoretical or a combination of these. As part of these requirements, the student must present a formal written report that must be approved by the major professor and the advisory committee and filed in the graduate dean's office. Reports for MTSE 5950 must be submitted in a form prescribed by one of the common refereed materials science journals, such as the manuscript form of the American Institute of Physics (see AIP style manual, current edition). See also the graduate school thesis requirements at 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 or related fields, as approved by the major professor and the advisory committee.

Seminar in materials science and engineering, 2 hours minimum

Please see “Seminar in Current Topics in Materials Science” below.

- MTSE 5700 - Seminar in Materials Science and Engineering

Problem in lieu of thesis, 6 hours

Research problems in lieu of thesis are independent, original studies that may be experimental, computational, theoretical or a combination of these. As part of the requirements for each problems course, the student must present a formal written report of the work done in the course, which must be approved by the major professor and the advisory committee. Reports for MTSE 5920-MTSE 5930 must be submitted in a form prescribed by one of the common refereed materials science journals, for example, in the manuscript form prescribed by the American Institute of Physics (see AIP style manual, current edition).

- MTSE 5920 - Research Problems in Lieu of Thesis
- MTSE 5930 - Research Problems in Lieu of Thesis

Seminar in current topics in materials science

All MS 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 are 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 5420. Of the 24 elective hours, no more than 9 can be MEEN courses.

Individual research, 22 hours

- MTSE 6940 - Individual Research
  Additional course work may be taken in lieu of individual research hours.

Seminar in Materials Science and Engineering, 2 hours

- MTSE 5700 - Seminar in Materials Science and Engineering

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

-

Department of Mechanical Engineering

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Kuruvilla John, Professor and Chair

Seifollah Nasrazadani, Senior Director - Technology and Management

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 to 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:

- Cold-formed Steel 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 several 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 technology

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 gradschool.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 Technology (non-thesis integrative course option), MS

The program of study for the Master of Science with a major in engineering technology is a comprehensive program that provides for a degree of specialization with the proper selection of courses within the major. A non-thesis project option, Engineering Technology (non-thesis project option), MS, and a thesis option, Engineering Technology (thesis), MS, are also available.

Requirements

The graduate credit requirement for the MS degree with a major in engineering technology, non-thesis integrative course option, is 33 semester hours chosen in one of the following concentrations. One course will be identified as a capstone in lieu of the thesis or project.

Construction management concentration

Block A, 12 hours

- ACCT 5130 - Accounting for Management

- MGMT 5240 - Project Management
- MSET 5040 - Analytical Methods in Engineering Technology
- MSET 5220 - Building Information Modeling

Block B, 18 hours

18 hours chosen from the following

- MGMT 5210 - Human Resource Management Seminar
- MSET 5020 - Design of Experiments
- MSET 5130 - Product Reliability and Quality
- MSET 5180 - Structural Dynamics
- MSET 5200 - Advanced Construction Scheduling
- MSET 5230 - Risk Management in Construction
- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems

Additional options in block B

Two course substitutions allowed from College of Engineering, College of Business, mathematics or other science courses. Students are responsible for meeting course prerequisites.

Block C (capstone), 3 hours

- MSET 5260 - Integrative Construction Management

Electrical systems concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5020 - Design of Experiments
- MSET 5040 - Analytical Methods in Engineering Technology
- MSET 5310 - Industrial Process Controls

Block B, 18 hours

Chosen from the following.

- MSET 5300 - Embedded Systems Organization
- MSET 5320 - Introduction to Telecommunications
- MSET 5340 - Digital Logic Design Techniques
- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems

Additional options in block B

Two course substitutions allowed from the following list (exceptions with departmental approval only). Students are responsible for meeting specific course prerequisites.

- LTEC 5020 - Computers in Learning Technologies
- LTEC 5030 - Foundations of Learning Technologies
- LTEC 5420 - Web Authoring
- CSCE 5350 - Fundamentals of Database Systems
- CSCE 5540 - Introduction to Sensor Networks
- CSCE 5730 - Digital CMOS VLSI Design
- EENG 5350 - Renewable Electrical Power Systems
- EENG 5610 - Digital Signal Processing
- EENG 5820 - Wireless Communications
- MGMT 5300 - Entrepreneurship and Venture Management

Block C (capstone), 3 hours

- MSET 5330 - Instrumentation System Design

Engineering management concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5020 - Design of Experiments
- MSET 5040 - Analytical Methods in Engineering Technology
- MSET 5060 - Technology Innovation

Block B, 18 hours

Chosen from the following.

- MGMT 5120 - Managing Organizational Design and Change
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5210 - Human Resource Management Seminar
- MGMT 5280 - Analysis and Design of Operations System
- MGMT 5300 - Entrepreneurship and Venture Management
- MGMT 5760 - Strategic Management
- MGMT 5870 - Leadership Research and Development
- MKTG 5150 - Marketing Management
- MSET 5030 - Product Design and Development
- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems

Additional options in block B

Two course substitutions allowed from College of Engineering or College of Business courses. Students are responsible for meeting specific course prerequisites.

Block C (capstone), 3 hours

- MSET 5130 - Product Reliability and Quality

Mechanical systems concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5020 - Design of Experiments
- MSET 5040 - Analytical Methods in Engineering Technology
- MSET 5130 - Product Reliability and Quality

Block B, 18 hours

Chosen from the following.

- MGMT 5300 - Entrepreneurship and Venture Management
- MSET 5100 - Nontraditional Manufacturing Processes
- MSET 5150 - Applications of Electron Microscopy and Failure Analysis
- MSET 5160 - Creep and Fatigue in Engineering Design and Systems Performance
- MSET 5180 - Structural Dynamics
- MSET 5310 - Industrial Process Controls
- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems

Additional options in block B

Two course substitutions allowed from the following list or from College of Engineering, mathematics or science courses. Students are responsible for meeting specific course prerequisites.

- MEEN 5110 - Renewable Energy
- MEEN 5200 - Principles of HVAC
- MEEN 5210 - Solar Energy
- MTSE 5020 - Mechanical Properties of Materials
- MTSE 5100 - Fundamental Concepts of Materials Science
- MTSE 5210 - Corrosion and Oxidation of Materials

Block C (capstone), 3 hours

- MSET 5030 - Product Design and Development

Dual degree

The Department of Engineering Technology, in collaboration with the College of Business, offers a dual degree in engineering technology and operations and supply chain management. See Engineering Technology, MS/Operations and Supply Chain Management, MBA for more information.

Engineering Technology (non-thesis project option), MS

The program of study for the Master of Science with a major in engineering technology is a comprehensive program that provides for a degree of specialization with the proper selection of courses within the major. A thesis option, Engineering Technology (thesis), MS, and a non-thesis course work–only option, Engineering Technology (non-thesis integrative course option), MS, are also available.

Requirements

The graduate credit requirement for the MS degree with a major in engineering technology, non-thesis project option, is 33 semester hours chosen in one of the following concentrations. A project and/or examination is required of all degree candidates for the non-thesis project option.

Construction management concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5010 - Graduate Seminar (1 hour; repeat 3 times)
- MSET 5020 - Design of Experiments
- MSET 5040 - Analytical Methods in Engineering Technology

Block B, 15 hours

Chosen from the following in consultation with the major professor.

- AECO 5050 - Seminar in Contemporary Applied Economic Problems (when taught as "Construction Dispute Avoidance and Resolution")
- MGMT 5210 - Human Resource Management Seminar
- MSET 5200 - Advanced Construction Scheduling
- MSET 5220 - Building Information Modeling
- MSET 5230 - Risk Management in Construction

Additional options in block B

A maximum of 6 credits, with the approval of the major professor and department.

- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems
- one course substitution

Block C, 6 hours

With approval of major professor.

- MSET 5930 - Research Problems in Lieu of Thesis
- One additional course from Block B

Electrical systems concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5010 - Graduate Seminar (1 hour; repeat 3 times)
- MSET 5020 - Design of Experiments
- MSET 5040 - Analytical Methods in Engineering Technology

Block B, 15 hours

- MSET 5300 - Embedded Systems Organization
- MSET 5310 - Industrial Process Controls
- MSET 5320 - Introduction to Telecommunications
- MSET 5330 - Instrumentation System Design
- MSET 5340 - Digital Logic Design Techniques

Additional options in block B

Maximum of 6 credits, with approval of the major professor and department.

- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems
- One course substitution

Block C, 6 hours

With approval of major professor.

- MSET 5930 - Research Problems in Lieu of Thesis
- one additional course from Block B

Engineering management concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5010 - Graduate Seminar (1 hour; repeat 3 times)
- MSET 5020 - Design of Experiments
- MSET 5130 - Product Reliability and Quality

Block B, 15 hours

Select at least 2 courses from

- MSET 5030 - Product Design and Development
- MSET 5040 - Analytical Methods in Engineering Technology
- MSET 5060 - Technology Innovation

Select at least 2 courses from

- ACCT 5020 - Accumulation and Analysis of Accounting Data
- MGMT 5120 - Managing Organizational Design and Change
- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5210 - Human Resource Management Seminar
- MGMT 5280 - Analysis and Design of Operations System
- MGMT 5760 - Strategic Management

- MKTG 5150 - Marketing Management

Additional options in block B

Maximum of 6 credits, with approval of the major professor and department.

- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems
- One course substitution

Block C, 6 hours

With approval of the major professor.

- MSET 5930 - Research Problems in Lieu of Thesis
- One additional course from Block B

Mechanical systems concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5010 - Graduate Seminar (1 hour; repeat 3 times)
- MSET 5020 - Design of Experiments
- MSET 5040 - Analytical Methods in Engineering Technology

Block B, 15 hours

- MSET 5030 - Product Design and Development
- MSET 5100 - Nontraditional Manufacturing Processes
- MSET 5150 - Applications of Electron Microscopy and Failure Analysis
- MSET 5160 - Creep and Fatigue in Engineering Design and Systems Performance

3 hours from

- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems
- One course substitution

Block C, 6 hours

With approval of major professor.

- MSET 5930 - Research Problems in Lieu of Thesis
- One additional course from Block B

Dual degree

The Department of Engineering Technology, in collaboration with the College of Business, offers a dual degree in engineering technology and operations and supply chain management. See Engineering Technology, MS/Operations and Supply Chain Management, MBA for more information.

Engineering Technology (thesis), MS

The program of study for the Master of Science with a major in engineering technology is a comprehensive program that provides for a degree of specialization with the proper selection of courses within the major. A non-thesis project option, Engineering Technology (non-thesis project option), MS, and a non-thesis course work–only option, Engineering Technology (non-thesis integrative course option), MS, are also available.

Requirements

The graduate credit requirement for the MS degree with a major in engineering technology, thesis option, is 30 semester hours chosen in one of the following concentrations. A formal proposal and an oral defense of the thesis are required of all degree candidates.

Construction management concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5010 - Graduate Seminar (1 hour; repeat 3 times)
- MSET 5020 - Design of Experiments
- MSET 5040 - Analytical Methods in Engineering Technology

Block B, 12 hours

Chosen from the following in consultation with the major professor.

- AECO 5050 - Seminar in Contemporary Applied Economic Problems (when taught as "Construction Dispute Avoidance and Resolution")
- MGMT 5210 - Human Resource Management Seminar
- MSET 5200 - Advanced Construction Scheduling
- MSET 5220 - Building Information Modeling
- MSET 5230 - Risk Management in Construction

Additional options in block B

A maximum of 6 credits, with the approval of the major professor and department.

- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems
- One course substitution

Block C, 6 hours

- MSET 5950 - Master's Thesis

Electrical systems concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5010 - Graduate Seminar (1 hour; repeat 3 times)
- MSET 5020 - Design of Experiments
- MSET 5040 - Analytical Methods in Engineering Technology

Block B, 12 hours

Chosen from the following in consultation with the major professor.

- MSET 5300 - Embedded Systems Organization
- MSET 5310 - Industrial Process Controls
- MSET 5320 - Introduction to Telecommunications
- MSET 5330 - Instrumentation System Design
- MSET 5340 - Digital Logic Design Techniques

Additional options in block B

A maximum of 6 credits, with the approval of the major professor and department.

- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems
- One course substitution

Block C, 6 hours

- MSET 5950 - Master's Thesis

Engineering management concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5010 - Graduate Seminar (1 hour; repeat 3 times)
- MSET 5020 - Design of Experiments
- MSET 5130 - Product Reliability and Quality

Block B, 12 hours

Select 2 courses from

- MSET 5030 - Product Design and Development
- MSET 5040 - Analytical Methods in Engineering Technology
- MSET 5060 - Technology Innovation

Select 2 courses from

- ACCT 5020 - Accumulation and Analysis of Accounting Data
- MGMT 5120 - Managing Organizational Design and Change

- MGMT 5140 - Organizational Behavior and Analysis
- MGMT 5210 - Human Resource Management Seminar
- MGMT 5280 - Analysis and Design of Operations System
- MGMT 5760 - Strategic Management
- MKTG 5150 - Marketing Management

Additional options in block B

A maximum of 6 credits, with the approval of the major professor and department.

- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems
- One course substitution

Block C, 6 hours

- MSET 5950 - Master's Thesis

Mechanical systems concentration

Block A, 12 hours

- MGMT 5240 - Project Management
- MSET 5010 - Graduate Seminar (1 hour; repeat 3 times)
- MSET 5020 - Design of Experiments
- MSET 5040 - Analytical Methods in Engineering Technology

Block B, 12 hours

- MSET 5030 - Product Design and Development
- MSET 5100 - Nontraditional Manufacturing Processes
- MSET 5150 - Applications of Electron Microscopy and Failure Analysis
- MSET 5160 - Creep and Fatigue in Engineering Design and Systems Performance

Additional options in block B

A maximum of 6 credits, with the approval of the major professor and department.

- MSET 5800 - Studies in Engineering Technology
- MSET 5900 - Special Problems
- One course substitution

Block C, 6 hours

- MSET 5950 - Master's Thesis

Dual degree

The Department of Engineering Technology, in collaboration with the College of Business, offers a dual degree in engineering technology and operations and supply chain management. See Engineering Technology, MS/Operations and Supply Chain Management, MBA for more information.

Mechanical and Energy Engineering with a concentration in Energy Systems, MS

The Master of Science with a major in mechanical and energy engineering and a concentration in energy systems requires 33 semester credit hours of course work and does not require a thesis.

Admission to the program

Admission requirements may be found on the Department of Mechanical Engineering page in this catalog.

Degree requirements

The student must complete 33 semester credit hours of course work as follows and maintain at least a B average for all graduate courses.

Required core courses, 18 hours

The student must take the following six core courses:

- EENG 5940 - Advanced Topics in Electrical Engineering
- MEEN 5000 - Energy: The Fundamentals
- MEEN 5110 - Renewable Energy
- MEEN 5140 - Advanced Mathematical Methods for Engineers
- MEEN 5240 - Energy: A World Perspective
- MEEN 5330 - Combustion Science and Engineering

Electives, 15 hours

Five courses chosen from the following list. Other relevant courses may be taken with approval of the graduate advisor. Up to two courses may be taken from outside the Department of Mechanical and Energy Engineering.

- MEEN 5112 - Nuclear Energy
- MEEN 5150 - Thermal Energy Storage Systems and Applications
- MEEN 5210 - Solar Energy
- MEEN 5300 - Advanced Thermodynamics
- MEEN 5315 - Nanoscale Energy Transport
- MEEN 5332 - Air Pollution Control Engineering
- MEEN 5800 - Topics in Mechanical and Energy Engineering (when topic is "Energy Harvesting Systems")

Mechanical and Energy Engineering, MS

All students pursuing the master's degree with a major in mechanical and energy engineering must plan their degree program with the assistance of their major professor and their advisory committee as applicable. The requirement for graduation is at least 30 semester credit hours for the thesis option or 33 semester credit hours for the non-thesis option. The student needs to maintain at least a B average in all graduate courses.

Option 1, Thesis

The graduate credit requirement for the thesis option of the Master of Science degree is 30 semester credit hours chosen as follows:

1. Twelve semester credit hours of course work chosen from the core and one area of specialization in general energy, thermal energy and fluids, or mechanics and controls listed in the Department of Mechanical and Energy Engineering web site and graduate handbook.
2. Twelve semester credit hours of course work chosen from 5000 or higher courses offered by the Department of Mechanical and Energy Engineering and related departments. The selection of courses should be done with the approval of the student's thesis advisor and MEEN graduate advisor. A maximum of 3 credit hours of directed study or research is allowed as part of the 24 hours of course work.
3. Six semester credit hours of MEEN 5950 - Master's Thesis. Work for the master's thesis is comprised of an independent and original study. As part of these requirements, the student must present and defend a written thesis that must be approved by the major professor and the advisory committee and filed with the graduate dean's office. The thesis must conform to the graduate school requirements, which may be found at gradschool.unt.edu. It is expected that this material will be of archival quality.
4. An oral presentation of the master's thesis is required. A decision on acceptance of the thesis will be made by the student's advisory committee. For the thesis format, additional preparation guidelines can be found at gradschool.unt.edu.

Option 2, Non-thesis

The graduate credit requirement for the non-thesis option of the MS degree is 33 semester credit hours chosen as follows:

1. Twenty-seven credits of course work chosen from graduate-level courses offered by the Department of Mechanical and Energy Engineering and related departments approved by the graduate advisor.
2. Six credit hours may be taken as directed study (MEEN 5890) or graduate level courses.
3. Students taking directed study courses must submit a report.

Examinations

An oral presentation of the master's thesis is required. A decision on acceptance of the thesis will be made by the student's advisory committee. A decision on the acceptance of the report for an independent research problem will be made by the student's advisory committee. Guidelines for the independent research problem and thesis preparation may be found at mechanicalandenergy.engineering.unt.edu/. For the thesis, additional preparation guidelines can be found at gradschool.unt.edu.

Additional requirements to earn MS degree

1. All MS students (for both thesis and non-thesis options) must select one of the five MEE concentrations. A total of 21 credits (seven courses) must come from the required core and elective courses as prescribed in the list below.
2. Each MS student must take at least 21 credits in MEE, including the core and elective courses within the concentration and outside.
3. All MS students must register and attend MEE seminars for one semester.

Concentration

Materials and Manufacturing (Material Reliability and Manufacturing)

Required core courses:

- MEEN 5420 - Continuum Mechanics
- MEEN 5520 - Manufacturing Concepts for Mechanical Engineers
- MEEN 5800 - Topics in Mechanical and Energy Engineering (when topic is "Experimental Design")
- MTSE 5100 - Fundamental Concepts of Materials Science

Electives

- MEEN 5440 - Finite Element Analysis
- MEEN 5152 - Mechanics of Composites and Foams for Lightweight Energy Efficient Structures
- MEEN 5410 - Advanced Solid Mechanics

- MTSE 5020 - Mechanical Properties of Materials
- MTSE 5400 - Advanced Polymer Physics and Chemistry
- MTSE 5550 - Materials and Mechanics for MEMS Devices
- MTSE 5710 - Computational Materials Science
- MTSE 6110 - Applied Fracture Mechanics

Mechanical Systems and Design

Required core courses:

- MEEN 5140 - Advanced Mathematical Methods for Engineers
- MEEN 5420 - Continuum Mechanics
- MEEN 5600 - Feedback Control of Dynamical Systems
- MEEN 5640 - Applied Engineering Vibration (Cross listed as MFET 5140)

Electives

- MEEN 5440 - Finite Element Analysis
- MEEN 5800 - Topics in Mechanical and Energy Engineering (when topic is "Experimental Design")
- MEEN 5152 - Mechanics of Composites and Foams for Lightweight Energy Efficient Structures
- MEEN 5610 - Sensors and Actuators
- MEEN 5800 - Topics in Mechanical and Energy Engineering (when topic is "Geothermal Heat Pumps")
- MEEN 6200 - Theory of Elasticity
- MTSE 6110 - Applied Fracture Mechanics

Modeling and Simulation

Required core courses:

- MEEN 5140 - Advanced Mathematical Methods for Engineers
- MEEN 5440 - Finite Element Analysis
- MEEN 6000 - Advanced Numerical Methods

Electives

Every student under the Modeling and Simulation track will pick from electives from a group of courses either in the area of mechanics (**), or in the area of thermal-fluid sciences (*), or both.

- MEEN 5311 - Convection Heat Transfer II *
- MEEN 5340 - Advanced Fluid Mechanics *
- MEEN 5420 - Continuum Mechanics **
- MEEN 5220 - Computational Fluid Dynamics and Heat Transfer *
- MEEN 5315 - Nanoscale Energy Transport
- CSCE 5160 - Parallel Processing and Algorithms
- CSCE 5230 - Methods of Numerical Computations
- CSCE 5420 - Software Development
- CSCE 5810 - Biocomputing
- MTSE 5710 - Computational Materials Science **

Thermal-Fluid Systems

Required core courses:

- MEEN 5140 - Advanced Mathematical Methods for Engineers
- MEEN 5300 - Advanced Thermodynamics
- MEEN 5311 - Convection Heat Transfer II
- MEEN 5340 - Advanced Fluid Mechanics

Electives

- MEEN 5000 - Energy: The Fundamentals
- MEEN 5110 - Renewable Energy
- MEEN 5200 - Principles of HVAC
- MEEN 5220 - Computational Fluid Dynamics and Heat Transfer
- MEEN 5310 - Conduction and Radiation Heat Transfer
- MEEN 5315 - Nanoscale Energy Transport
- MEEN 5330 - Combustion Science and Engineering
- MEEN 5800 - Topics in Mechanical and Energy Engineering (when topic is "Geothermal Heat Pumps")

Energy

Required core courses:

- MEEN 5000 - Energy: The Fundamentals
- MEEN 5110 - Renewable Energy
- MEEN 5210 - Solar Energy

Electives

- MEEN 5140 - Advanced Mathematical Methods for Engineers
- MEEN 5112 - Nuclear Energy
- MEEN 5150 - Thermal Energy Storage Systems and Applications
- MEEN 5200 - Principles of HVAC
- MEEN 5240 - Energy: A World Perspective
- MEEN 5310 - Conduction and Radiation Heat Transfer
- MEEN 5332 - Air Pollution Control Engineering
- MEEN 5330 - Combustion Science and Engineering
- MEEN 5800 - Topics in Mechanical and Energy Engineering (when topic is "Geothermal Heat Pumps")
- BIOL 6341 - Advanced Environmental Impact Assessment
- EENG 5940 - Advanced Topics in Electrical Engineering (when topic is "Renewable Electrical Power Systems")

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. Twelve semester credit hours of core courses chosen from the listing provided by the Department of Mechanical and Energy Engineering.
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 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. Twelve semester hours of core courses chosen from the core course listing provided by the Department of Mechanical and Energy Engineering and posted on its web site.
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 that can be registered for only upon the successful completion of the PhD qualifying examination.

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 and Energy 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.

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 5420 - 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 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. Twelve semester credit hours of core courses chosen from the listing provided by the Department of Mechanical and Energy Engineering.
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 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. Twelve semester hours of core courses chosen from the core course listing provided by the Department of Mechanical and Energy Engineering and posted on its web site.
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 that can be registered for only upon the successful completion of the PhD qualifying examination.

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 and Energy 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.

Dual Program

Engineering Technology, MS/Operations and Supply Chain Management, MBA

This program is offered in collaboration with the College of Business.

Total hours depend on selection of thesis, non-thesis (project) or non-thesis (course work) option for the Master of Science with a major in engineering technology.

- 18 hours in MBA background courses
- 18 hours in required MBA core
- 12 hours in required courses
- Consult the Department of Mechanical Engineering for total hours to complete the Engineering Technology (thesis), MS, Engineering Technology (non-thesis project option), MS or Engineering Technology (non-thesis integrative course option), MS.

Required courses

- MGMT 5240 - Project Management
- MGMT 5280 - Analysis and Design of Operations System
- MGMT 5850 - Materials Management
- DSCI 5210 - Model-Based Business Intelligence

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 tsgs.unt.edu/apply.

For additional information, please contact Dr. Tae-Youl Choi at 940-565-2198 or by e-mail at tae-youl.choi@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.

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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: www.hps.unt.edu

Neale R. Chumbler, Dean

Nicole Dash, Associate Dean

The College of Health and Public Service (HPS) prepares students to address complex social issues such as aging, disability, disaster, criminal justice, cultural disparities, employment, health, public administration, public health and public safety. The college houses seven academic departments with undergraduate and graduate programs, the Center for Public Management, the UNT Speech and Hearing Center, the Collegiate Recovery Program and a number of professional development and clinical training programs.

HPS students train to become professionals strengthening our communities by serving as audiologists, behavior analysts, city managers, emergency managers, health care administrators, public safety administrators, public health specialists, rehabilitation counselors, speech language pathologists and social workers.

Master's level degrees offered by HPS include:

- MS in Behavior Analysis and fully online and practitioner-oriented MA in Applied Behavior Analysis.
- MS in Criminal Justice with both a campus based and 100% online program.
- MS in Emergency Management and Disaster Science.
- MS in Health Services Administration – in a completely online accelerated format.
- MPA in Public Administration. US News and World Report ranks this program as #1 in Texas and #5 in the nation (2019).
- MS in Rehabilitation Counseling with both a 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 in joint program with Texas Woman's University.
- MS in Speech Language Pathology.

Doctoral degrees offered by HPS include:

- AuD in Audiology
- PhD in Health Services Research with concentrations in Applied Gerontology, Audiology and Speech Language Pathology, Behavior Analysis or Rehabilitation Science
- PhD in Public Administration and Management

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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

Web site: aslp.hps.unt.edu

Kamakshi V. Gopal, 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, audiology, or both. A second and equally important mission of the department is the professional development of the discipline through research and clinical services.

Research

The Department of 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, and auditory processing in children and adults; discourse production in adults with acquired language disorders; hearing loss in musicians in conjunction with the Center for Music and Medicine of the College of Music; the investigation of auditory cortical neuron pattern processing studies with the Center for Network Neuroscience in the Department of Biological Sciences; discourse expression of emotionality with the Department of Psychology.

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)

A PhD in Health Services Research with a concentration in Audiology and Speech Language Pathology is offered in conjunction with the Department of Disability and Addiction Rehabilitation.

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.

Graduate School admission forms may be obtained from the Dean of the Toulouse Graduate School. Additional admissions forms and requirements specific to the departmental graduate programs may be found on the departmental web site (aslp.hps.unt.edu).

Currently, speech-language pathology students are admitted only in the fall semester; likewise, audiology 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 web site (aslp.hps.unt.edu) for both the speech-language pathology program and the audiology program.

All required material (including GRE scores) 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.

In addition to the admission requirements of the graduate school, the department requires the following.

1. A grade point average (GPA) of at least 3.0 on the last 60 hours of undergraduate work or an overall GPA of 2.8 on all undergraduate work.
2. A GPA of at least 3.0 on all audiology and speech-language pathology course work, including those courses taken to remove undergraduate deficiencies.
3. All students must submit satisfactory scores on the Graduate Record Examination (GRE) at the time of application. For standardized admission test requirements, contact the department or the Toulouse Graduate School.
4. Three satisfactory letters of recommendation.
5. A personal statement that includes all content as specified on the departmental web site (aslp.hps.unt.edu).

Information on application procedures is available through the Dean of the Toulouse Graduate School and on the departmental web site: aslp.hps.unt.edu.

In all cases, the department maintains the right to make independent inquiry of the applicant's references and the faculties of institutions previously attended, as well as to deny admission to an applicant who, in its judgment, fails to meet personal or academic admission standards. In all cases the applicant is assured the right to due process.

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. Applicants who have not yet completed the specified undergraduate course work in communication sciences and disorders, but who otherwise are competitive with respect to departmental admissions requirements must complete course work across the 10 specified undergraduate content areas in communication sciences and disorders prior to matriculation 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, for cases in which the basic sciences course work (in biological sciences, physical sciences, statistics, and social/behavioral sciences) was not completed during the candidate's undergraduate degree program. Courses that qualify to fulfill the requirement for completion of course work across the 10 undergraduate content areas in communication sciences and disorders required for admission into the master's program, and courses that qualify to fulfill the basic science distributional course work required for eventual professional certification and licensure, are specified on the departmental web site: aslp.hps.unt.edu.

Individuals applying to the professional doctoral program in audiology without course work in life sciences, physical/chemical sciences, normal speech, language, speech disorders, and language disorders will be required to complete courses in these subjects. These courses may be taken concurrently with graduate-level courses in audiology. Depending upon undergraduate preparation, additional undergraduate course work may be necessary to meet requirements for professional certification and licensing.

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; and 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.

Each of these options includes 6 graduate semester hours in audiology.

A final written comprehensive examination is required of all students who do not write a thesis. The comprehensive examination will focus upon the various content areas of speech-language pathology, including normal aspects of speech, language, swallowing and hearing, rather than upon

specific courses that may constitute an individual degree plan. Those who write a thesis will be 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, 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 Services Research, 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 courses

The following section provides a complete listing of ALL required course work for the AuD program.

- ASLP 5775 - Research Methods in Speech-Language Pathology/Audiology
- ASLP 6010 - Clinical Audiology Observation
- ASLP 6020 - Clinical Audiology Practicum
    - Practicum I–2 hours
    - Practicum II–2 hours
- ASLP 6060 - Clinical Audiology Advanced Practicum
    - Practicum I–2 hours
    - Practicum II–2 hours
    - Practicum III–2 hours
    - Practicum IV–2 hours
    - Practicum V–2 hours
- ASLP 6070 - Clinical Management of Audiological Services
- ASLP 6090 - Clinical Residence in Audiology
    - Fall–9 hours
    - Spring–9 hours
    - Summer–6 hours
- 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 6730 - Seminar in Audiology
    - Service Delivery Models–1 hour
    - Professional Practices–1 hour
    - Speech Perception–3 hours
    - SLP course for AuD–2 hours
    - Counseling–1 hour
    - Advanced Topics–2 hours
    - ALD Systems–1 hour
    - Vestibular–3 hours
    - Cochlear Implants–2 hours
    - Hearing Aid Adjustments–1 hour
- ASLP 6750 - Advanced Audiologic Assessment
- ASLP 6770 - Electrophysiologic Assessment
- ASLP 6800 - (Re)Habilitative Audiology for Adults and Children
- ASLP 6990 - Research Project

Other requirements

- 3 undergraduate hours in life sciences
- 3 undergraduate hours in physical sciences

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Department of Behavior Analysis

Main Office
Chilton Hall, Room 360

Mailing address:
1155 Union Circle #310919
Denton, TX 76203-5017
940-565-2274
Fax: 940-565-2467

Web site: behv.hps.unt.edu

Student Advising Office
Chilton Hall, Room 360E
940-565-3318

Manish Vaidya, 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 are awarded annually to one or more students in behavior analysis. Research and teaching assistantships are available for qualified students, as are opportunities for paid work in behavior analysis.

The Association for Behavior Analysis International (ABAI) (550 W. Centre Ave., Portage, MI 49024-5364; 269-492-9310, mail@abainternational.org) has conferred accreditation on the University of North Texas Master of Science with a major in behavior analysis program.

Research

Both laboratory and applied research are conducted at the Department of Behavior Analysis, and scholarly work in the theory and philosophy of the science of behavior is ongoing. Applied research in a variety of field settings is supervised by faculty.

Departmental laboratories accommodate multiple ongoing experiments in human and non-human operant behavior.

Current research is in the areas of functional analysis and treatment of severe behavior disorders, behavioral pharmacology, nature and causes of behavioral variability, organization of behavior in human repertoires in home and in school, treatment of children with autism, functional assessments and behavioral interventions in classrooms, stimulus control, and neuro-operant relations.

Admission requirements

Admission to the master's program in behavior analysis is based on combined information from several sources: GRE scores; undergraduate GPA and, where applicable, GPA in post-baccalaureate courses; letters of recommendation; demonstrated skills and serious interest in behavior analysis (as evidenced by previous course work/grades, completed research and/or applied projects in behavior analysis undertaken at the undergraduate level or in work settings under the supervision of a behavior analyst); and a personal statement (letter) as to the applicant's goals and interests in behavior analytic research and practice. The departmental admissions committee considers every applicant on an individual basis in an attempt to ensure that a student who is accepted to the program will be capable of completing the rigorous curriculum.

Prerequisites

Although no specific undergraduate major is required, an appropriate background is desirable. Students must have a minimum of 6 semester credit hours in behavior analysis, including a course in behavioral principles, before beginning course work toward the master's degree. After the first term/semester of course work, and on a continuing basis, students are advised regarding ways in which they can best achieve the level of expertise required to master the subject matter included in the curriculum.

Master's Degree

Applied Behavior Analysis, MA

The purpose of this program 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) and
- provide a Master of Arts degree to students who complete the requirements.

Degree requirements

The MA with a major in applied behavior analysis is a one-year professional practice degree program. The degree is 30 semester credit hours. There are seven core courses that focus on foundations, methods, and ethics. Three student-selected electives focus on building content areas expertise. The full-time sequence takes one full academic year. Part time options only require that the student complete courses in numerical sequence as it is a cumulative hierarchal curriculum.

Required courses, 21 hours

Electives, 9 hours

Students choose 9 hours from the following list of courses.

Behavior Analysis, MS

The purpose of the program is to:

- teach principles, theory and research methods of behavior analysis;
- teach procedures for systematic application of behavioral interventions in applied settings; and
- provide practical experience in functional analysis; in designing, implementing and evaluating behavioral applications; and in laboratory research.

The graduate program is designed to enable students to follow either of two career paths upon graduation:

1. **Professional employment in the applied field:** conduct behavioral assessments and behavioral interventions in human service, educational or business settings; train employees in program interventions and conduct applied research in public and private agencies and institutions; or
2. **Doctoral study in behavior analysis:** enter PhD programs at other universities to continue advanced study in applied behavior analysis or the experimental analysis of behavior.

Students focusing in either area will take courses from a core curriculum, take elective courses tailored to their interests and complete a thesis.

Degree requirements

Students focusing on application will complete 48 semester hours, including 24 hours of core courses and thesis, designated and free elective courses, and 7 hours of practicum/internship. Others will complete 42 semester hours of work in the same categories, but will have one 2-hour practicum.

Full- or part-time study is possible, as long as a satisfactory pace is maintained. Ordinarily, students will take a minimum of 6 hours per term/semester and finish in five to eight terms/semesters.

Graduate Academic Certificate

Applied Behavior Analysis certificate

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)

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 tsgs.unt.edu/certificatedisclosure.

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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

Robert Bland, Interim Chair
Adam Trahan, 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:

Brooke Nodeland, PhD
Online MSCJ Program Coordinator
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

To receive admission to the master's degree program with a major in criminal justice, applicants must have an undergraduate 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:

Adam Trahan, 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:

Brooke Nodeland, PhD
Online MSCJ Program Coordinator
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 15 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:

Adam Trahan, 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, 15 hours

- CJUS 5000 - Criminal Justice Policy
- CJUS 5500 - Seminar in Criminal Justice Administration
- 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.

Student selecting the thesis option will be required to complete the core curriculum of 15 hours, 15 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 15 hours and 21 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.

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Department of Emergency Management and Disaster Science

Main Office

Chilton Hall, Room 122

Mailing Address

1155 Union Circle #310637
Denton, TX 76203-5017

940-369-7445

Web site: emds.hps.unt.edu

Gary R. Webb, 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 disasters 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, disasters 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 in a minor 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 in a minor 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 in a minor 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.

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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

Brian K. Collins, 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. Additionally, it also offers a minor in Public Administration, Nonprofit Management, 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, Public Administration Quarterly, 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;* and *Understanding Nonprofit Organizations.*

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 hps.unt.edu/padm/welcome-public-administration.

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 submitted for review (but is not required), including up to three letters of recommendation from persons capable of evaluating the applicant's potential for graduate study, GRE scores, an essay describing the applicant's career objectives and explaining how an MPA degree will help achieve those objectives, or a current resume. These optional materials 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 resume 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 resume, and an academic writing sample. International students must also provide proof of English proficiency requirement.

There are two categories of admission to the program: unconditional and conditional. First, an applicant may receive unconditional admission to the program if the portfolio provides evidence that the applicant is highly likely to complete all requirements of the PhD program. Unconditional admission is available to students who have completed an MPA degree or the core MPA competencies as established by NASPAA. If an applicant is otherwise qualified, then the applicant may obtain a conditional admission. Students accepted into the program under conditional admission must complete leveling course work. In most cases, leveling course work constitutes 12 to 24 hours of course work to be completed before beginning doctoral seminars in the department. Additional information regarding admissions is available at hps.unt.edu/padm/welcome-public-administration.

Official transcripts and test scores must be sent directly to the Toulouse Graduate School by the institution and ETS, respectively. Letters of recommendation, the resume and personal statement can be sent directly to: PhD Coordinator, Department of Public Administration; 1155 Union Circle #310617; Denton, TX 76203-5017.

Degree requirements

The PhD program requires students to earn a minimum of 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.

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Department of Rehabilitation and Health Services

Main Office
Chilton Hall, Room 218

Mailing address:
1155 Union Circle #311456
Denton, TX 76203-5017
940-565-2488

Web site: rhs.hps.unt.edu/

Chandra Donnell Carey, Interim Chair and Program Coordinator

Faculty

Master of Science with a major in rehabilitation counseling

The primary goal of the rehabilitation counseling graduate program is to prepare a diverse group of students for the profession of rehabilitation counseling who can assist and advocate for individuals with disabilities to live and work as independently as possible. The graduate program curriculum provides students with the opportunity to obtain the essential knowledge, skills and abilities necessary to function effectively as ethical and competent practitioners in the field of rehabilitation counseling. 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). A graduate certificate in rehabilitation counseling is also available for professionals with a master's degree in related human service fields interested in obtaining national certification as a Rehabilitation Counselor and who meet the eligibility requirements.

Career opportunities

Rehabilitation counselors typically 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.

Description of program

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. 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 program is nationally accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) and consists of a core curriculum that includes advanced 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 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 website 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. Applications to the graduate program in rehabilitation counseling are reviewed throughout the year; however, 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 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.

All applications should include the following:

1. Rehabilitation counseling graduate program application (available at rhs.hps.unt.edu);
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 history with the equivalent of one year of full-time employment.

Upon admission by the Toulouse Graduate School and receipt of the above documents, applicants will be scheduled for an interview with members of the rehabilitation counseling faculty. All applications are reviewed by the rehabilitation counseling graduate faculty, who make recommendations 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 letter of the faculty's recommendation on their application.

Master's Degree

Health Services Administration, MS

Dr. Gayle Prybutok – Health Services Administration Program Coordinator

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. This program provides a foundation in health services administration while offering options for a specialized area of expertise. Students may pursue one of a number of concentration areas to customize this professional degree. One concentration in long-term care administration, satisfies the Texas requirements for licensure as a long-term care administrator. The concentration in applied gerontology prepares individuals for alternative careers in administration of community-based services. The rehabilitation services concentration prepares individuals for a leadership role in a health care delivery setting that requires specialized knowledge for effectively working with individuals who have a substance use disorder, disability, or chronic illness. The fourth concentration in health data analytics will develop leaders with skills in data extraction, focused reporting, data modeling and the analysis of big data in the healthcare environment.

Admission and general degree requirements

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.

General degree requirements

The Master of Science with a major in health services administration is a fully online degree program that requires completion of 36 graduate hours. These 36 hours include an 24 hour core curriculum, and 12 hours in one of the concentrations. 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.

Degree requirements

Core courses, 24 hours

- 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 - Health Care Law and Ethics
- HLSV 5940 - HLSV Capstone

Concentration, 12 hours

Students choose one of the following concentrations.

Long Term Care Administration

The courses in this concentration also meet the requirements for licensure as a Long Term Care Administrator.

Students seeking licensure as long-term care administrators must serve a 1,000-clock-hour internship, for 6 hours of credit, in a licensed long-term care facility. Internship placements are available nationwide under the preceptorship of experienced professionals.

Licensed long-term care administrators may be allowed to substitute additional course work for the internship.

- AGER 5600 - Housing for the Elderly: Planning, Public Policy and Research
- AGER 5810 - Seminar on Administration of Programs in Aging
- AGER 5840 - Internship in Administration of Programs in Aging
- AGER 5850 - Internship in Administration of Programs in Aging

Applied Gerontology

- AGER 5750 - Processes of Aging
- AGER 5760 - Geriatric Care Management
- AGER 5780 - Federal, State and Local Programs in Aging
- AGER 5790 - Needs Assessment, Program Planning and Evaluation in the Services for the Elderly

Rehabilitation Services

The rehabilitation services concentration allows students to assume a leadership role in health care delivery settings that require specialized knowledge for effectively working with individuals who have a substance use disorder, disability or chronic illness. This concentration explores various aspects of the field of rehabilitation counseling, such as the medical and functional aspects of various disabilities and illnesses, disability-related legislation and the important role of advocacy, and research and program evaluation.

- RHAB 5700 - Introduction to Rehabilitation
- RHAB 5710 - Rehabilitation in a Multicultural Society
- RHAB 5730 - Medical and Psychosocial Aspects of Disability
- RHAB 5770 - Rehabilitation Research and Program Evaluation

Health Data Analytics

A concentration in Health Data Analytics will meet growing needs in the health care industry and in the regulatory and research arenas for leaders with skills in data extraction, focused reporting, data modeling, and data analysis through the concentration courses in data analytics. The core courses in healthcare administration will provide the topical expertise on the issues and demands facing health care leaders in this age of health care reform and evidence based medicine.

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

- INSD 5940 - Interdisciplinary Capstone Experience (may be taken as capstone option)

Health informatics

This concentration focuses on data analysis, data mining, text mining and data visualization in the health care environment.

- INFO 5636 - Community-Based Health Information
- INFO 5637 - Medical Informatics
- INFO 5709 - Data Visualization and Communication
- INFO 5810 - Data Analysis and Knowledge Discovery

Rehabilitation Counseling, MS

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 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. Applications to the graduate program in rehabilitation counseling are reviewed throughout the year, but students are encouraged to enter the program in the fall term/semester. 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 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 at pacs.unt.edu/dar);
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 history with the equivalent of one year of full-time employment.

Upon admission by the Toulouse Graduate School and receipt of the above documents, applicants will be scheduled for an interview with members of the rehabilitation counseling faculty. All applications are reviewed by the rehabilitation counseling graduate faculty, who make recommendations 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 letter 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 - Introduction to Rehabilitation
- RHAB 5710 - Rehabilitation in a Multicultural Society
- RHAB 5715 - Disability Issues in Human Development
- RHAB 5720 - Rehabilitation Counseling Theories
- RHAB 5721 - Rehabilitation Counseling Applications
- RHAB 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 Drug Use Counseling Models
- RHAB 5740 - Rehabilitation Assessment
- RHAB 5741 - Employment and Career Development
- RHAB 5742 - Professional and Ethical Issues in Rehabilitation Case Management
- RHAB 5770 - Rehabilitation Research and Program Evaluation
- RHAB 5811 - Practicum in Rehabilitation
- RHAB 5812 - Internship in Rehabilitation

Elective selected from

- RHAB 5150 - Alcohol and Other Drug Abuse Counseling Practice
- RHAB 5250 - Topics in Rehabilitation
- RHAB 5450 - Alcohol, Drugs and Disability
- RHAB 5718 - Transition Issues in Rehabilitation
- 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.

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 are required to complete 3,000 hours of supervised practice and must successfully pass the state licensing examination. Students may also complete academic requirements of the Texas Department of State Health Services for licensure as a Chemical Dependency Counselor (LCDC).

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 Services Research, PhD

Dr. Denise Catalano, PhD, CRC – Director, Doctoral Program

This program provides a broad foundation in public health concerns, research and evaluation methods, and health and social policy analysis to meet the demands of a dynamic health services delivery environment. The focus is on developing academic research scientists who are interested in contributing to the health services discipline through research, education and policy analysis. Graduates of the PhD program in health services research will be prepared to function as educators, researchers and leaders in health services.

Admission requirements

Admission to PhD Program

Before being admitted to the PhD 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 the Health Service Research PhD program must obtain and file an application for admission to the UNT Toulouse Graduate School. Second, applicants for a PhD must obtain and file a separate application for admission to the program. No specific undergraduate or graduate major is required.

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

For all international applicants, an official English proficiency exam score, the TOEFL, no more than two years old from the date of application, is required. We accept the TOEFL (minimum 79 IBT). Our institutional TOEFL code is 6481.

There are only two waivers of this requirement for international applicants:

- International applicants who have completed an undergraduate or graduate degree from a college or university in the United States are waived from submitting the English proficiency score.
- International applicants who are from a country whose official governmental language is English AND whose education has been entirely in English. Please see the list of countries whose citizens meet the waiver criteria for English proficiency.

Statement of Vision, Goals, Rationale and Achievements

A five-page, double-spaced, typed essay outlining the applicant's academic interests and short and long term career goals is required and may be submitted with the online application.

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.

Resume

A detailed resume of all work and volunteer history. This may be submitted with the online application, or you can submit a hard copy by mail or e-mail. 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 (2 from former professors and one from current or past employers or community leaders) are required for admission to the PhD program. Letters of recommendation may be submitted through the online letter of recommendation system in the online application, or you can submit a hard copy by mail, e-mail or fax.

Personal Interview

All applications will be reviewed by the Admissions Committee to guarantee the selection of the most qualified applicants based upon a holistic review of the items listed above. After initial screening, an interview with prospective candidates will be conducted by the Admissions Committee, either in person or via Skype or other electronic means.

General degree requirements

The minimum program for the PhD with a major in health services research requires 51 hours beyond the master's degree.

Specific requirements include:

- 18 semester hours in foundation core courses covering research methods and design, statistics, grant proposal writing and analysis, and writing for publication.
- 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 services research foundation core, 18 hours

- HLSR 6200 - Research Methods and Design
- HLSR 6420 - Health Services Research
- HLSR 6710 - Health Disparities and Social Justice
- EPSY 6010 - Statistics for Educational Research
- EPSY 6210 - Multiple Regression Analysis and Related Methods
- EPSY 6290 - Multivariate Statistics in Education

Concentration area, 15 hours

Applied gerontology

This program is designed for the applied gerontology practitioner who is interested in making a contribution to the discipline through research, while maintaining their focus on active engagement with the aging population. 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 seniors and that make services accessible and affordable. Practitioners experienced in the delivery of services for the aged are in the best position to identify opportunities for improvement and to conduct experience based research that will result in improved service delivery and improved outcomes.

- AGER 6150 - Theories of Aging
- AGER 6500 - Regulatory Strategies
- AGER 6700 - Formal Organization of Aging Services
- AGER 6740 - Advanced Social Gerontology
- AGER 6800 - Social Policy and Aging

Audiology and speech-language pathology

The mission of the PhD with a major in health services research and a concentration in audiology and speech-language pathology (ASLP) is to prepare researchers, educators and leaders in the academic fields of audiology and speech-language pathology with an emphasis on interdisciplinary collaboration. This program focuses on developing competent researchers, educators and leaders to be at the forefront of knowledge for improving the overall quality of life of persons with speech, language and hearing disabilities. Graduates are expected to demonstrate advanced knowledge and technical expertise in addressing critical areas of research, education, service delivery, clinical practice and professional policy.

- 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

Rehabilitation science

The mission of the PhD with a major in health services research and a concentration in rehabilitation science is to advance knowledge and research in the psychosocial impact of disability across the lifespan, well-being and health disparities. This program focuses on developing skilled researchers, educators and leaders to be at the forefront of knowledge translation on improving the overall quality of life of persons with disabilities. Graduates are expected to demonstrate advanced knowledge and skill in addressing critical areas of research, education, service delivery, clinical practice and/or policy.

- RHAB 6700 - Professional Issues and Disability Policies
- HLSR 6710 - Health Disparities and Social Justice
- RHAB 6715 - Advanced Psychosocial Aspects of Disability Across the Lifespan
- RHAB 6730 - Disability, Health and Functioning
- RHAB 6740 - Measurement and Evaluation

Behavior analysis

The mission of the PhD with a major in health services research with a concentration in behavior analysis is to train 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 and dd), 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.

Students choose 15 hours from the following:

- 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 6300 - Better Living through Behavioral Science
- BEHV 6410 - The Dissemination and Application of Behavior Analysis
- BEHV 6810 - Developing Behavior Analytic Expertise I
- BEHV 6910 - Developing Behavior Analytic Expertise II

Graduate Academic Certificate

Rehabilitation Counseling advanced certificate

The Post-Graduate Advanced Certificate in Rehabilitation Counseling is designed for current and aspiring rehabilitation counselors who intend to pursue the Certified Rehabilitation Counselor credential, per Category 3 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 - Introduction to Rehabilitation
- RHAB 5710 - Rehabilitation in a Multicultural Society

- 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 and Ethical Issues in Rehabilitation 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 tsgs.unt.edu/certificatedisclosure.

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

- 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 tsgs.unt.edu/certificatedisclosure.

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Department of Social Work

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1155 Union Circle #305370
Denton, TX 76203-5017
940-565-3437

Web site: sowk.hps.unt.edu

Sharon Bowland, Chair

Faculty

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.

Admissions Procedures

Applicants will first apply to the joint MSW program through our web site at twu-unt-msw.com. The joint MSW committee will determine initial program eligibility and randomly assign applicants to a home institution (UNT or TWU). In the program preliminary eligibility letter, students will be informed of their home institution assignment and that they need to apply for institution admission through the ApplyTexas portal. They

will then remit their transcripts to their home institution. There will be no fee for the program's joint committee review of applicants, as students must pay when applying to the institution through the ApplyTexas portal. The program will use UNT's admission standards for program entry. Final review and acceptance will be determined after applicants have completed the web site application, the ApplyTexas application and all supporting documents have been received.

Requirements

Two types of students will be admitted to the Joint Master of Social Work (MSW) program. The first group are graduates of Bachelors programs in fields other than Social Work (Foundation students) and they will complete a two year 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.

Students accepted into the program for the full-time two year component complete 10 foundation courses (30 credit hours) in the first year and 10 advanced courses (30 credit hours) in the second year. Students accepted into the Advanced Standing one year full-time component will complete 10 advanced courses (30 credit hours). There are advanced course electives in healthcare and children and family services specialization. Students are required to choose one elective from their advanced year. When the Master's thesis is available the student may choose to enroll in SOWK 5983 - Master's Thesis in lieu of SOWK 5413 - Social Work Program and Practice Evaluation and SOWK 5993 Master's Thesis in lieu of SOWK 5973 - Advanced Integrative Seminar. Please check with faculty to determine availability of the thesis option.

Required Courses

Foundation courses, 30 hours

- SOWK 5103 - Human Behavior in the Social Environment I
- SOWK 5113 - Human Behavior in the Social Environment II
- SOWK 5203 - Social Work Practice I Individuals and Systems
- SOWK 5213 - Social Work Practice II Organizations and Communities
- SOWK 5223 - Social Work Practice III Groups
- SOWK 5303 - Social Work History and Social Welfare Policy
- SOWK 5313 - Social Work Policy Practice
- SOWK 5403 - Social Work Research Methods
- SOWK 5803 - Social Work Foundation Field Seminar and Field Practicum I
- SOWK 5813 - Social Work Foundation Field Seminar and Field Practicum II

Advanced courses, 27 hours

- SOWK 5233 - Social Work Advanced Practice I
- SOWK 5243 - Social Work Human Diversity and Multicultural Practice
- SOWK 5253 - Social Work Advanced Practice II Interventions
- SOWK 5323 - Social Work Administration and Management
- SOWK 5333 - Social Work Advanced Policy Analysis
- SOWK 5413 - Social Work Program and Practice Evaluation
- SOWK 5833 - Social Work Advanced Field Seminar and Field Practicum I
- SOWK 5843 - Social Work Advanced Field Seminar and Field Practicum II
- SOWK 5973 - Advanced Integrative Seminar

Electives, 3 hours

Choose one course from the following advanced practice areas.

Health Care

- SOWK 5503 - Death, Dying and Bereavement
- SOWK 5513 - Practice in Mental Health
- SOWK 5523 - Addictions: Drug and Alcohol Treatment

Children and Family

- SOWK 5533 - Theories and Interventions with Children
- SOWK 5543 - Child Maltreatment: Assessment and Intervention
- SOWK 5553 - Foster Care, Adoption and Permanency Planning

Thesis option

Students choosing the thesis option will take the following classes.

- SOWK 5983 - Master's Thesis (in lieu of SOWK 5413)
- SOWK 5993 – Master's Thesis (in lieu of SOWK 5973)

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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

Shobhana Chelliah, Associate Dean of Research and Development
Yunfei Du, Associate Dean of Academics

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
- English as a Second Language (ESL), MA
- Information Science, MS
- Learning Technologies, MS
- Library Science, MS
- Linguistics, MA
- 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 appropriate academic advisor in the Department of Information Science, Department of Learning Technologies or Department of Linguistics.

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Department of Information Science

Main Office
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3940 North Elm Street

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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/

Jiangping Chen, 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 library science and information science. Research interests include information and communication theory; human information needs, seeking, searching, evaluation and use behaviors; development of information resources and services for specific populations; technology-based social networking in corporate and cultural environments; competency-based learning in the information professions; management and leadership of libraries and information agencies; roles of school library media specialists in instructional delivery; storytelling; scientific and scholarly communication; bibliometrics; human-computer interaction; information systems design, analysis and evaluation; information retrieval including specializations in cross-language, digital image, and multimedia retrieval; technology standards development and application; digital libraries; institutional repositories; metadata and organization of networked resources; philosophy and theories of information organization including information representation and classification; digital information management including bibliographic control and preservation; distributed learning and technologies; automated library systems; medical informatics, legal informatics, and information resources and services in corporate and government fields; text and data mining; competitive intelligence; information policy and ethics; and information technology issues of privacy and security.

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

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

- INFO 5501 - Fundamentals of Data Analytics
- INFO 5502 - Analytic Tools, Techniques and Methods
- INFO 5709 - Data Visualization and Communication

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 12 hours from the following list of courses.

- BCIS 5600 - Visual Information Technologies
- CSCE 5300 - Introduction to Big Data and Data Science
- DSCI 5240 - Data Mining and Machine Learning for Business
- DSCI 5330 - Enterprise Applications of Business Intelligence
- DSCI 5340 - Predictive Analytics and Business Forecasting
- DSCI 5360 - Data Visualization for Analytics
- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5503 - Knowledge Management Processes and Practices
- INFO 5810 - Data Analysis and Knowledge Discovery
- ADTA 5130 - Data Analytics I
- ADTA 5230 - Data Analytics II

- LING 5360 - Studies in Descriptive Linguistics
  or
- LING 6150 - Semantic Ontologies

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.

- INFO 5707 - Data Modeling for Information Professionals
- INFO 5731 - Computational Methods for Information Systems
- INFO 5735 - Usability and User Experience Assessment
- INFO 5737 - Information and Cyber-Security
- INFO 6050 - Health Research Methodology
- LTEC 5320 - Contemporary Issues in Workforce Learning and Performance
- LTEC 5300 - Learning and Cognition
- LING 5410 - Computational Linguistics I

- LING 5530 - Semantics and Pragmatics I
- LING 5550 - Corpus Linguistics
- LING 5560 - Discourse Analysis

- LING 5360 - Studies in Descriptive Linguistics (when the topic is "Data Analysis in Human Language Technology I")
  or
- LING 6060 - Data Analysis in Human Language Technology (HLT) I

- LING 5360 - Studies in Descriptive Linguistics (when topic is "Natural Language Processing")
  or
- LING 6130 - Natural Language Processing

- LING 5360 - Studies in Descriptive Linguistics (when the topic is "Data Analysis in Human Language Technology II")
  or
- LING 6140 - Data Analysis in Human Language Technology (HLT) II

Internship/research project, 3 hours

- INFO 5082 - Seminar in Research and Research Methodology
- INFO 5090 - Practicum and Internship in the Field Study

Information Science, MS

Master of Science

The master's program prepares information professionals for work in a variety of roles and application settings, including all types of libraries and other information agencies. The program rests on a broad conceptual framework that explores the nature of information, its organization and retrieval, and its access and use from the user's viewpoint. In addition, the program prepares individuals who wish to pursue doctoral studies in information science theory, research and practice.

Goal and objectives

The master's program goal is to prepare students 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. At the time of graduation, all course work used to satisfy degree requirements may be no more than six years old.

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 informatics

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.

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, MS

Master of Science

The master's program prepares information professionals for work in a variety of roles and application settings, including all types of libraries and other information agencies. The program rests on a broad conceptual framework that explores the nature of information, its organization and retrieval, and its access and use from the user's viewpoint. In addition, the program prepares individuals who wish to pursue doctoral studies in information science theory, research and practice.

Goal and objectives

The master's program goal is to prepare students 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. At the time of graduation, all course work used to satisfy degree requirements may be no more than six years old.

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.

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 Behavior and Experience Management, PhD

The PhD with a major in information science and a concentration in consumer behavior and experience management requires a minimum of 60 semester credit hours.

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 - Doctoral Seminar in Information Issues

Research courses, minimum of 24 hours

Minimum of 24 semester credit hours, including doctoral dissertation.

Required research course, 3 hours

- INFO 6940 - Seminar in Research and Research Methodology

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 behavior and experience management concentration core, 15 hours

- CMHT 5440 - Consumer Theory
- CMHT 5600 - Managing Customer Experiences
- CMHT 5700 - Service Excellence
- CMHT 6500 - Big Data Implementation in Social Network Analysis
- MDSE 5750 - Digital Retailing

Concentration electives, minimum of 9 hours

Minimum of 9 semester credit hours, focusing on one of the following competencies.

Business perspective/competency

- CMHT 5550 - Promotional Strategies
- CMHT 6900 - Special Problems (3 hours taken with the major professor; required)
- 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 5860 - Strategic Management in the Hospitality Industry
- INFO 5310 - Marketing and Customer Relationships for Information Professionals
- INFO 5315 - Competitive Intelligence

Data-based decision making perspective/competency

- BCIS 6670 - Topics in Information Systems
- CMHT 6900 - Special Problems (3 hours taken with the major professor; required)
- DSCI 5240 - Data Mining and Machine Learning for Business
- DSCI 5350 - Big Data Analytics
- INFO 5040 - Information Behavior
- INFO 5223 - Metadata for Information Organization and Retrieval I
- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5841 - Digital Curation Fundamentals
- INFO 6350 - Management of Information Resources in Organizations

Consumer perspective/competency

- ANTH 5100 - Organizational Anthropology
- CMHT 6900 - Special Problems (3 hours taken with the major professor; required)
- COMM 5325 - Communication Theory
- INFO 5040 - Information Behavior
- INFO 5310 - Marketing and Customer Relationships for Information Professionals
- INFO 6720 - Human Information and Communication Behavior
- MDSE 5620 - Socio-Cultural Analysis of Dress

Information Science with a concentration in Cybersecurity, PhD

The PhD with a major in information science and a concentration in cybersecurity requires a minimum of 60 semester credit hours.

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 - Doctoral Seminar in Information Issues

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 - Seminar in Research and Research Methodology

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

- 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 - Strategic Use of Information Technology
- 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 - Information Warfare, Security and Risk Analysis
- CJUS 5120 - Cybercrime and Digital Forensics
- 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")

Information Science with a concentration in Data Science, PhD

The PhD with a major in information science and a concentration in data science requires a minimum of 60 semester credit hours.

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 - Doctoral Seminar in Information Issues

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 - Seminar in Research and Research Methodology (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 - Big Data Implementation in Social Network Analysis)
- DSCI 5360 - Data Visualization for Analytics (or INFO 5709 - Data Visualization and Communication)
- INFO 5500 - Foundational Principles in Knowledge Management
- INFO 5502 - Analytic Tools, Techniques and Methods

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:

- 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 Assessment
- 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 - Computational Linguistics I
- LING 6060 - Data Analysis in Human Language Technology (HLT) I
- LING 6130 - Natural Language Processing (or equivalent, e.g., CSCE 5290 - Natural Language Processing)
- DSCI 5220 - Survey Analytics
- DSCI 5260 - Business Process Analytics
- DSCI 5310 - Risk and Life-Data Analysis
- DSCI 5340 - Predictive Analytics and Business Forecasting
- 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)
- DSCI 5250 - Statistical Techniques in Simulation

Information Science with a concentration in Geospatial Information Science, PhD

The PhD with a major in information science and concentration in geospatial information science requires a minimum of 60 semester credit hours in the following areas.

Interdisciplinary core, 3 hours

- INFO 6945 - Doctoral Seminar in Information Issues

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

- INFO 6940 - Seminar in Research and Research Methodology
- INFO 6950 - Doctoral Dissertation (12 hours)
- 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

Concentration core, 15 hours

Chosen with approval of major advisor.

- GEOG 5230 - Location Intelligence: Advanced Business GIS Concepts and Applications
- GEOG 5410 - Location-Allocation Modeling
- GEOG 5430 - Remote Sensing
- 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
- CJUS 5120 - Cybercrime and Digital Forensics
- 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 - Computational Epidemiology
- 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 5140 - Medical Geography
- GEOG 5210 - Seminar in Urban Geography
- GEOG 5350 - Geomorphology
- GEOG 5400 - Environmental Modeling
- SOCI 5210 - Introduction to Social Statistics
- SOCI 5350 - Seminar on Urbanization

Information Science with a concentration in Health Informatics, PhD

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 - Doctoral Seminar in Information Issues

Research courses, 24 hours

Minimum 24 credit hours, e.g. individual research courses, directed studies, special topics courses, internships and doctoral dissertation.

- INFO 6940 - Seminar in Research and Research Methodology
- 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 credit hours

- GEOG 5140 - Medical Geography
- INFO 5307 - Knowledge Management Tools and Technologies
- INFO 5637 - Medical Informatics
- INFO 6220 - Information Retrieval Theory

Concentration electives

Consult with an advisor to determine electives.

Information Science with a concentration in Journalism, PhD

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 - Doctoral Seminar in Information Issues

Research courses, 21 hours

Minimum of 21 hours, e.g. individual research courses, direct studies, special topics courses, internships and doctoral dissertation.

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 6940 Seminar in Research and Research Methodology
- 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, 18 hours

- INFO 5040 - Information Behavior
- INFO 5745 - Information Architecture
- INFO 5815 - Topics in Digital Imaging for Information Professionals
- JOUR 5300 - Theories of Mass Communication
- 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 Assessment
- INFO 5810 - Data Analysis and Knowledge Discovery
- INFO 5841 - Digital Curation Fundamentals
- INFO 5960 - Library and Information Sciences Institute or Seminar
- INFO 6740 - Scholarly and Scientific Communication
- INFO 6930 - Information and Communication Measurement
- JOUR 5200 - Public Opinion and Propaganda
- JOUR 5210 - Race, Gender and the Media: A Methods Approach
- JOUR 5330 - Strategic Social Media
- JOUR 5500 - Integrated Communications

Information Science with a concentration in Linguistics, PhD

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 - Doctoral Seminar in Information Issues

Research courses, 21 hours minimum

Required research courses

- ANTH 5031 - Ethnographic and Qualitative Methods
  or
- ANTH 5032 - Ethnographic and Qualitative Methods for Non-Majors

- INFO 6940 - Seminar in Research and Research Methodology (or equivalent)
- 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 6510 - 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 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

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 Masters or Bachelors 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 - Doctoral Seminar in Information Issues

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 shortly after beginning doctoral course work. This requirement can be met by successfully completing the courses listed below or an equivalent course, or by passing a proficiency exam. A course accepted for this requirement cannot count toward the 60 hours required for the doctoral degree.

- COMM 5185 - Quantitative Research Methods in Communication
- DSCI 5180 - Introduction to the Business Decision Process
- EPSY 5210 - Educational Statistics
- 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 any one academic unit 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

Information Science Certificate of Advanced Study

Certificate of advanced study

The post-master's program leading to a Certificate of Advanced Study is offered for those who seek further specialization in a particular aspect of library or information science. Those entering the program prepare for a level of competency beyond that provided by the master's degree. The program enables the professional to satisfy continuing education goals or requirements and enables individuals to update their knowledge and skills.

Admission requirements: Master's program requirements apply, with consideration given to prior study and academic record, letters of recommendation, career interests and objectives, and any prior professional experience. An interview with a department representative designated by the chair is strongly recommended before or at the time of initial enrollment for course work.

Program requirements: The program may be completed in two terms/semesters of full-time study or extended over a longer period.

The student must earn a minimum of 24 to 30 hours of graduate credit, which may include up to 12 hours in other disciplines, chosen or specified according to prior study and individual interests and objectives. Transfer credit may be approved for 3 to 6 hours, and at least half of the hours must be completed within the department.

The program of study, which is tailored to individual needs, must be planned with a faculty advisor and approved in advance by the chair of the department. No comprehensive examination or special research requirements are specified. Students must be admitted to candidacy to continue beyond 12 hours. Students must complete all planned course work with an average grade of B or better, and then file an application for the certificate.

Disclosures

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

Library 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

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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. Graduate 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 Sciences Information Management
- INFO 5366 - Law Library Management

Disclosures

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

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 - Records Management
- INFO 5290 - Special Collections and Archives
- INFO 5295 - Preservation
- INFO 5841 - Digital Curation Fundamentals
- 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 tsgs.unt.edu/certificatedisclosure.

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 tsgs.unt.edu/certificatedisclosure.

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 - Digital Curation Fundamentals
- INFO 5843 - Preservation Planning and Implementation for Digital Curation

Elective courses, 3 hours

One of the following courses will fulfill the elective course requirement:

- INFO 5306 - Project Management for Information Systems
- INFO 5707 - Data Modeling for Information Professionals
- INFO 5842 - Digital Curation Tools and Applications
- INFO 5844 - Advanced Topics in Digital Curation

Disclosures

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

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 5350 - Library Partnership and Community Outreach
- INFO 5615 - Electronic Databases and Information Services
- INFO 5750 - Managing Library Automation Projects

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 tsgs.unt.edu/certificatedisclosure.

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.

Disclosures

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

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

Youth Services in Libraries and Information Settings certificate

The graduate academic certificate in youth services in libraries and information settings provides students with core knowledge in literature, services, programs, and information organization for youth. Graduates will develop skills to effectively organize resources for youth and for culturally diverse communities and skills to develop and implement storytelling and other youth programs. This GAS responds to a need for library professionals in the youth services area that was revealed by an American Library Association study.

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.

Disclosures

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

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

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 5720 - Instructional Materials Production and Use
- INFO 5208 - Learning Resources Organization
- INFO 5405 - Collection Development and Analysis in School Libraries
- INFO 5420 - Literature for Youth
- INFO 5050 - Trends and Practices in School Librarianship
- INFO 5340 - Learning Resources Centers and Services
- INFO 5090 - Practicum and Internship in the Field Study
- INFO 5345 - School Library Program Development

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 the three required core courses and nine electives. The electives include eight of the nine courses in the school library certification sequence plus one additional course. 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 grad of B or better in the master's program core courses and all courses required for certification.
5. During the final semester before graduation, apply for, take and pass the End-of-Program comprehensive examination.

For more information and course lists, see Library Science, MS and the department web site at informationscience.unt.edu.

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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

Tandra Tyler-Wood, 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 and certifications focus on such areas as learning technologies, instructional and educational technologies, technological solutions in education, career technical education, non-traditional education, performance improvement, computer education, and applied technology.

Financial support may be available on a limited basis for research, teaching and internships. Funds vary depending on grants and other activities of the faculty in the department.

Research

Faculty in the department have extensive research interests in the areas of learning technologies, performance technologies and computing technologies.

Faculty interests include but are not limited to instructional and educational technology, technology integration for teaching and learning, distributed learning, technology-based learning environments, social and behavioral assessment, designing effective instructional environments, computer-assisted and managed instructional environments, academic acceleration, social and emotional aspects of giftedness, artificial intelligence, multimedia, human-computer interfaces, virtual environments, mobile technology, cognitive development and information processing of traditional and special populations, utilization of technology in assessment, ethical considerations of the application of technology, statistical modeling, program evaluation, and strategies for working with adult populations.

Grants

Grants from the National Science Foundation, U.S. Department of Education, Texas Education Agency, Job Training Partnership Program and other sources provide financial support to graduate students, depending on program needs. Tuition and stipend support is available for both full- and part-time students in 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 career and technical education, educational/instructional media, evaluation and research, instructional systems design, instructional systems technology, interactive and virtual digital communications, project management, teaching and learning with technology, team science, and workforce leadership.

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 normally 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 and schedule an interview with a program representative.

Further information

Additional information is available on the program web site (lt.unt.edu).

Master's Degree

Learning Technologies, MS

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. Scores on the department-administered placement test and/or the GRE (verbal, quantitative and analytical writing) may be used in assessing a student's application for admission to the program. Contact the department for more information.
4. At least two letters of recommendation from individuals who can give evidence of the candidate's critical thinking ability to engage in graduate studies. The recommendations should also address the candidate's ability to work independently and in groups.
5. Resume or curriculum vitae that includes the candidate's previous work or educational experiences.
6. A personal statement from the candidate stating his or her 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 instructional systems design, instructional systems, instructional systems technology, and teaching and learning with technology. 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 5610 - Analysis of Research in Learning Technologies
- LTEC 5580 - Readings Seminar in Learning Technologies (which is to be taken during the last 6 hours of course work)

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 track, 12 hours

Students must complete one of the program tracks listed below.

Instructional systems

- LTEC 5040 - Online Design and Pedagogy
- LTEC 5400 - Learning Technologies Telecommunications
- LTEC 5420 - Web Authoring
- LTEC 5570 - Ethical, Legal and Professional Issues in Computing

Instructional systems technology

- LTEC 5040 - Online Design and Pedagogy

  And the completion of 3 of the following:

- LTEC 5240 - Authoring Learning Games, Sims and Virtual Environments
- LTEC 5310 - Human-Computer Interaction
- LTEC 5421 - Advanced Web and Media Development
- LTEC 5450 - Building Internet Information Services
- LTEC 5460 - Computer Networks for Learning Environments

Instructional systems design

- LTEC 5040 - Online Design and Pedagogy
- LTEC 5211 - Instructional Systems Design II

  And the completion of 2 of the following:

- LTEC 5420 - Web Authoring
- LTEC 5421 - Advanced Web and Media Development
- LTEC 5310 - Human-Computer Interaction

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

Deficiency courses

If required to level into the MS. Credit does not count toward degree total:

- LTEC 5010 - Computer Tools for Learning
- LTEC 5020 - Computers in Learning Technologies

Technology teacher certification (not currently accepting students)

Learning Technologies: State Board of Educator Certification (SBEC) in Technology

This program track offers preparatory courses for the following State Board of Educator Certification (SBEC) technology certification exams. To receive a barcode for these exams through the University of North Texas, students must successfully complete the courses listed for each test:

Technology Applications certification (8–12)

Texas Examination of Educator Standards (TExES): Technology Applications certification (8–12):

- LTEC 5020 - Computers in Learning Technologies
- LTEC 5030 - Foundations of Learning Technologies
- LTEC 5220 - Multimedia in Technology Applications
- LTEC 5111 - Introduction to Video Technology

Technology Applications certification (EC–12)

TExES: Technology Applications certification (EC–12):

- LTEC 5020 - Computers in Learning Technologies
- LTEC 5030 - Foundations of Learning Technologies
- LTEC 5220 - Multimedia in Technology Applications
- LTEC 5111 - Introduction to Video Technology
- LTEC 5800 - Studies in Learning Technologies

Master Technology Teacher certification (EC–12)

Texas Examinations for Master Teachers (TexMat): Master Technology Teacher certification (EC–12):

- LTEC 5020 - Computers in Learning Technologies
- LTEC 5030 - Foundations of Learning Technologies
- LTEC 5220 - Multimedia in Technology Applications
- LTEC 5111 - Introduction to Video Technology
- LTEC 5500 - Computer Applications and Graphics

Note

Only teachers who already have initial teacher certification are eligible for the above technology certifications.

Doctorate

Learning Technologies, PhD

The learning technologies PhD is offered in-residence and as a distance-delivered program with online courses and a once-per-year meeting.

Admission requirements

Admission to doctoral study in learning technologies is competitive. Each prospective student will be subjected to a competitive evaluation by the learning technologies PhD program faculty. Admission to the program is considered only after the applicant meets or exceeds the university and College of Information admission standards. Admission to the Toulouse Graduate School and meeting the program standards does not automatically mean the student will be admitted to the program. The admission process is competitive and depends upon the availability of faculty to mentor doctoral students.

The minimum requirements for admission include the following:

1. A master's degree from an accredited institution with a grade point average of 3.5 (on a 4.0 scale) or, under some circumstances, a bachelor's degree with sufficient additional courses required to secure a master's degree on the way to a 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.
2. A Graduate Record Examination (GRE) score and/or an equivalent examination must be on file at the time the application is reviewed, or submission of the following materials.
    - A scholarly presentation at a professional conference related to learning technologies,
    - Completion of 6 hours of graduate course work in the field with a grade point average of 3.0 or higher, and
    - A scholarly publication in a peer-reviewed setting.

    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 that includes a summary of teaching, administrative and/or training experience.
4. An application to the program that indicates desired delivery format and indicates a preference of academic faculty.
5. Personal statement (500–1,000 words) of career objectives, which may include doctoral research areas of interest; research, professional or community experiences that demonstrate motivation, commitment and potential for doctoral work; accomplishments; communication skills; technology skills; and contribution to the diversity of the field.
6. Three letters of recommendation submitted for you. Letters should be from former professors or others, who can evaluate your academic qualifications and from job supervisors who can assess your potential for success in the learning technologies doctoral program.
7. Interview with program faculty, which is not a requirement, but may be requested by the admission committee.
8. 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.

Degree requirements

This program includes formal course work, including a portfolio-based qualifying examination, independent study and research including, but not limited to, a dissertation. The student will spend a substantial portion of time in independent research and collaborative efforts with the faculty related to the dissertation and other projects. The doctoral degree will require a total of at least 60 semester credit hours past the master's degree.

LTEC 5030 or the equivalent skills are minimally required for leveling. Additional courses or experiences may be required depending on applicant ability.

LTEC 5210, LTEC 5220, LTEC 5420 and LTEC 5570 or the equivalent skills are considered prerequisite to this degree.

Course requirements

Core, 15 hours

- 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, 21 hours

- 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, 12 hours

- LTEC 6510 - Introduction to Research in Learning Technologies
- LTEC 6511 - Analysis of Research in Learning Technologies
- LTEC 6512 - Analysis of Qualitative Research in Learning Technologies
- LTEC 6514 - Seminar on Advanced Research Topics in Learning Technologies and Information Sciences

Minor

May be included on the degree plan in the residential offering with 6 hours taken as electives and an additional 6 hours from outside the program. This will increase the total number of hours for the degree. A minor 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 consisting 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 lt.unt.edu/current-students for the learning technologies PhD handbook.

Teacher Certification

Health Science Technology Education teacher certification

Routes to certification for graduate students

Initial certification without an advanced degree

Admission

Some certification plans have additional or alternative program-specific requirements.

1. A bachelor's degree from an accredited institution of higher education, with an undergraduate GPA of 2.8 overall or 3.0 in the last 60 hours.
2. Admission to the Toulouse Graduate School as a non-degree-seeking, certification-only student. Students who are not U.S. citizens or U.S. permanent residents must meet the "Admission Requirements for International Students" printed in the Admission section of this catalog.
3. Acceptable 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 mathe 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 by the end of the first term/semester of enrollment. See specific program requirements for any differences.

Certification

1. Completion of all courses including field experience (early field experience/student teaching/practicum); see individual plans for details.
2. Passing scores on the appropriate Pedagogy and Professional Responsibilities (PPR) and the appropriate teaching field(s) subtest of the TExES examinations.
3. Making application, fulfilling all state requirements, and paying fees to SBEC for teacher certification.

Program-specific requirements

Candidates must meet the program requirements for the specific teacher certification option selected. Requirements completed as part of the undergraduate degree may be counted toward initial teacher certification, when applicable, but not toward a graduate degree. Students may use up to 12 graduate semester credit hours taken while in non-degree, certification-only status toward certain graduate degrees. Students must consult with a faculty program coordinator prior to enrolling in classes. Performance requirements to remain in a program may vary. See program advisor for details.

Health science technology education

- Bachelor’s degree from an accredited institution.
- Licensure, certification or registration by a nationally recognized accrediting agency as a professional practitioner in one or more health occupations for which instruction is offered. The preparation program for licensure or certification must require at least two years of formal education.
- Two years of approved wage-earning experience.

Required courses

- LTEC 5110 - Curriculum Design and Instructional Resources

- LTEC 5120 - Demonstrating Effective Presentation Skills
- LTEC 5130 - Roles and Responsibilities of Career and Technical Education Professionals
- LTEC 5140 - Developing Work-Based Experiences in Career and Technical Education
- LTEC 6701 - Practicum, Field Problem or Internship (Instructional Internship)

Trade and Industrial teacher certification

Routes to certification for graduate students
Initial certification without an advanced degree

Admission

Some certification plans have additional or alternative program-specific requirements.

1. A bachelor's degree from an accredited institution of higher education, with an undergraduate GPA of 2.8 overall or 3.0 in the last 60 hours.
2. Admission to the Toulouse Graduate School as a non-degree-seeking, certification-only student. Students who are not U.S. citizens or U.S. permanent residents must meet the "Admission Requirements for International Students" printed in the Admission section of this catalog.
3. Scores on the Texas Higher Education Assessment (THEA) test that are acceptable to the individual certification program.
4. Admission to a teacher education certification program is generally required by the end of the first term/semester of enrollment. See specific program requirements for any differences.

Certification

1. Completion of all courses including field experience (early field experience/student teaching/practicum); see individual plans for details.
2. Passing scores on the appropriate Pedagogy and Professional Responsibilities (PPR) and the appropriate teaching field(s) subtest of the TExES examinations.
3. Making application and paying fees to SBEC for teacher certification.

Program-specific requirements

Candidates must meet the program requirements for the specific teacher certification option selected. Requirements completed as part of the undergraduate degree may be counted toward initial teacher certification, when applicable, but not toward a graduate degree. Students may use up to 12 graduate semester credit hours taken while in non-degree, certification-only status toward certain graduate degrees. Students must consult with a faculty program coordinator prior to enrolling in classes. Performance requirements to remain in a program may vary. See program advisor for details.

Routes to certification for graduate students

Initial teacher certification without an advanced degree

Admission

Some certification plans have additional or alternative program-specific requirements.

1. A bachelor's degree from an accredited institution of higher education, with an undergraduate GPA of 2.8 overall or 3.0 in the last 60 hours.
2. Admission to the Toulouse Graduate School as a non-degree-seeking, certification-only student. Students who are not U.S. citizens or U.S. permanent residents must meet the "Admission Requirements for International Students" printed in the Admission section of this catalog.
3. Scores on the Texas Higher Education Assessment (THEA) test that are acceptable to the individual certification program.

4. Admission to a teacher education certification program is generally required by the end of the first term/semester of enrollment. See specific program requirements for any differences.

Certification

1. Completion of all courses including field experience (early field experience/student teaching/practicum); see individual plans for details.
2. Passing scores on the appropriate Pedagogy and Professional Responsibilities (PPR) and the appropriate teaching field(s) subtest of the TExES examinations.
3. Making application and paying fees to SBEC for teacher certification.

Program-specific requirements

Candidates must meet the program requirements for the specific teacher certification option selected. Requirements completed as part of the undergraduate degree may be counted toward initial teacher certification, when applicable, but not toward a graduate degree. Students may use up to 12 graduate semester credit hours taken while in non-degree, certification-only status toward certain graduate degrees. Students must consult with a faculty program coordinator prior to enrolling in classes. Performance requirements to remain in a program may vary. See program advisor for details.

Trade and industrial teacher

Option I

1. A bachelor's degree from an accredited institution.
2. Three years of full-time wage-earning experience within the past eight years in one or more approved occupations for which instruction is offered. Up to 18 months of the wage-earning experience can be through a formal documented internship.

Option II

1. An associate's degree from an accredited institution.
2. Three years of full-time wage-earning experience within the past eight years in one or more approved occupations for which instruction is offered.

Option III

1. A high school diploma or the equivalent.
2. Five years of full-time wage-earning experience within the past eight years in one or more approved occupations for which instruction is offered.

All options require

- LTEC 5110 - Curriculum Design and Instructional Resources *
- LTEC 5120 - Demonstrating Effective Presentation Skills *
- LTEC 5130 - Roles and Responsibilities of Career and Technical Education Professionals *
- LTEC 5140 - Developing Work-Based Experiences in Career and Technical Education *
- LTEC 6701 - Practicum, Field Problem or Internship (instructional internship) *

  * or undergraduate equivalents

Note

If a student is not certified in the trade area, the student must pass the appropriate occupational competency testing exam.

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Department of Linguistics

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Discovery Park, Room B201

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Denton, Texas 76203-5017

940-565-4552

E-mail: ling-info@unt.edu
Web site: linguistics.unt.edu

Sadaf Munshi, Chair

Faculty

The Department of Linguistics offers an MA with a major in linguistics, an MA with a major in ESL, and two graduate academic certificates, one in teaching English to speakers of other languages and a second in computational linguistics.

MA with a major in linguistics; MA with a major in ESL

The MA with a major in linguistics and the MA with a major in English as a second language offer students broad training in all core areas of the discipline. Our MA programs prepare students for challenging careers in a variety of industries, including government, education, law, bioinformatics, and natural language processing. The MA in ESL specifically 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 MA programs also serve 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.

Linguistic analysis of literature

UNT is one of few linguistics programs in the country to offer regular courses in the linguistic analysis of poetry and prose. The courses focus on the many kinds of repetition that are used by the world's great writers – repetitions of sound, parallelisms of form – which have the effect of making literary texts a permanent part of the world's art.

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

English as a Second Language (ESL), MA

Admission and degree requirements

Admission requirements and procedures

Applicants for the MA in English as a Second Language (ESL) complete two parts. The applicant first files an application with the Toulouse Graduate School (available on the UNT Graduate School web site). The applicant then submits the following documents to the Department of Linguistics:

- a 300–500 word personal statement describing the applicant's interests, career plans and purpose in working toward an MA;
- a sample research paper;
- three letters of recommendation; and
- a current vita or resume.

To be eligible for admission to the MA with a major in ESL, applicants must have at least a 3.0 GPA on the last 60 hours of undergraduate semester credit hours prior to receiving a bachelor's degree or a 2.8 GPA on all undergraduate work. The applicant must also submit scores from the Graduate Record Examination (GRE). Applicants accepted into the MA with a major in ESL have presented verbal scores ranging from the 50th to the 99th percentile and analytical writing scores ranging from 4.0 to 6.0. Applicants whose native language is not English must also submit a score on the TOEFL 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 chair.

Foreign language requirement

All candidates pursuing a master's degree in ESL 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. Official Graduate Record Examination (GRE) scores sent from the Educational Testing Service. Candidates applying for all MA programs in linguistics must take the GRE verbal, quantitative and analytical writing sections.
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 MA with a major in ESL 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 MA;
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 MA with a major in English as a second language is a 36-hour program. Course requirements include 24 hours of core courses, 6 hours of foundation courses, 3 hours of electives, and a 3-hour research seminar taken during the last 9 hours of course work. Students who elect to write a thesis will take 3 hours of thesis, LING 5950, in lieu of 3 elective hours.

Core courses, 24 hours

- LING 5060 - Second Language Acquisition
- LING 5070 - Research Design in Linguistics
- LING 5075 - Quantitative Research Methods in Linguistics
- LING 5080 - Teaching English as a Second Language
- LING 5090 - Pedagogical English Grammar
- LING 5300 - Phonology I
- LING 5310 - Syntax I
- LING 5340 - Practicum in Teaching English as a Second Language

Foundation courses, 6 hours

Choose two courses from the following:

- LING 5330 - Sociolinguistics
- LING 5305 - Morphology
- LING 5530 - Semantics and Pragmatics I
- LING 5550 - Corpus Linguistics

Linguistics with a concentration in Computational Linguistics, MA

Admission and degree requirements

Admission requirements and procedures

Applicants for the MA 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 MA;
- a sample research paper;
- three letters of recommendation; and
- a current vita or resume.

To be eligible for admission to the MA 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. The applicant must also submit scores from the Graduate Record Examination (GRE). Applicants accepted into the MA with a major in linguistics 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 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; those who have already completed 18 graduate hours in an area offered by linguistics may apply for a teaching assistantship. Information for teaching assistantships may be requested from the Department of Linguistics chair.

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. Official Graduate Record Examination (GRE) scores sent from the Educational Testing Service. Candidates applying for all MA programs in linguistics must take the GRE verbal, analytical and writing sections.
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 MA 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 MA with a major in linguistics and concentration in computational linguistics is a 36-hour program.

Core courses, 15 hours

- LING 5070 - Research Design in Linguistics
- LING 5075 - Quantitative Research Methods in Linguistics
- LING 5300 - Phonology I
- LING 5310 - Syntax I
- LING 5530 - Semantics and Pragmatics I

Foundation courses, 6 hours

- LING 5410 - Computational Linguistics I
- LING 5550 - Corpus Linguistics

Electives, 12 hours

- INFO 5731 - Computational Methods for Information Systems

- LING 5315 - Annotation through Squibs
  or

- LING 5350 - Language Typology and Universals

- LING 5412 - NLP in Linguistics
- LING 5415 - Computational Linguistics II

Research seminar, 3 hours

- LING 5990 - Professional Development for Linguists

Linguistics with a concentration in Digital Language Analysis, MA

Admission and degree requirements

Admission requirements and procedures

Applicants for the MA 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 MA;
- a sample research paper;
- three letters of recommendation; and
- a current vita or resume.

To be eligible for admission to the MA 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. The applicant must also submit scores from the Graduate Record Examination (GRE). Applicants accepted into the MA with a major in linguistics 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 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; those who have already completed 18 graduate hours in an area offered by linguistics may apply for a teaching assistantship. Information for teaching assistantships may be requested from the Department of Linguistics chair.

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. Official Graduate Record Examination (GRE) scores sent from the Educational Testing Service. Candidates applying for all MA programs in linguistics must take the GRE verbal, analytical and writing sections.
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 MA 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 MA with a major in linguistics with a concentration in digital language analysis is a 36-hour program.

Core courses, 15 hours

- LING 5070 - Research Design in Linguistics
- LING 5075 - Quantitative Research Methods in Linguistics
- LING 5300 - Phonology I
- LING 5310 - Syntax I
- LING 5530 - Semantics and Pragmatics I

Foundation courses, 12 hours

- LING 5305 - Morphology
- LING 5315 - Annotation through Squibs
  or
- LING 5350 - Language Typology and Universals
- LING 5410 - Computational Linguistics I
- LING 5550 - Corpus Linguistics

Electives, 6 hours

- LING 5090 - Pedagogical English Grammar
- LING 5350 - Language Typology and Universals

Research seminar, 3 hours

- LING 5990 - Professional Development for Linguists

Linguistics, MA

Admission and degree requirements

Admission requirements and procedures

Applicants for the MA 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 MA;
- a sample research paper;
- three letters of recommendation; and
- a current vita or resume.

To be eligible for admission to the MA 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. The applicant must also submit scores from the Graduate Record Examination (GRE). Applicants accepted into the MA with a major in linguistics 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 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. Official Graduate Record Examination (GRE) scores sent from the Educational Testing Service. Candidates applying for all MA programs in linguistics must take the GRE verbal, analytical and writing sections.
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 MA 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 MA;
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 MA with a major in linguistics is a 36-hour program. Course requirements include 15 hours of core courses, 12 hours of foundation courses, 6 hours of electives, and a 3-hour research seminar (LING 5990) taken during the last 9 hours of course work. Students who elect to write a thesis will take 6 hours of thesis LING 5950 in lieu of 6 elective hours.

Core courses, 15 hours

- LING 5070 - Research Design in Linguistics
- LING 5075 - Quantitative Research Methods in Linguistics
- LING 5300 - Phonology I
- LING 5310 - Syntax I
- LING 5530 - Semantics and Pragmatics I

Foundation courses, 12 hours

Choose four courses from the following:

- LING 5020 - Studies in Historical Linguistics
- LING 5060 - Second Language Acquisition
- LING 5305 - Morphology
- LING 5330 - Sociolinguistics
- LING 5350 - Language Typology and Universals
- LING 5380 - Linguistic Field Methods
- LING 5410 - Computational Linguistics I
- LING 5550 - Corpus Linguistics

Graduate Academic Certificate

Teaching English to Speakers of Other Languages certificate

This program provides basic background and skills for teachers of English as a second or foreign language in 160 student-teacher contact hours including at least 40 contact hours of practicum.

All of the 5000-level courses may also count toward the MA with a major in English as a Second Language. Note that this program does **not** lead to teacher certification for Texas public schools.

Prerequisites for the certificate

- TOEFL is required for international students
- GRE is not required
- LING 3070 or LING 5040

Required courses

- LING 5060 - Second Language Acquisition
- LING 5080 - Teaching English as a Second Language
- LING 5090 - Pedagogical English Grammar
- LING 5340 - Practicum in Teaching English as a Second Language

Disclosures

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

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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

Tamara Brown, Executive Dean

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

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
- Spanish
- 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 supporting 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 supporting 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.

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 should have foreign language proficiency at the intermediate level proficiency equivalent to four courses in a foreign language.
- 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, 6 hours

The professional skills area has two tracks: management skills and assessment and evaluation. Students must take 6 hours in this area. Some of these courses have prerequisites and may require permission of the respective department and/or instructor of the course.

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 two courses as prerequisites 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, 21 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 21 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
- PSCI 6620 - Comparative Political Institutions
- PSCI 6625 - Democracy and Democratization
- PSCI 6630 - Political Development
- SOCI 5010 - Social and Cultural Foundations of Human Behavior

Human security

- AGER 6750 - Global Perspectives on the Future of Aging
- 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
- PSCI 6850 - Human Rights
- SOCI 5260 - Topics in Sociology
- SOCI 5300 - Social Stratification
- SOCI 5330 - Seminar on Race and Ethnicity
- SOCI 5450 - Population and Society
- WGST 5200 - Globalization and Gender
- WGST 5800 - Seminar in Women's and Gender Studies

National security and diplomacy

- CJUS 5100 - Information Warfare, Security and Risk Analysis
- CJUS 5120 - Cybercrime and Digital Forensics
- 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
- PSCI 6660 - Civil War
- PSCI 6830 - International Conflict
- PSCI 6831 - International Conflict Management

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.

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, please submit supporting materials to the women's and gender studies program. Only complete applications will be considered for admission decisions.

Please submit the following items directly to the women's and gender studies program:

- **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. The writer should submit their letter directly to the department.
- **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 5200 and WGST 5400. In addition to these 9 hours of required course work, students will select additional courses approved for WGST credit.

- WGST 5100 - Feminist and Womanist Theories
- WGST 5200 - Globalization and Gender
- WGST 5400 - Human Trafficking and Gender

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

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Susan Squires, Chair

Faculty

The Department of Anthropology offers both on-campus and online graduate programs leading to the Master of Arts and the Master of Science, both with a major in applied anthropology.

In cooperation with the UNT Health Science Center in Fort Worth, on-campus students may also earn a dual master's degree in anthropology and public health.

The master's degree in applied anthropology is grounded in the theory and methods of anthropology, and is designed primarily to prepare students for employment outside academia. Students will be prepared to apply anthropological knowledge in private and public sectors, foundations, and businesses in local, regional, and international areas. Knowledge is to be applied to our most compelling social problems and to the operation and administration of agencies charged with addressing these problems. The central goal of our program in applied anthropology is to provide the knowledge necessary for its graduates to undertake informed and thoughtful action as street-level practitioners, administrators, agency-based researchers and program evaluators.

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, Religion, Identities
Alicia Re Cruz, Doug Henry, Adam Dunstan, Andrew Nelson, and Mariela Nuñez-Janes represent this area. Topics covered include the situations of migrants and refugees, cultures of Latin America and South Asia, experiences of Mexicanos and Latinos in the U.S., and the South Asian diaspora. In this field, students have local access to the people and issues typical of a border state like Texas.

Medical Anthropology
Lisa Henry and Doug Henry specialize in this area. Topics include public health, healthcare delivery, indigenous medicine 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
Adam Dunstan represents this area which includes community-based conservation of natural and cultural resources, cultural landscapes/seascapes, indigenous peoples and protected areas, spiritual ecology, traditional ecological knowledge, human ecology, sustainable development, ethnoecology, political ecology, environmental justice, world views concerning the environment, and globalization and environmental policy.

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 one of their committee members, who must come from outside of anthropology, typically represents this field as well. 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 traditions.

Funding

Each term/semester the department is able to provide a limited number of instructional assistant positions for graduate students. If interested, the student should fill out an application and turn it in to the department before the beginning of the new term/semester. 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 two application forms for UNT, one for the Toulouse Graduate School and one for the Department of Anthropology. International applicants must apply to International Admissions and be eligible for graduate study.
2. The applicant must hold a bachelor's degree from an accredited U.S. institution or equivalent training at a foreign university.
3. Applicants must supply official GRE test scores.
4. Applicants must have adequate subject preparation in anthropology. If the applicant is accepted into the program with fewer than 12 hours of anthropology, the applicant must take a prerequisite leveling course (ANTH 5000) the summer before the first year of study. Please contact the Graduate Program Coordinator for more information (anthropology@unt.edu).
5. Applicants must submit a statement of purpose (500–750 words).
6. Applicants must submit a writing sample.
7. Applicants must submit three Reference Evaluation Forms (or letters of recommendation) from persons familiar with their academic record.

See anthropology.unt.edu/graduate/admissions for details.

Program requirements

For the Master of Arts degree, students fulfill the 36 hours of degree requirements and demonstrate knowledge of a foreign language.

Core courses, 15 hours

- ANTH 5010 - Anthropological Thought and Praxis I
- ANTH 5021 - Anthropological Thought and Praxis II
- ANTH 5031 - Ethnographic and Qualitative Methods
- ANTH 5041 - Quantitative Methods in Anthropology
- ANTH 5050 - Preparation for Practice and the Applied Thesis

Elective courses, 15 hours

A minimum of two electives (6 hours) must be from outside anthropology. A minimum of two electives (6 hours) must be from inside anthropology. If pursuing an MS degree, the skills class requirement counts as one of the five electives. The student's graduate committee must approve the course work.

Electives, on-campus program

Electives in the on-campus anthropology master’s program are:

- ANTH 5100 - Organizational Anthropology
- ANTH 5110 - Design Anthropology
- ANTH 5201 - Medical Anthropology
- ANTH 5210 - Anthropology 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, 6 hours

All candidates must take 6 hours of supervised applied thesis:

- ANTH 5950 - Applied Thesis

Applied Anthropology, MS

Admission requirements

1. The applicant must complete two application forms for UNT, one for the Toulouse Graduate School and one for the Department of Anthropology. International applicants must apply to International Admissions and be eligible for graduate study.
2. The applicant must hold a bachelor's degree from an accredited U.S. institution or equivalent training at a foreign university.
3. Applicants must supply official GRE test scores.
4. Applicants must have adequate subject preparation in anthropology. If the applicant is accepted into the program with fewer than 12 hours of anthropology, the applicant must take a prerequisite leveling course (ANTH 5000) the summer before the first year of study. Please contact the Graduate Program Coordinator for more information (anthropology@unt.edu).
5. Applicants must submit a statement of purpose (500–750 words).
6. Applicants must submit a writing sample.
7. Applicants must submit three Reference Evaluation Forms (or letters of recommendation) from persons familiar with their academic record.

See anthropology.unt.edu/graduate/admissions for details.

Program requirements

For the Master of Science degree, students fulfill the 36 hours of degree requirements including a course in an additional skill appropriate to their specialty.

Core courses, 15 hours

- ANTH 5010 - Anthropological Thought and Praxis I
- ANTH 5021 - Anthropological Thought and Praxis II
- ANTH 5031 - Ethnographic and Qualitative Methods
- ANTH 5041 - Quantitative Methods in Anthropology
- ANTH 5050 - Preparation for Practice and the Applied Thesis

Elective courses, 15 hours

A minimum of two electives (6 hours) must be from outside anthropology. A minimum of two electives (6 hours) must be from inside anthropology. If pursuing an MS degree, the skills class requirement counts as one of the five electives. The student's graduate committee must approve the course work.

Electives, on-campus program

- ANTH 5100 - Organizational Anthropology
- ANTH 5110 - Design Anthropology
- ANTH 5201 - Medical Anthropology
- ANTH 5210 - Anthropology 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

- 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, 6 hours

All candidates must take 6 hours of supervised applied thesis:

- ANTH 5950 - Applied Thesis

Dual degree

This program may be taken in conjunction with the Master of Public Health. See Applied Anthropology, MS / Public Health, MPH (UNTHSC).

Dual Program

Applied Anthropology, MA / Public Health, MPH (UNTHSC)

The Department of Anthropology at the University of North Texas at Denton and the School 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/ Science in Applied Anthropology. The "dual degree" program in Applied Anthropology and Public Health offers an opportunity to strengthen collaboration in public health and anthropology research and practice. Medical anthropology is a field that uses anthropological theories as a framework to understand public health issues. Its emphasis on social and cultural influences on health, illness, and healing are central to the shared goals of improving health and social justice to eliminate local and global disparities. This 2½ year program prepares students for careers in research, public health, and public policy planning relating to health and health care in the U.S. or in an international setting. Please see http://anthropology.unt.edu/graduate/dual-degree-anthropology-and-public-health for details.

Admission requirements

In addition to the application requirements for the MA/MS, 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 Practice and the Applied Thesis
- 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 BACH 5297)

Master of Public Health, 36 hours (UNTHSC)

Required courses in public health, 27 hours

- BACH 5300 - Theoretical Foundations of Individual and Community Health
- EPID 5313 - Introduction to Data Management and Statistical Computing
- BACH 5340 - Community Assessment and Program Planning
- BACH 5345 - Participatory Approaches to Improving Community Health
- BACH 5350 - Community Health Program Evaluation
- BIOS 5300 - Biostatistics for Public Health
- EOHS 5300 - Environmental Health
- EPID 5300 - Principles of Epidemiology
- HMAP 5300 - Introduction to Health Management and Policy

Elective courses in public health, 6 hours

- Any two courses offered in the School of Public Health

Comprehensive examination and practice experience, 3 hours

Culminating experience in public health.

- BACH 5297 Public Health Practice Experience (2 hours)
- PHED 5197 MPH Portfolio (1 hour)

Applied Anthropology, MS / Public Health, MPH (UNTHSC)

The Department of Anthropology at the University of North Texas at Denton and the School of Public Health at the UNT Health Sciences Center in Fort Worth have developed a cooperative agreement that allows students to simultaneously pursue the Master of Public Health and a Master of Arts/ Science in Applied Anthropology. The dual degree program in Applied Anthropology and Public Health offers an opportunity to strengthen collaboration in public health and anthropology research and practice. Medical anthropology is a field that uses anthropological theories as a framework to understand public health issues. Its emphasis on social and cultural influences on health, illness, and healing are central to the shared goals of improving health and social justice to eliminate local and global disparities. This 2½ year program prepares students for careers in research, public health, and public policy planning relating to health and health care in the U.S. or in an international setting. Please see http://anthropology.unt.edu/graduate/dual-degree-anthropology-and-public-health for details.

Program requirements

Total hours for the degree: 63

Master of Science in Applied Anthropology, 27 hours

Required courses in applied anthropology, 21 hours

- ANTH 5010 - Anthropological Thought and Praxis I
- ANTH 5021 - Anthropological Thought and Praxis II
- ANTH 5031 - Ethnographic and Qualitative Methods
- ANTH 5041 - Quantitative Methods in Anthropology
- ANTH 5050 - Preparation for Practice and the Applied Thesis
- ANTH 5201 - Medical Anthropology
- ANTH 5210 - Anthropology in Public Health

Applied thesis, 6 hours

Culminating experience in medical anthropology and public health.

- ANTH 5950 - Applied Thesis (topic to overlap BACH 5297)

Master of Public Health, 36 hours (UNTHSC)

Required courses in public health, 27 hours

- BACH 5300 - Theoretical Foundations of Individual and Community Health
- EPID 5313 - Data Management and Policy
- BACH 5340 - Community Assessment and Program Planning
- BACH 5345 - Participatory Approaches to Improving Community Health
- BACH 5350 - Community Health Program Evaluation
- BIOS 5300 - Biostatistics for Public Health
- EOHS 5300 - Environmental Health
- EPID 5300 - Principles of Epidemiology
- HMAP 5300 - Introduction to Health Management and Policy

Elective courses in public health, 6 hours

- Any two courses offered in the School of Public Health

Comprehensive examination and practice experience, 3 hours

Culminating experience in public health.

- BACH 5297 Public Health Practice Experience (2 hours)
- PHED 5197 MPH Portfolio (1 hour)

-

Department of Communication Studies

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Brian Richardson, Chair

Faculty

Theory and research in communication studies examine communication in human affairs and the symbolic processes through which humans interact. The curriculum is designed to facilitate student mastery of theory and research, to develop student research capabilities and to enhance student preparation for a variety of careers or for further graduate study.

The department offers course work in rhetorical, performance and social science traditions. Students are afforded opportunities to explore communication from applied and theoretical perspectives using analytical, critical, quantitative and qualitative methodologies. Course work features the investigation of communication in interpersonal, organizational, aesthetic, health, cultural, intercultural, small group, political and international contexts. Students will encounter topics such as gender and diversity issues, technology, consulting, social change, conflict and narrative. The graduate experience often is enhanced by opportunities to engage in consulting; conducting research with faculty members; participating in regional and national festivals and professional conferences, and/or internships with corporations, social service organizations, arts organizations and government agencies.

Teaching assistantships are awarded competitively to prospective students with excellent academic backgrounds and potential as effective classroom teachers. Interested individuals should contact the department office for application materials.

Graduates of this program should be able to demonstrate competence in making a public oral presentation or performance; demonstrate advanced knowledge of the field of communication studies by designing and conducting an original research project and presenting the findings and implications of that research in appropriate form; interpret, explain, present, and/or illustrate knowledge of theoretical concepts in communication studies; present an effective oral defense of arguments; explain the dynamic interrelationship among communicators, contexts and culture in the generation and processing of instances of communication; and demonstrate competence in written communication in terms of content as well as form.

The department also supports an interdisciplinary doctorate with a major in information science. See the College of Information section of this catalog for more information.

Research

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

1. rhetorical analysis and criticism of persuasive public communication in historical, political and cultural contexts;
2. the role of communication in organizations, professions, 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. interpersonal communication, including persuasion, decision-making, intimate communication, gender and communication, communication in the family, communication and aging, communication style and assertiveness, health communication, mediation, interpersonal conflict, human information processing and interpersonal influence;
5. critical and cultural studies of communication, cultural values, ideologies and politics;
6. intercultural communication; and
7. narrative studies.

Admission requirements and procedures

Because of the interdisciplinary nature of much of the work done in the Department of Communication Studies, admission is open to many who did not major in communication as undergraduates. Applicants with fewer than 24 hours of undergraduate communication course work may request admission on the basis of communication-related courses.

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

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

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

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

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

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

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

U.S. Postal Service

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

UPS/Federal Express

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

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

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

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

E-mail attachments

COMMStudies@unt.edu

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

U.S. Postal Service

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

UPS/Federal Express

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

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

Master's Degree

Communication Studies, MA

The master’s degree requires the completion of at least 36 hours of graduate course work.

There are three options for the degree:

1. 36 hours: 30 hours of course work in communication studies, 6 hours of thesis and oral examination;
2. 36 hours: 33 hours of course work in communication studies, 3 hours of COMM 5930 - Research Problems in Lieu of a Thesis and written and oral comprehensive examinations; or
3. 36 hours: 33 hours of course work in communication studies, 3 hours of COMM 5481 - Graduate Internship and written and oral comprehensive examinations.

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

Communication Studies, MS

The master’s degree requires the completion of at least 36 hours of graduate course work.

There are three options for the degree:

1. 36 hours: 30 hours of course work in communication studies, 6 hours of thesis and oral examination;
2. 36 hours: 33 hours of course work in communication studies, 3 hours of COMM 5930 - Research Problems in Lieu of a Thesis and written and oral comprehensive examinations; or
3. 36 hours: 33 hours of course work in communication studies, 3 hours of COMM 5481 - Graduate Internship and written and oral comprehensive examinations.

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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
940-565-3432

Web site: www.danceandtheatre.unt.edu

Lorenzo Garcia, 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 Eugene Mills Dance Scholarships; and the Chun Hui Lee Dance Scholarships.

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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

David J. Molina, 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 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 and 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 toward 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. and 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

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.

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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

Jacqueline Vanhoutte, 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, the Early British Literature Colloquium, and the Medieval and Renaissance Colloquium, as well as the quarterly journal *Studies in the Novel*.

The creative writing faculty features several nationally recognized writers whose books have been published by Farrar, Straus and Giroux; Harper Collins; University of Illinois Press; LSU Press; and 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. The applicant must also submit scores from the Graduate Record Examination (GRE). Applicants accepted into the MA program have presented verbal scores ranging from the 50th to the 98th percentile and analytical writing scores ranging from 3.0 to 6.0. Applicants whose native language is not English must also submit a score on the TOEFL examination. Scores on the computer-based TOEFL examination have ranged from 231 to 255, and scores on the internet-based TOEFL have ranged from 87 to 108. TOEFL scores are not accepted in lieu of GRE scores.

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

Financial support

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

Foreign language requirement

All candidates pursuing a master's degree in the Department of English must have a reading knowledge of at least one foreign language. As evidence of such knowledge, a student may present the results of a standardized examination or have completed the sophomore year of a foreign language (or the equivalent), provided that the grade point average on all language courses is 2.75 or higher. A student who has permission to write a thesis or to enroll in ENGL 5920-ENGL 5930 will not be allowed to register for the courses until the foreign language requirement has been met.

Degree plan requirement

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

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 Graduate Record Examination (GRE) scores sent from the Educational Testing Service. Applicants must take the GRE verbal and analytical writing sections.
3. Official scores from the Test of English as a Foreign Language (TOEFL) for students whose native language is not English.
4. Official transcripts for all previous undergraduate and graduate academic work.

Applicants for the MA with a major in Creative Writing

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

1. a 300–500 word personal statement describing the applicant's specific area of interest (creative nonfiction, fiction or poetry), career plans, and purpose in working toward an MA;
2. a writing sample (10 pages of poetry, 15–25 pages of fiction, or 15–25 pages of nonfiction); and
3. two letters of recommendation that assess the candidate's potential for pursuing graduate-level work in creative writing. Please provide referees the above e-mail address for file attachment.

Note: Students should indicate in the e-mail whether or not access is granted to 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 materials via e-mail attachment **directly to the department's Graduate Studies in English Office** at GradEnglishStudies@unt.edu:

1. a 300–500 word personal statement describing the applicant's specific area of literary interest, career plans, and purpose in working toward an MA;
2. a sample of critical, literary analysis and interpretation (10–15 pages); and
3. two letters of recommendation that assess the candidate's potential for pursuing graduate level work in English literature. Please provide referees the above e-mail address for file attachment.

Note: Students should indicate in the e-mail whether or not access is granted to 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 standards.

1. **Graduate Record Examination.** Applicants must submit scores on the Graduate Record Examination (GRE) verbal and analytical sections. Applicants accepted have presented verbal scores ranging from the 69th to the 99th percentile and analytical writing scores ranging from 4.0 to 6.0. The student must also meet GRE requirements established by the Graduate Council and must comply with general regulations concerning the GRE in relevant sections of this bulletin.
2. **TOEFL.** Applicants whose native language is not English must also submit TOEFL scores. Applicants accepted have presented TOEFL computer-based test scores ranging from 233 to 293, and scores on the internet-based TOEFL have ranged from 87 to 115. TOEFL scores are not accepted in lieu of GRE scores.

Application deadlines

- January 1 for admission in the fall semester

Application checklist

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

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

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

1. Letter of intent. The letter should describe the applicant's scholarly 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.
2. 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).
3. Three confidential letters of reference that assess the applicant's potential contribution to the discipline. Please provide referees with the above e-mail address for file attachment.
4. A current curriculum vitae.

Note: Students should indicate in the e-mail whether or not access is granted to 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.

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

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.

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Department of Geography and the Environment

Main Departmental Office
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1155 Union Circle #305279
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940-565-2091

Web site: www.geography.unt.edu

Steve Wolverton, 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 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-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, geospatial technology, and archaeology. 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, and 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, National Geographic Society and Leakey Foundation.

The **Geographic Information Science (GIS) 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. Beyond its immediate instructional and research mission, the GIS Lab provides GIS support for institutional planning and facilities management at UNT. The department also collaborates with environmental sciences in the operation of the Center for Remote Sensing and Land Use Analysis for instruction and research.

The department also has research labs used by students and faculty in water resources, archaeology, geomorphology, and ecosystem geography.

Admission requirements

Application for admission to the Toulouse Graduate School is made through the graduate school and the department (see here). 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 also are required.

Applicants normally should have the equivalent of an undergraduate major in geography from an accredited university with an overall undergraduate grade point average (GPA) of at least 2.8 or a 3.0 GPA during the last 60 undergraduate semester hours. The undergraduate degree 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 the majority 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, 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 - Advanced Quantitative Techniques

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 - Advanced Quantitative Techniques

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

core requirements in geoarchaeology or zooarchaeology, students complete two areas of specialization selected from the following areas: GIS and remote sensing, spatial and quantitative analysis, or zoology and ecology.

Urban environmental management

This degree track prepares students to assume a vital role within the structure of a city government, coordinating the activities of various city departments related to environmental legislation. In addition to the normal requirements, students select courses from content areas including urban environments, environmental science, city government structure, and environmental law and policy. This track has been developed in response to the increasing need for persons to coordinate different programs in city government, to liaison with governmental agencies, to interact with contracted environmental engineers and to bring a philosophy of sustainable environments to the planning process.

Water resources management

This track prepares geography students to assume active roles in addressing the critical issues of water supplies and water quality. Students follow a curriculum balanced among technical, scientific and political aspects of water resources management. Courses are selected from the following topical areas: techniques, geography/geology, environmental science and environmental policy. Students completing this degree track gain positions with local and regional governments, federal and state regulatory agencies, engineering firms and regional water districts.

Applied geographic information systems

This track prepares students to meet the growing demand for GIS professionals. But rather than a strictly technical preparation, students acquire the foundation in 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

A four-course sequence fulfills the requirements for the certificate in GIS.

- GEOG 5550 - Advanced Geographic Information Systems
- GEOG 5560 - Application Development with Python Programming
- GEOG 5590 - Advanced GIS Programming
- GEOG 5570 - Special Topics in GIS

Disclosures

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

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Department of History

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Jennifer Jensen Wallach, Chair

Faculty

The Department of History offers graduate programs leading to the following degrees:

- Master of Arts with a major in history (requiring one foreign language)
- Master of Science with a major in history
- Doctor of Philosophy with a major in history (requiring one foreign language)

Fields are available at the master's level in United States history, European history and world history.

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.

The UNT library has a large collection of national newspapers, personal papers and other materials for the American colonial and early national periods, and for the Civil War and Reconstruction era. Also available are microfilm copies of presidential papers and those of other prominent Americans. A large microfilm collection of State Department materials includes diplomatic dispatches to 1906, the decimal file for all major countries, 1910 to 1929, and some of the decimal file beyond 1929. Library holdings include Texas newspapers, county tax rolls and U.S. census records. The library contains a large collection of Civil War soldiers' records. In addition, researchers have easy access to regional archival depositories, among them the Southwest Branch of the National Archives in Fort Worth.

Other important resources in the collection include German Foreign Ministry documents; *British and Foreign State Papers*; British *Parliamentary Debates;* British Cabinet documents; proceedings of the German Bundestag, Bundesrat, and Bundeskabinett; debates of the French National Assembly; 17th-century British pamphlets and letters; and various source materials on medieval history.

Materials related to World War II include a large oral history collection on prisoners of war, Pearl Harbor survivors and Holocaust survivors. Other oral history collections include materials on African Americans in Texas and on Texas political and business leaders.

The UNT library has been a U.S. government depository since 1948. The library also has many back issues of U.S. government documents. The Department of History also houses its own extensive collection of books and films, the Kingsbury-Thomason Library.

Research

The research interests of the history faculty cover a broad range of United States, European, Latin American, African and Asian topics. Additional interests include military history, women's history, 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 houses the editorial office of the journal *Military History of the West*. The center also coordinates activities and events at North Texas related to the study of military history, including the annual Hurley Military History Seminar. For more information, please contact Dr. Michael Leggiere, Deputy Director of the Military History Center at 940-565-2690 or by e-mail 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 or MS degree:** The Department of History employs a holistic review process. Applicants are evaluated on their entire academic history. However, it is recommended that the applicant score at the 50th percentile or higher on the verbal portion of the Graduate Record Examination (GRE) and score either (1) at the 40th percentile or higher on either the quantitative or (2) a 4 or higher (on a scale of 1 to 6) on the analytical writing portion, have a bachelor's degree and 24 hours of history credits from an accredited college or university, have a cumulative grade-point average (GPA) of 3.5 on a four-point scale for all undergraduate work or for the last 60 hours of undergraduate work, submit a statement of purpose and interests, provide two letters of recommendation, and have met all other university requirements.
3. **PhD degree:** Applicants are evaluated on their entire academic history; however, it is recommended that applicants score at the 70th percentile or higher on the verbal portion of the GRE and score either (1) at the 40th percentile or higher on either the quantitative portion or (2) a 4 or higher (on a scale of 1 to 6) on the analytical writing portion of the GRE, have a cumulative grade point average (GPA) of 3.6 on a four-point scale for all graduate work, submit a statement of his or her purpose in seeking the doctorate in history, submit a formal paper (other than the thesis) from his or her master's work, provide three letters of recommendation from persons familiar with the applicant's post-secondary academic record, have a master's degree with a thesis, and have met all other university requirements. No more than 12 hours accumulated above the requirements for the MA and MS programs may be transferred into the doctoral program.

Continuing requirements

1. MA/MS 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). Application deadline is February 20 of each year.

Master's Degree

History, MA

Note: The UNT history department makes two important distinctions in the master's program: thesis option or non-thesis option and MA or MS. Students should consult with their graduate committee when considering whether the thesis or non-thesis option best fits their academic goals and intellectual development. The distinction between a History MA and a History MS is that students earning an MA must demonstrate reading proficiency in a foreign language relevant to the student's major research focus. 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 UNT's Department of World Languages, Literatures and Cultures or similar accredited program. This requirement must be met before defending the thesis or sitting for oral exams. Students earning an MS do not have to demonstrate reading knowledge of a foreign language.

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 historical bibliography 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 historical bibliography 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 successfully complete an oral examination on the course work.
3. Either version of the MA requires the student to demonstrate reading proficiency in a foreign language relevant to the student's major research focus. This is usually accomplished by taking at least 12 undergraduate hours of a foreign language with a 2.7 GPA or passing a proficiency exam administered by the UNT Department of World Languages, Literature and Culture or similar accredited program. This requirement must be met before defending the thesis or sitting for oral exams.

History, MS

Note: The UNT history department makes two important distinctions in the master's program: thesis option or non-thesis option and MA or MS. Students should consult with their graduate committee when considering whether the thesis or non-thesis option best fits their academic goals and intellectual development. The distinction between a History MA and a History MS is that students earning an MA must demonstrate reading

proficiency in a foreign language relevant to the student's major research focus. 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 UNT's Department of World Languages, Literatures and Cultures or similar accredited program. This requirement must be met before defending the thesis or sitting for oral exams. Students earning an MS do not have to demonstrate reading knowledge of a foreign language.

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 historical bibliography 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 the two seminar 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 historical bibliography class. The remaining 24 hours may all be 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 successfully complete an oral examination on their course work.
3. A History MS does not require a student to demonstrate reading knowledge of a foreign language.

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, and Identity. One field must come from one of the three remaining concentrations, or from a selection of fields in world history. All examination fields must be chosen from a list maintained by the department. Credit hour requirements for the PhD include a minimum of 30 classroom hours of graduate courses and 12 hours of dissertation. A minimum of four research seminar courses in history and 3 hours in historiography are required. 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, but no more than 6 such credit hours may be applied as credit toward degree requirements. 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 of 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 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 university graduate faculty member whose principal faculty appointment is in a department other than the history department. The student's major professor and the student will work together to select a university member whose expertise will contribute meaningfully to the dissertation.

Foreign language requirement

The student must demonstrate a reading knowledge of one foreign language. 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 arrange both written and oral examinations that cover four fields. 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 success passing the qualifying examinations.

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.

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Department of Media Arts

Main Departmental Office
Radio, TV, Film and Performing Arts Building, Room 262

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Denton, TX 76203-5017
940-565-2537

Web site: www.mediaarts.unt.edu

Eugene Martin, Chair

Xiaoqun Zhang, Director of MA Program, Xiaoqun.Zhang@unt.edu

Melinda Levin, Director of MFA Program, Melinda.Levin@unt.edu

Faculty

The Master of Arts program is designed for persons who wish to pursue research in media arts. Building on a strong undergraduate program, the department has a particular emphasis at the graduate level in the following areas:

- Media industry studies: examines the media industry and encompasses several areas of scholarly interest, including managerial, technological, economic, political and social dynamics of various media including radio, television, film, the Internet, social and mobile media.

- Critical-cultural studies: examines media culture in relation to topics such as race, class, gender, sexuality, audiences/fandom, techno cultures, cultural history, globalization and production cultures.

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, international media and broadcast operations. Books written by media arts faculty are used in university courses throughout the world, and faculty-produced films and television programs have been broadcast on television, selected for film and video festivals and screened at numerous other venues including New York's Museum of Modern Art. Faculty members also serve on the boards of national and international organizations dealing with media education and film preservation.

Admission requirements

Master of Arts with a major in media industry and critical 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:

- Completion of a bachelor's degree from an accredited institution with an overall GPA of at least 3.0.

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. Official GRE scores sent from the Educational Testing Services (MA only).
4. Application fee.

In addition, the following items should be submitted **directly** to the director of the media arts MA program at the department's address above:

1. A statement of purpose, in which the applicant states career goals and tells why the specific MRTS master's degree being applied to from UNT will help achieve those goals.
2. A required writing sample (research paper, professional report, substantial essay, etc.).
3. A minimum of two current letters of recommendation. For most applicants, the letters must be provided by current or former professors. An applicant who has worked professionally in radio, television or film may submit one of these letters from a person who has supervised his or her work. If an applicant has been out of school for several years, both letters may be from people who can evaluate his or her work in these fields.
4. An applicant from outside the United States must demonstrate proficiency in oral and written English prior to admittance. In addition to GRE scores, non-native speakers must submit TOEFL scores or equivalent English test scores.

After the first 12 semester hours of graduate study are completed, the student and the major professor should prepare a degree plan using one of the options available in the student's area of concentration. The degree plan must be approved by the department director of graduate studies and the graduate dean. In order to graduate, a student must have an approved degree plan on file with the Graduate School.

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.

Primary consideration will be given to applicants who have provided all required information by January 15. A second deadline of March 15 will be utilized to consider a second pool of applicants if positions are available.

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:

- Completion of a bachelor's degree from an accredited institution with an overall GPA of at least 3.0.

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. Official GRE scores sent from the Educational Testing Services (Required for International applicants only).
4. 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, 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 via a password-protected portal. At a minimum, the sample should include one complete production and 10 minutes of excerpts from additional work. If relevant, still photographs or other material that demonstrates the applicant's creative talents and accomplishments may be submitted following consultation with the director of graduate studies. All materials should be labeled 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 conference 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.

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 January 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.

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 30 hours of graduate course work. A student may also elect 6–12 hours in a minor area. In addition, students must maintain a minimum GPA of 3.25 while in the program. Any student whose GPA drops below this level will be placed on probation for one semester. If at the end of the probationary semester the student's GPA has not been raised to a 3.25 or better, the student will be subject to program dismissal.

Course requirements

The master's degree has two pathways: critical/cultural studies and media industry studies. Both pathways have an optional thesis.

Critical/cultural studies pathway:

Required courses:

The following courses are required for all critical/cultural studies students:

- MRTS 5120 - Critical-Cultural Media Theory
- MRTS 5121 - Digital Media Studies

9 hours of track-specific courses:

Students must take at least 9 hours of track-specific courses (course offerings subject to change with approval from faculty advisor).

- MRTS 5220 - Post-War European Film
- MRTS 5240 - Hitchcock Films
- MRTS 5340 - History of Documentary
- MRTS 5400 - Media Studies Seminars
- 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 5750 - Cinema and Video Verite
- MRTS 5780 - Seminar in Contemporary Documentary

9 hours of graduate elective courses:

In addition, students must take at least 9 hours of graduate 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. Students are strongly encouraged to pursue the thesis option if they are interested in applying to Ph. D. programs.

Thesis option (6 hours of thesis enrollment):

Of the required minimum of 30 graduate hours, 6 hours must be thesis credit. 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):

Of the required minimum of 30 graduate hours, 3 hours must be a special problems credit with the successful completion of a comprehensive examination. The student must have departmental approval for this option, including the approval of a Media Arts graduate faculty examination advisor. Students are eligible to complete the exam once they have a degree plan approved and have completed 21 hours of graduate credit.

Media industry studies pathway:

Required courses:

The following courses are required for all Media Industry Studies students:

- MRTS 5120 - Critical-Cultural Media Theory
  OR
- MRTS 5121 - Digital Media Studies
- MRTS 5125 - Media Industry Studies

9 hours of track-specific courses:

Students must take at least 9 hours of track-specific courses (course offerings subject to change with approval from faculty advisor).

- MRTS 5410 - History of Electronic Media
- MRTS 5440 - Broadcast Advertising
- MRTS 5460 - Global Media
- MRTS 5620 - Media Economics
- MRTS 5630 - Broadcast Programming
- MRTS 5640 - Media Management
- MRTS 5660 - Industry Studies Topics
- MRTS 5680 - Media Entrepreneurship

9 hours of graduate elective courses:

In addition, students must take at least 9 hours of graduate 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:

Capstone: The Master of Arts degree offers the option of a written thesis or a comprehensive exam. Students are strongly encouraged to pursue the thesis option if they are interested in applying to Ph. D. programs.

Thesis option (6 hours of thesis enrollment):

Of the required minimum of 30 graduate hours, 6 hours must be thesis credit. 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):

Of the required minimum of 30 graduate hours, 3 hours must be special problems credit with the successful completion of a comprehensive examination. The student must have departmental approval for this option, including the approval of a Media Arts graduate faculty examination advisor. Students are eligible to complete the exam once they have a degree plan approved and have completed 21 hours of graduate course work.

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Department of Philosophy and Religion

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Web site: www.phil.unt.edu
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Irene Klaver, 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 environmental philosophy. The department offers the Master of Arts with a major in philosophy and the Doctor of Philosophy with a major in philosophy.

The Department of Philosophy and Religion oversees one of the world's leading doctoral programs in environmental ethics and philosophy. Foundational training in the history of Western philosophy and religion provides the basis for specializations such as environmental policy, environmental justice, philosophy of ecology, eco-phenomenology 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 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 environmental ethics, the department offers humanists, scientists and professionals unique opportunities for postdoctoral work and professional development either through independent study and research.

Research

The primary specialization of the department is environmental ethics 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.

The Center for Environmental Philosophy

Eugene C. Hargrove, Director

The Center for Environmental Philosophy encourages and supports workshops, conferences and other special projects, including postdoctoral research in the field of environmental ethics. Activities currently include the publication of *Environmental Ethics: An Interdisciplinary Journal Dedicated to the Philosophical Aspects of Environmental Problems*, which is now in its fourth decade of publication; Environmental Ethics Books, a reprint series of important books dealing with environmental ethics and philosophy; and annual workshops on college and university curricula development and on nature interpretation. National research conferences focusing on selected topics in environmental ethics are held on an irregular basis.

Master's Degree

Philosophy, MA

Two options exist for completing the Master of Arts with a major in philosophy: a 30-hour thesis option and a 36-hour non-thesis.

Thesis option

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; 6 hours (two courses) may be taken outside of the department. Outside course work is optional, not required.

After completing course work, students will submit a Master's Thesis, a substantial work of original scholarship. Students may enroll in PHIL 5950 after they have completed course work and have not yet completed the thesis. Students must pass an oral defense of the Master's Thesis.

Non-thesis option

Students take a total of 36 semester credit hours (12 courses). At least 30 hours (10 courses) must be taken in the Department of Philosophy and Religion; 6 hours (two courses) may be taken outside of the department. Outside course work is optional, not required. After completing course work, students will take a Comprehensive Exam in the History of Philosophy.

Comprehensive exam

Comprehensive Examination

Satisfying the Toulouse Graduate School Requirement for Qualifying Examination.

The purpose of the comprehensive exam is for the non-thesis MA student in philosophy to develop a 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 **one MA Comprehensive Examination in the history of philosophy**. There is a suggested readings list for the exam. The comprehensive exam questions will be based on the reading list and recently offered courses. Sample questions are posted at the department web site.

The exam will be four hours long, administered in the Department of Philosophy and Religion, written on an internet disabled computer.

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.

Fail: The comprehensive exam does not satisfactorily meet the Graduate School's Qualifying Exam Requirement.

A pass grade is required to satisfy the non-thesis MA degree requirements.

A Fail grade is permissible. Students may retake the exam once. The retake will take place on or near **July 1** (or February 1 if the exam is taken in the fall).

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*.

Doctorate

Philosophy, PhD

Students accepted into the PhD program with a BA degree: 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 history of philosophy, 6 hours of environmental philosophy
- PHIL elective courses: 30 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 philosophy: 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 history of philosophy, 6 hours of environmental philosophy
- 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: 42 credit hours

- Required courses: 9 hours of history of philosophy, 6 hours of environmental philosophy
- PHIL elective courses: 9 hours
- Additional PHIL elective or non-PHIL elective courses: 6 hours
- Doctoral Dissertation: 12 hours

Environmental philosophy, 6 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 6710 - Ecofeminism: Women's Studies and Environmental Ethics
- PHIL 6720 - Religion and Ecology
- PHIL 6730 - Christianity and the Environment
- PHIL 6740 - Environmental Ethics, Science and Public Policy
- PHIL 6750 - Environmental Justice
- PHIL 6760 - Topics in Environmental Philosophy

History of 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 5100 - Ancient Philosophy
- PHIL 5200 - Modern Philosophy
- PHIL 5250 - Topics in the History of 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.

Students entering the PhD program with an MA degree in a field other than philosophy may take up to two courses (6 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. 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.*

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Department of Political Science

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Matthew Eshbaugh-Soha, 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, the Master of Science and the Doctor of Philosophy, all with a major in political science.

Concentrations at the doctoral level are available in American politics, comparative politics, international relations, political theory and methodology.

Admission requirements

All general admission requirements to the Toulouse Graduate School, as outlined in the Admission section of this catalog, must be fulfilled.

Applicants for graduate programs must submit scores on the Graduate Record Examination general test. Applicants for the Master of Arts, Master of Science or PhD programs who have not completed the GRE requirement will not be admitted to graduate courses in political science.

Master's Degree

Political Science, MA

Admission

To be admitted to the Master of Arts program, a student must have:

1. a bachelor's degree awarded by an accredited college or university;
2. a minimum of 24 hours of undergraduate or graduate work in political science;
3. an acceptable grade point average on the last 60 hours and acceptable GRE scores; for standardized admission test requirements, contact the department or the Toulouse Graduate School;
4. three letters of recommendation, preferably from professors;
5. a 500-word statement of purpose; and
6. an academic writing sample.

Degree requirements

The master's degree 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 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.

Political Science, MS

Admission

To be admitted to the Master of Science program, a student must have:

1. a bachelor's degree awarded by an accredited college or university;
2. a minimum of 24 hours of undergraduate or graduate work in political science;
3. an acceptable grade point average on the last 60 hours and acceptable GRE scores; for standardized admission test requirements, contact the department or the Toulouse Graduate School;
4. three letters of recommendation, preferably from professors;
5. a 500-word statement of purpose; and
6. an academic writing sample.

Degree requirements

The master's degree 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 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.

Students pursuing the Master of Science degree must demonstrate proficiency in research methods by completing at least 6 hours of course work beyond the required sequence of PSCI 5340 and PSCI 6320 in a first or second field of political methodology with a grade of B or better in each of those courses.

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 consent of the Advisory Committee and Graduate Advisor, the required hours beyond the master's degree may be reduced to as little as 42 hours.

The following are required for all doctoral students:

- PSCI 5340 - Seminar in Political Science Scope and Methods
- PSCI 5320 - Quantitative Political Research Methods
- 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 three areas of study for the Doctor of Philosophy degree, at least two of which must be in political science. Additional course work will be taken in other areas of political science or a related field. The student must pass qualifying examinations in two political science areas.

The student plans a program with an advisory committee that consists of a major professor, one professor from each of the student's two other areas, and one departmental representative. The departmental representative is appointed by the political science graduate advisor. This committee advises the student on the program, arranges for all departmental examinations, approves the dissertation topic and judges the completed dissertation as a work of original research and writing justifying the awarding of the degree.

If a student elects a minor outside political science, it must be supportive of the study within the discipline. The outside minor cannot replace either of the political science areas for the qualifying exams. The areas available within political science are:

- political theory
- American government and public law
- 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 by the time the qualifying examinations are completed. The research practicum is an exercise in original research carried out under a faculty member's guidance.

Qualifying examinations

The qualifying examinations will be taken when all course work 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.

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Department of Psychology

Main Departmental Office
Terrill Hall, Room 316

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Denton, TX 76203-5017
940-565-2671
Web site: www.psyc.unt.edu

Vicki Campbell, 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's expertise include 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, HIV/AIDS, 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 Research. This center consists of a multidisciplinary group that draws upon the disciplines of anthropology, behavioral medicine, education, psychology, public health, and sociology to pioneer research on psychosocial phenomena involved in healthy living. Basic research on wellness within a chronic illness context provides a foundation for the future development of psychosocial and behavioral interventions that encourage health-related behavioral change. As chronic illness can affect anyone—regardless of race, ethnicity, gender, sexual orientation and socioeconomic status—we strive to identify, from a multicultural perspective, psychosocial factors critical to the development of effective interventions.

Center for Sport Psychology and Performance Excellence. The Center for Sport Psychology and Performance Excellence (CSPPE) is a multidisciplinary center devoted to offering sport psychology interventions, research and training. The center combines knowledge, skill and expertise from psychology and exercise science to produce the most comprehensive and state-of-the-art sport psychology services available. In addition, through the center, graduate students are able to pursue specialized training in sport and exercise psychology.

Psychology Clinic. As part of the department's Applied Training Unit, the Psychology Clinic is a training site for graduate students. Through the clinic, psychological services are offered to the community within the Dallas–Fort Worth region. Services available to the community include psychotherapy, vocational counseling, psychological assessment and biofeedback.

Degree programs

The department offers graduate programs leading to the Doctor of Philosophy with 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 you provide for each recommender. Applicants must include one recommendation from their last professional employer (if they have had such previous experience) and one from the last academic institution attended.

In all cases, the Department of Psychology maintains the right to make independent inquiry of the applicant's employers and the faculties of institutions previously attended, as well as to deny admission to an applicant who in its judgment 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 application for each program. Applications are submitted electronically. Each applicant must include a completed psychology department application, photocopies of transcripts, photocopies of GRE score reports, personal resume and a statement of goals. Separate letters of recommendation are required for each program to which the student is applying, and letters must have a program specified. We prefer that letters of recommendation are submitted electronically; however, they may be submitted under separate cover directly from the recommender. If they are not submitted electronically, these letters must be sealed and signed across the back flap by the referee. Materials submitted to the Graduate School do **not** need to be duplicated for each program to which the student applies.

Please refer to the department web site at www.psyc.unt.edu for questions regarding department application deadlines, etc.

Graduate Record Examination (GRE)

Applicants must have taken the GRE general test **prior to** the application deadlines. The psychology subject test is not required, 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 completeld 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 description (Internet printout is acceptable) or syllabus for these specific prerequisite courses. A course in statistics from a department other than psychology could apply to fulfill the prerequisite requirement, and the grade points from this course would be included in the psychology hours GPA. However, such a course is not credited toward the required prerequisite psychology semester hours. To calculate Quality Points, multiply grade (4.0, 3.0, 2.0) by hours of the class (4.0, 3.0, 2.0, 1.0). Example: a grade of A (4.0) in a 3 hour class would equal 12 quality points.

Those doctoral applicants who hold a master's degree with a major in psychology, but not an undergraduate degree in psychology may elect to use master's course work to satisfy psychology prerequisites. If admitted to a graduate program, the courses used as prerequisites may not be used toward a degree plan as transfer work.

In addition to the specific courses outlined above, the applicant must also have 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 of 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, history and systems, biological bases of behavior, and thesis and dissertation. The remainder (14 hours) 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 20 hours in general core psychology include the following: history and systems of psychology, 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 104 semester hours plus a one-year internship and includes 20 hours in general core psychology: social psychology, quantitative methods, theories of cognition and affect, history and systems, and biological bases of behavior.

The counseling core consists of 37 hours that include course work in the following areas: human development, assessment, individual and group techniques, theories of counseling and psychotherapy, legal and ethical issues, psychopathology, vocational psychology, supervision and consultation, and multicultural counseling. A research core composed of a minimum of 15 hours and practicum training consisting of 17 hours also are required. The elective cluster is composed of a minimum of 15 hours selected to represent an organized and integrated sequence in the student's area of interest.

Additional requirements

Dual degree options

All doctoral programs make provisions to allow the completion of a master's degree in general psychology.

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.

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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

Donna Barnes, Chair

Gabe Ignatow, 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, social science methodology, and 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, MA

Admission requirements

1. Before being admitted to a master's program in the Department of Sociology, the applicant must meet the requirements for admission to the Toulouse Graduate School specified in the Admission section of this catalog. Applying is a two-part process. First, prospective applicants for a master's program must obtain and file an application for admission to the UNT Toulouse Graduate School. Second, applicants for a master's degree must also obtain and file a separate application for admission to the Department of Sociology. (See the department's web page for details.)
2. 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.

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 prior to the comprehensive examination. The degree plan and major and minor professors must be approved by the dean of the Toulouse Graduate School upon recommendation of the student, department chair and graduate advisor.

Thesis option

1. Of the required minimum of 30 graduate hours for the master's degree, 24 hours must be graduate sociology courses, including a 6-hour thesis.
2. A minor of 6 graduate hours in a related field must be approved by the chair of the sociology department and the student's major professor.
3. Candidates for the Master of Arts degree must present evidence of a reading knowledge of at least one foreign language. (This is not a requirement for candidates for the Master of Science degree.)
4. Successful completion of a thesis and satisfactory performance on the comprehensive examination complete the requirements for the master's degree. The comprehensive exam is principally the candidate's oral defense of his or her thesis but may include related questions on theories, research methods and social statistics used in the discipline. Candidates are eligible to complete the exam after they have established an advisory/thesis committee, had their degree plan approved and completed 21 semester hours of graduate credit toward the degree. The examining board consists of the candidate's three-member advisory/thesis committee.

Non-thesis option

1. Of the required minimum of 30 hours for the master's degree, 24 hours must be graduate work in sociology.
2. A minor of 6 graduate hours may be taken in courses outside of sociology with consent of the department chair and the student's major professor.
3. A total of 3 graduate hours may be earned in SOCI 5940 - Sociology Internship.
4. Satisfactory performance on the comprehensive examination completes the requirements for the non-thesis master's degree. The comprehensive examination, as determined by the candidate's advisory committee, may be written or oral. The oral exams normally last one and one-half hours and the written exam length varies by format. If the candidate answers the questions without access to books, journals or other written material, the exam usually lasts four hours. If a take home exam, the student is usually allowed two weeks to complete the exam. Principally, the exams cover, but are not limited to, content from completed course work with an emphasis upon theories, research methods and social statistics used in the discipline. Candidates are eligible to complete the exam(s) after they have established an advisory committee, have an approved degree plan and have completed 21 semester hours of graduate credit toward the degree. The examining board consists of the candidate's three-member advisory committee.

Sociology, MS

Admission requirements

1. Before being admitted to a master's program in the Department of Sociology, the applicant must meet the requirements for admission to the Toulouse Graduate School specified in the Admission section of this catalog. Applying is a two-part process. First, prospective applicants for a master's program must obtain and file an application for admission to the UNT Toulouse Graduate School. Second, applicants for a master's degree must also obtain and file a separate application for admission to the Department of Sociology. (See the department's web page for details.)
2. 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.

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. Candidates for the Master of Arts degree must present evidence of a reading knowledge of at least one foreign language. (This is not a requirement for candidates for the Master of Science degree.)
4. Successful completion of a thesis and satisfactory performance on the comprehensive examination complete the requirements for the master's degree. The comprehensive exam is principally the candidate's oral defense of his or her thesis but may include related questions on theories, research methods and social statistics used in the discipline. Candidates are eligible to complete the exam after they have established an advisory/thesis committee, had their degree plan approved and completed 21 semester hours of graduate credit toward the degree. The examining board consists of the candidate's three-member advisory/thesis committee.

Non-thesis option

1. Of the required minimum of 30 hours for the master's degree, 24 hours must be graduate work in sociology.
2. A minor of 6 graduate hours may be taken in courses outside of sociology with consent of the department chair and the student's major professor.
3. A total of 3 graduate hours may be earned in SOCI 5940 - Sociology Internship.
4. Satisfactory performance on the comprehensive examination completes the requirements for the non-thesis master's degree. The comprehensive examination, as determined by the candidate's advisory committee, may be written or oral. The oral exams normally last one and one-half hours and the written exam length varies by format. If the candidate answers the questions without access to books, journals or other written material, the exam usually lasts four hours. If a take home exam, the student is usually allowed two weeks to complete the exam. Principally, the exams cover, but are not limited to, content from completed course work with an emphasis upon theories, research methods and social statistics used in the discipline. Candidates are eligible to complete the exam(s) after they have established an advisory committee, have an approved degree plan and have completed 21 semester hours of graduate credit toward the degree. The examining board consists of the candidate's three-member advisory committee.

Doctorate

Sociology, PhD

The objective of the sociology program is to produce intellectually well-rounded graduates capable of (1) functioning effectively in either an academic 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 must be submitted at the time of the application and a score on the written essay is recommended.

The following requirements must be met for admission consideration.

1. For consideration of unconditional admission to the PhD program in sociology by applicants with a master's degree, applicants must have completed a minimum of 18 hours of sociology, at least 3 graduate semester hours in social research methods, 3 graduate semester hours in an acceptable course on social statistics and 3 graduate semester hours of social theory; have at least a 3.5 (B+) GPA for master's courses; and have competitive scores on the verbal and quantitative sections of the Graduate Record Examination (GRE).

2. For possible consideration of conditional admission for applicants with a master's degree (requiring an appeal to the graduate school), the applicant must have at least a 3.0 (B) GPA for all master's credit, acceptable scores on the verbal and quantitative sections of the Graduate Record Examination and substantial alternative evidence of potential success in graduate studies. Additional course work is typically required when the applicant has fewer than the required number of hours and courses needed for unconditional admission. The sociology department may request additional evidence of the applicant's ability to do graduate work.

3. Outstanding undergraduates without the master's degree who meet all possible unconditional requirements may be considered for admission into the doctoral program. If admitted, a pass-through master's degree option is available.

The dean of the graduate school will notify the applicant of the admission decision to the sociology program. Applicants receiving acceptance for admission should consult with the department's graduate advisor prior to the first term/semester of enrollment to schedule courses.

Degree requirements

1. The minimum program for the PhD in sociology consists of 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 one of the department's substantive concentrations, including at least 6 hours at the 6000 level. The core course for the concentration must be taken with the remaining two courses selected from a list of available concentration courses. The core course is **not** a prerequisite to taking one of the other concentration courses. Readings courses cannot be used to satisfy these requirements.
    d. A minimum of 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 cooperative education or 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. Concentration examinations are required of all students. The examination must be taken within one semester after the student has completed all course work for the 9-hour concentration. The examination for the department's concentration is prepared by the concentration's faculty committee and evaluated by those faculty contributing questions to the exam. The department graduate director oversees the administration of all concentration exams. Preparation for these exams includes, but is not limited to, course work,

reading key literature and participating in study groups.

The successful completion of the examination 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 two grades of C or below in sociological theory, methods, statistics or first concentration (track within sociology) course work that will count in these areas on the student's degree plan (for purposes of this rule, the first grade received in the course will be used).

2. The student has 6 or more hours of Incomplete grades that are more than one year old in sociological theory, methods, statistics, or first concentration (track within sociology) course work.

3. The student's overall GPA falls below 3.0 for two consecutive semesters or the student is suspended by the graduate school after being put on probation.

4. The doctoral student fails a comprehensive or concentration exam twice.

5. The student fails to make any progress toward the degree for at least one full calendar year (e.g., does not enroll, does not sit for the concentration exam, does not make progress on thesis or dissertation, etc.).

6. The student engages in an act of academic misconduct.

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Department of Spanish

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: spanish.unt.edu

Samuel Manickam, Spanish Chair

Teresa Marrero, Spanish Graduate Advisor

Faculty

Research

Research conducted by Spanish professors includes the following areas: all genres and periods of Spanish and Latin American literature, cultural and film studies, Latino theatre and Spanish linguistics. All Spanish faculty members regularly publish in their respective fields as well as participate in conference activities.

Master's Degree

Spanish, MA

Admission and degree requirements

A student must have completed at least 12 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 two to three references from persons acquainted with the candidate's scholarly and/or teaching background. No GRE is required.

The applicant has the choice of the following programs:

1. 36 semester hours, including 6 hours of thesis; at least 24 hours of course work must be completed in the major; a minor of 6 hours is permitted; or
2. 36 hours of course work, without thesis; at least 30 hours must be earned in the major; a minor of 6 hours is permitted.

A master's degree candidate in Spanish must take a written comprehensive examination in the major field or select the thesis option.

With the approval of the chair of the department, the master's thesis may be written in Spanish or English. Thesis option requires an oral defense.

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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

Kim Sydow Campbell, Professor and 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 10% from 2014 to 2024, which is greater than the 7% increase expected for all occupations and the 4% for all media and communication workers (Bureau of Labor Statistics, 2016-2017 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.

The applicant must also submit scores from the Graduate Record Examination (GRE). 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 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 Technical Communication Director of Graduate Studies:

- 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).

These materials may be e-mailed to tcgrad@unt.edu.

Admission into the program is competitive. The graduate director reviews all application materials holistically, but GRE/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 are not required to take the GRE and 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

- 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 5285 - Technical Presentations
- TECM 5290 - Design and Development of High-Tech Training Materials
- TECM 5550 - Studies in the Teaching of Technical Communication
- TECM 5580 - Theories in Composition
- TECM 5740 - Research 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

Teaching Technical Writing certificate

This graduate academic certificate caters to non-majors. Teaching technical writing requires an acute attention to the stylistic and rhetorical standards and practices that govern workplace writing—these practices often run counter to traditional humanities-based writing training. Understandably, these emphases are not part of the curricula in rhetoric/composition, literature, creative writing, and cultural studies programs.

The certificate in teaching technical writing equips students with the skills needed to teach a variety of foundational courses in technical communication, including introduction to technical writing, technical editing, technical style, document and web design, and professional report and proposal writing.

Admission procedures

The admission requirements for a graduate-level certificate differ from an MA degree. To be admitted to the certificate program, the student must either be concurrently enrolled in an accredited master's/doctoral program or have already earned a master's/doctoral degree from an accredited university.

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 take the GRE and meet 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 teaching technical writing must take four courses (12 hours) to earn the academic certificate. For more information about earning the certificate online, see online.unt.edu/certificate-programs/gac-teachtechnicalwriting.

Required courses, 6 hours

- TECM 5195 - Editing Technical Documents
- TECM 5550 - Studies in the Teaching of Technical Communication

Electives, 6 hours

- TECM 5170 - Grants and Proposals
- TECM 5180 - Professional Writing
- TECM 5190 - Style and Technical Writing
- TECM 5191 - Digital Literacies for Professional Communicators
- TECM 5200 - Digital Content Strategies for Communication Professionals
- TECM 5280 - Designing Technical Documents
- TECM 5290 - Design and Development of High-Tech Training Materials
- TECM 5750 - Measuring Usability and User Experience for Professional and Technical Communication

Disclosures

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

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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

Marijn S. Kaplan, Chair

Faculty

The Department of World Languages, Literatures and Cultures offers a graduate program in French.

Research

Research conducted by departmental faculty members includes culture and civilization, linguistics, and literature.

French summer institute

(summer MA program in French)

Following the immersion principle, every June the French Summer Institute offers two graduate courses over a four-week period divided into two two-week sessions. This program enables graduate students to earn an MA in French over four summers of course work supplemented by additional courses taken during the fall or spring term/semester, transfer credits and/or study in France. All students may combine courses taken during the fall and spring terms/semesters with courses taken during the French Summer Institute. Advanced undergraduate students may register for the French Summer Institute and receive credits at the 4000 level.

Master's Degree

French, MA

Admission requirements

A student must have completed at least 12 semester hours of advanced work in the field concerned to be admitted into the graduate program. Applicants are evaluated following a holistic review which includes several factors, none of which are given greater weight than any of the others: undergraduate GPA, a 1,000-word essay in French, a one-page curriculum vitae, a letter of recommendation from a past French instructor, and completion of 12 hours of advanced undergraduate coursework in French.

Degree requirements

The applicant has the choice of the following programs:

1. 36 semester hours, including 6 hours of thesis; at least 24 hours of course work must be completed in the major at UNT; a minor of 6 hours OR 6 hours of transfer credit are permitted; or
2. 36 hours of course work, without thesis; at least 30 hours must be earned in the major at UNT; a minor of 6 hours OR 6 hours of transfer credit are permitted.

A master's degree candidate in French must take a written comprehensive examination in the major field or select the thesis option.

With the approval of the chair of the department, the master's thesis may be written in French.

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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

Andrea Miller, Dean

Faculty

Frank W. Mayborn Graduate Institute of Journalism

Main Office
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Denton, TX 76203-5017
940-565-4564

Office of Graduate Student Advising
Sycamore Hall, Room 206
940-565-4564

Web site: journalism.unt.edu

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. This 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; www2.ku.edu~acejmc.

Research

Areas of research interest in the school include the impact of new technology on journalism and mass communication and the importance of ethics in media. Research also is conducted on curriculum studies for journalism education and on defining the outcomes of journalism education. Other topics of research interest are sexism and racism in media, 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 journalism.unt.edu/graduate/admissions or contact the graduate advisor 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 and the graduate programs in the Frank W. Mayborn Graduate Institute of Journalism. 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. 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 goals and rationale for applying to the digital communications analytics program and a brief description of his or her career and research expectations with regard to work and further education.

Degree requirements

This degree is a comprehensive program with options to prepare individuals for positions in both industry and education related to data analytics, communications and social media. Theoretical foundations in data analytics and social media communications are expanded through applications in data collection, visualization, analysis and reporting.

This degree is a 36-hour program, which consists of 24 hours of eight required courses and 12 hours of elective courses.

Required courses, 24 hours

JOUR 5000 is an entry course to be taken in the first semester. JOUR 5581 is to be taken during the last 9 hours of course work.

- ADTA 5250 - Large Data Visualization
- JOUR 5000 - Introduction to Digital Communication Analytics
- JOUR 5251 - Quantitative Research Fundamentals in Digital Communication

- JOUR 5261 - Qualitative Research Fundamentals in Digital Communication
- JOUR 5331 - Social Media Analytics
- JOUR 5341 - Cutting-Edge Techniques for the Digital Communication Analyst
- JOUR 5581 - Capstone Seminar in Digital Communication Analytics
- LTEC 5260 - Computer Graphics for Mediated Communications

Electives, 12 hours

Students choose 12 hours from the following.

- ADTA 5340 - Discovery and Learning with Big Data
- INFO 5310 - Marketing and Customer Relationships for Information Professionals
- 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
- JOUR 5351 - Seminar in Digital Communication Analytics
- JOUR 5800 - Professional Internship
- JOUR 5901 - Advanced Problems in Digital Communication Analytics
- LTEC 5420 - Web Authoring
- MGMT 5140 - Organizational Behavior and Analysis
- MKTG 5200 - Consumer Behavior
- MKTG 5250 - Advanced Marketing Research and Analytics

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 may be required to take up to 12 hours of undergraduate courses in journalism as approved by the graduate program director.

The MA candidate in journalism must complete a minimum of 36 semester hours, including 6 hours of thesis courses. Students should take 12 hours of core courses within their first year of the program. A minor is not required, but up to 12 hours may be taken in a minor field, or the 12 hours may be divided between two minor fields. The MA requires foreign language competency.

The student requests a professor to serve as thesis chair after completing 12 hours of core courses. The thesis chair will help the student select a committee. Until a student successfully defends their thesis, they must be enrolled in thesis hours.

The student should also register for the comprehensive exam. 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. Students must complete all thesis hours and pass the comprehensive exam to graduate.

Required courses

- JOUR 5040 - Media Studies and Theories
- JOUR 5250 - Quantitative Research
- JOUR 5260 - Qualitative Research
- JOUR 5310 - Media Ethics
- JOUR 5950 - Master's Thesis (6 hours)

Remaining courses

With the approval of the graduate advisor, a candidate may select his or her remaining course work to support career interests such as 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.

Journalism, MJ

The following requirements must be satisfied for a Master of Journalism.

Requirements

The MJ candidate whose undergraduate degree is not in journalism may be required to take up to 12 hours of undergraduate courses in journalism as approved by the graduate program director. The MJ degree has no foreign language requirement, and the 6-hour thesis is optional, but the candidate must complete a minimum of 36 hours of graduate work. A minor of at least 6 hours in another field is required for those students whose undergraduate degrees are in journalism. If as many as 12 hours of minor work are done, they may be divided equally between two approved fields.

Required 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 advisor, a candidate may select his or her 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.

Minor fields

Recommended minor fields for the MJ are English, history, information science, political science, radio/television/film, sociology, economics and business administration.

Graduate Academic Certificate

Interactive and Virtual Digital Communication certificate

The graduate academic certificate in interactive and virtual digital communication combines the best of two nationally accredited programs to train students in the most up-to-date written, visual and technical competencies required to successfully communicate in today's online and information world. The graduate academic certificate in interactive and virtual digital communication requires the completion of 18 hours.

Certificate requirements, 18 hours

- JOUR 5500 - Integrated Communications
  or

- JOUR 5320 - New Technologies of Mass Communication

- INFO 5040 - Information Behavior
- INFO 5615 - Electronic Databases and Information Services
- JOUR 5130 - International Advertising and Public Relations Study Abroad
- JOUR 5520 - Advanced Study in Advertising and Public Relations for Social Good
- LTEC 5200 - New Technologies of Instruction
- LTEC 5260 - Computer Graphics for Mediated Communications

  These courses may also be applied to a master's degree in journalism.

Disclosures

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

Narrative Journalism certificate

The graduate academic certificate in narrative journalism is offered for professional journalists, authors, writing instructors, editors and researchers currently working for newspapers, magazines, book publishers and public relations firms. The certificate program is designed to teach exceptional narrative writing, editing and other storytelling skills.

Certificate requirements, 15 hours

The graduate academic certificate in narrative journalism requires completion of 15 hours from the following

- JOUR 5270 - Advanced Reporting Techniques
- JOUR 5700 - Advanced Feature Writing
- JOUR 5710 - Narrative Journalism
- JOUR 5720 - Magazine Writing and Publishing
- JOUR 5730 - Writing, Editing and Publishing for the Literary Market
- JOUR 5740 - Literary Journalism
- JOUR 5750 - Advanced Multimedia Storytelling for News
- 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 tsgs.unt.edu/certificatedisclosure.

Public Relations certificate

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, 15 hours

Required courses, 9 hours

The following three courses are required:

- JOUR 5040 - Media Studies and Theories
- JOUR 5100 - Case Problems in Public Relations
- JOUR 5350 - Seminar in Journalism and Mass Communication

Electives, 6 hours

Select two courses from the following list.

- JOUR 5200 - Public Opinion and Propaganda
- JOUR 5210 - Race, Gender and the Media: A Methods Approach
- JOUR 5250 - Quantitative Research
- JOUR 5260 - Qualitative Research
- JOUR 5310 - Media Ethics
- JOUR 5320 - New Technologies of Mass Communication
- JOUR 5330 - Strategic Social Media
- JOUR 5500 - Integrated Communications
- JOUR 5520 - Advanced Study in Advertising and Public Relations for Social Good

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 tsgs.unt.edu/certificatedisclosure.

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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

Tammy Kinley, Associate Dean
Lisa Kennon, Hospitality and Tourism Graduate Coordinator
Sanjukta Pookulangara, Merchandising and Digital Retailing Graduate Coordinator

Faculty

Programs in the college are designed to meet personnel needs in retail/merchandising, hospitality and tourism. These two fields of study represent high growth global industries with increasing demands for highly skilled leaders who can solve complex problems, create new opportunities in very competitive markets, and have a holistic understanding of the many components that support a successful business. Teaching and research focus on the broad concepts of products, service, resource management, information-exchange technology and total experience management in consumer-driven global markets. Close proximity to a major apparel and home furnishings market complex, major retailers, wholesalers, manufacturers, major hotels, restaurants, and food service businesses provides excellent affiliations and internship opportunities. The Dallas–Fort Worth region is the headquarters for numerous retail, lodging and restaurant companies.

Degree plan

The degree plan is developed in consultation with the student's major professor to meet the specific student needs and career objectives.

Research

Research in the hospitality 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 and Tourism Management and the Department of Merchandising and Digital Retailing.

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Department of Hospitality and Tourism Management

Main Office
Chilton Hall, Room 331

Mailing address:
1155 Union Circle #311100
Denton, TX 76203-5017
940-565-2436

Web site: www.cmht.unt.edu

Kim Williams, Chair

Faculty

Mission

The mission of the Department of Hospitality and Tourism Management is to educate students for leadership in the global hospitality and tourism industries and to advance the profession through excellence in teaching, research and service.

Master's Degree

Hospitality Management (online), MS

Admission requirements

The student must meet the requirements for admission to the Toulouse Graduate School. Included in these requirements are:

- a bachelor's degree from an accredited university;
- an undergraduate GPA of at least 3.0 for the last 60 semester hours of course work or a 2.8 GPA on all undergraduate work;
- a demonstrated proficiency in oral and written English; and
- a minimum of 24 semester hours of undergraduate work in hospitality management or the equivalent; 12 of the 24 hours must be advanced. Students who do not meet the requirements must complete specified prerequisite courses in hospitality management during the first semester in the graduate program, earning a grade no lower than B.

In addition, to be considered for admission into the hospitality management program, students need to submit the following to the HTM Graduate Programs Coordinator:

- three letters of recommendation from employers or teachers;
- a resume; and
- a professional essay that addresses the student's motivation and perseverance toward educational goals, academic or professional honors, recognitions and awards, and a demonstrated commitment to the field of study.

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

The student must earn a minimum of 36 hours.

Online thesis option

Hospitality management core, 3 hours

- HMGT 5860 - Strategic Management in the Hospitality Industry

Research tools/minor, 6 hours

- EPSY 5050 - Foundations of Educational Research Methodology
- EPSY 5210 - Educational Statistics

Thesis course, 6 hours

- HMGT 5950 - Master's Thesis

HMGT and CMHT courses, 15–21 hours

15–21 hours of HMGT and CMHT courses, excluding HMGT 5950.

- CMHT 5440 - Consumer Theory
- CMHT 5550 - Promotional Strategies
- CMHT 5600 - Managing Customer Experiences
- CMHT 5700 - Service Excellence
- HMGT 5250 - Restaurant Development
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMGT 5520 - Global Tourism Systems
- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5790 - Field Experience in Hospitality and Tourism
- HMGT 5900 - Special Problems in Hospitality and Tourism
- HMGT 5910 - Special Problems in Hospitality and Tourism

Electives, 0–6 hours

Courses must be approved by HTM advisor.

Online non-thesis option

Hospitality management core, 6 hours

- HMGT 5860 - Strategic Management in the Hospitality Industry

- HMGT 5920 - Problem in Lieu of Thesis

Research tools/minor, 6 hours

- EPSY 5050 - Foundations of Educational Research Methodology
- EPSY 5210 - Educational Statistics

HMGT and CMHT courses, 21–24 hours

21–24 hours of HMGT and CMHT courses, excluding HMGT 5950.

- CMHT 5440 - Consumer Theory
- CMHT 5550 - Promotional Strategies
- CMHT 5600 - Managing Customer Experiences
- CMHT 5700 - Service Excellence
- HMGT 5250 - Restaurant Development
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMGT 5520 - Global Tourism Systems
- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5790 - Field Experience in Hospitality and Tourism
- HMGT 5900 - Special Problems in Hospitality and Tourism
- HMGT 5910 - Special Problems in Hospitality and Tourism

Electives, 0–3 hours

Courses must be approved by HTM advisor.

Hospitality Management, MS

The following requirements must be satisfied for a Master of Science with a major in hospitality management.

Admission requirements

The student must meet the requirements for admission to the Toulouse Graduate School. Included in these requirements are:

- A bachelor's degree from an accredited university.
- An undergraduate GPA of at least 3.0 for the last 60 semester hours of course work or a 2.8 GPA on all undergraduate work.
- A demonstrated proficiency in oral and written English.
- A minimum of 24 semester hours of undergraduate work in hospitality management or the equivalent; 12 of the 24 hours must be advanced. Students who do not meet the requirements must complete specified prerequisite courses in hospitality management during the first semester in the graduate program, earning a grade no lower than B.

In addition, to be considered for admission into the hospitality management program, students need to submit the following to the HTM Graduate Programs Coordinator:

- Three letters of recommendation from employers or teachers.
- A resume.
- A professional essay addressing the student's motivation and perseverance toward educational goals, academic or professional honors, recognitions and awards, and a demonstrated commitment to the field of study.

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

The student must earn a minimum of 36 semester hours.

Hospitality management core, 12 hours

- CMHT 5100 - Introduction to Research in Merchandising and Hospitality
- CMHT 5300 - Research Methods in Merchandising and Hospitality Management
- CMHT 5400 - Research Applications in Merchandising and Hospitality Management
- HMGT 5860 - Strategic Management in the Hospitality Industry

HMGT and CMHT courses, 12–15 hours

- CMHT 5000 - Global Discovery in Merchandising and Hospitality Management *
- 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 5810 - Teaching Practicum in Merchandising and Hospitality Management
- CMHT 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management
- HMGT 5200 - Survey of Beverages in the Hospitality Industry *
- HMGT 5210 - Hospitality Cost Controls *
- HMGT 5250 - Restaurant Development
- HMGT 5260 - Hospitality Business Strategies *
- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis
- HMGT 5480 - Hospitality Industry Finance *
- HMGT 5520 - Global Tourism Systems
- HMGT 5530 - International Sustainable Tourism
- HMGT 5540 - Tourism Services Management and Marketing
- HMGT 5630 - Advanced Convention and Event Management
- HMGT 5730 - Hotel and Restaurant Management Systems *
- 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 Hospitality and Tourism

Note

* A maximum of 6 hours may be included on the degree plan.

Electives, 6 hours

Courses must be approved by HTM advisor.

Thesis option or individual research option

The student will select one of the following options.

- **Thesis option**: This option requires a minimum of 36 semester hours with 24 hours in the student's major area, 6 hours of electives, and 6 hours of HMGT 5950, Master's Thesis. The student must complete and defend the thesis successfully and submit it for approval.
- **Individual research option**: This option requires a minimum of 36 semester hours with 27 hours in the student's major area, 6 hours of electives, and 3 hours of HMGT 5920, Problem in Lieu of Thesis.

International Sustainable Tourism, MS

This is a joint degree with the University of North Texas (UNT) and Centro Agronómico Tropical de Investigación y Enseñanza (CATIE) — in English, Tropical Agricultural Research and Higher Education Center — in Turrialba, Costa Rica. Courses will be taken by cohorts of students. The first 18 credits of the program (first year) will be taken at the University of North Texas and the second 18 credits of the program (second year) will be taken at CATIE in Costa Rica. Students must pass a written comprehensive exam upon completion of all course work.

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 36 semester hours as follows:

Courses offered by UNT, 18 hours

- HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis

- HMGT 5530 - International Sustainable Tourism
- HMGT 5540 - Tourism Services Management and Marketing
- HMGT 5560 - Planning and Policy in Sustainable Tourism
- BIOL 5100 - Environmental Impact Assessment
- CMHT 5400 - Research Applications in Merchandising and Hospitality Management

Courses offered by CATIE, 18 hours

- HMGT 5531 - Sustainable Natural Resource Management
- HMGT 5532 - Context and Challenges of Sustainable Tourism Development
- HMGT 5533 - Environmental Policies in a Changing World
- HMGT 5534 - Seminars in Sustainable Tourism: Experiences of Successful Practitioners in Costa Rica
- HMGT 5535 - Socio-Cultural Contexts of Sustainable Tourism Development
- HMGT 5536 - Field/Practical/Professional Experience with Research Applications (Capstone)

Graduate Academic Certificate

Event and Tourism Management certificate

Graduate academic certificates

The Department of Hospitality and Tourism Management offers graduate academic certificates in hospitality management and event management. The purpose of these 12-hour graduate certificates is to offer professionals in hospitality industries the opportunity to build skills and knowledge in critical analysis and subject content. See the Admission section of this catalog for admission requirements. Upon advisement of the HTM graduate advisor and the chair of hospitality and tourism 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.

Certificate requirements

The event management graduate academic certificate program includes:

- HMGT 5630 - Advanced Convention and Event Management

Three courses chosen from the following

- CMHT 5550 - Promotional Strategies
- CMHT 5600 - Managing Customer Experiences
- HMGT 5520 - Global Tourism Systems
- HMGT 5585 - SMART Destination

Note

CMHT 5800 can be substituted for any course except HMGT 5630 with the approval of the HTM graduate advisor.

Disclosures

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

Hospitality Management certificate

Graduate academic certificates

The Department of Hospitality and Tourism Management offers graduate academic certificates in hospitality management and event management. The purpose of these 12-hour graduate certificates is to offer professionals in hospitality industries the opportunity to build skills and knowledge in critical analysis and subject content. See the Admission section of this catalog for admission requirements. Upon advisement of the HTM graduate advisor and the chair of hospitality and tourism 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

Electives, 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 5550 - Promotional Strategies
- CMHT 5700 - Service Excellence
- CMHT 5800 - Seminar in Various Areas of Concentration
- CMHT 5830 - Legal and Regulatory Aspects of Merchandising and Hospitality Management

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 tsgs.unt.edu/certificatedisclosure.

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Department of Merchandising and Digital Retailing

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940-565-2436

Web site: www.cmht.unt.edu

Bugao Xu, Chair

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 (online), MS

The student must earn a minimum of 36 semester hours.

Admission requirements

The student must meet the requirements for admission to the Toulouse Graduate School. Included in these requirements are:

- a bachelor's degree from an accredited university;
- an overall undergraduate GPA of at least 3.0 for the last 60 semester hours of course work or a 2.8 GPA on all undergraduate work;
- acceptable scores on the Graduate Record Examination (GRE) or the GMAT must be submitted with application. (GRE or GMAT score must be less than 10 years old.);
- if the applicant has a 3.5 GPA or higher in the last 60 hours of undergraduate work from an accredited university the GRE/GMAT requirement can be waived. The student will be admitted conditionally for the first semester and fully admitted upon achieving a 3.0 GPA or higher in the first nine hours of graduate course work in the first semester;
- 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
- a professional 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.

Online thesis option

Merchandising core, 3 hours

- MDSE 5500 - Merchandising Strategies

Research tools, 9 hours

- ADTA 5100 - Fundamentals of Data Analytics
- ADTA 5120 - Introduction to Data Analytics
- ADTA 5130 - Data Analytics I

Thesis course, 6 hours

- MDSE 5950 - Master's Thesis

MDSE and CMHT courses, 12–18 hours

12–18 hours of MDSE and CMHT courses, excluding MDSE 5950.

- MDSE 5230 - Home Furnishings Industry
- MDSE 5240 - Global Retailing
- MDSE 5560 - Sustainable Strategies in Merchandising
- MDSE 5620 - Socio-Cultural Analysis of Dress
- MDSE 5650 - International Sourcing
- MDSE 5750 - Digital Retailing
- MDSE 5790 - Field Experience in Merchandising
- MDSE 5900 - Special Problems in Merchandising
- CMHT 5440 - Consumer Theory
- CMHT 5550 - Promotional Strategies
- CMHT 5600 - Managing Customer Experiences
- CMHT 5700 - Service Excellence

Electives, 0–6 hours

Courses must be approved by MDSE advisor and department chair.

Online individual research option

Merchandising core, 6 hours

- MDSE 5500 - Merchandising Strategies
- MDSE 5920 - Problem in Lieu of Thesis

Research tools, 9 hours

- ADTA 5100 - Fundamentals of Data Analytics
- ADTA 5120 - Introduction to Data Analytics
- ADTA 5130 - Data Analytics I

MDSE and CMHT courses, 15–21 hours

15–21 hours of MDSE and CMHT courses, excluding MDSE 5920.

- MDSE 5230 - Home Furnishings Industry
- MDSE 5240 - Global Retailing
- MDSE 5560 - Sustainable Strategies in Merchandising
- MDSE 5620 - Socio-Cultural Analysis of Dress
- MDSE 5650 - International Sourcing
- MDSE 5750 - Digital Retailing
- MDSE 5790 - Field Experience in Merchandising
- MDSE 5900 - Special Problems in Merchandising
- CMHT 5440 - Consumer Theory
- CMHT 5550 - Promotional Strategies
- CMHT 5600 - Managing Customer Experiences
- CMHT 5700 - Service Excellence

Electives, 0–6 hours

Courses must be approved by MDSE advisor and department chair.

Merchandising, MS

Admission requirements

The student must meet the requirements for admission to the Toulouse Graduate School. Included in these requirements are:

- a bachelor's degree from an accredited university;
- an overall undergraduate GPA of at least 3.0 for the last 60 semester hours of course work or a 2.8 GPA on all undergraduate work;
- acceptable scores on the Graduate Record Examination (GRE) or the GMAT must be submitted with application. (GRE or GMAT score must be less than 10 years old.);
- if the applicant has a 3.5 GPA or higher in the last 60 hours of undergraduate work from an accredited university, the GRE/GMAT requirement can be waived. The student will be admitted conditionally for the first semester and fully admitted upon achieving a 3.0 GPA or higher in the first nine hours of graduate course work in the first semester;
- 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 student must earn a minimum of 36 semester hours.

Merchandising core, 3 hours

- MDSE 5500 - Merchandising Strategies (is required for all merchandising majors)

Research tools, 9 hours

- CMHT 5100 - Introduction to Research in Merchandising and Hospitality
- CMHT 5300 - Research Methods in Merchandising and Hospitality Management
- CMHT 5400 - Research Applications in Merchandising and Hospitality Management

Courses in major, 18–24 hours

- 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 5230 - Home Furnishings Industry
- MDSE 5240 - Global Retailing
- MDSE 5500 - Merchandising Strategies
- MDSE 5560 - Sustainable Strategies in Merchandising
- MDSE 5620 - Socio-Cultural Analysis of Dress
- MDSE 5650 - International Sourcing
- MDSE 5750 - Digital Retailing
- MDSE 5790 - Field Experience in Merchandising
- MDSE 5900 - Special Problems in Merchandising

Maximum of 6 hours from the following

A maximum of 6 hours from the following may be included as part of the major:

- CMHT 5000 - Global Discovery in Merchandising and Hospitality Management
- MDSE 5080 - Merchandising Ventures

- MDSE 5090 - Digital Merchandising
- MDSE 5510 - Advanced Buying, Planning and Allocation
- MDSE 5660 - Advanced Merchandising Applications
- MDSE 5850 - Brand Development

Electives, 0–6 hours

Up to 6 hours may be taken in courses outside of merchandising with the consent of the department chair and the student's major professor. The thesis option requires 6 hours of electives in a related area.

Options under the degree

The student will select one of the following options.

- **Thesis Option**: This option requires a minimum of 36 hours with 21 hours in the student's major area, including 6 hours of MDSE 5950, Master's Thesis, plus 9 hours of research tools. Students may have a minimum of 6 elective hours from a related area, which must be approved by the major professor and department chair. The student must complete and defend the thesis successfully and submit it for approval.
- **Individual Research Option**: This option requires a minimum of 27 semester hours in the student's major area (including research tools), 3 hours of MDSE 5920, Problem in Lieu of Thesis, and up to 6 hours of approved electives for a total of 36.

Graduate Academic Certificate

Digital Retail Merchandising certificate

Graduate academic certificates

The College of Merchandising, Hospitality and Tourism offers graduate academic certificates in hospitality management, merchandising, and event management. The purpose of these 12-hour graduate certificates is to offer professionals in hospitality, merchandising and retail industries the opportunity to build skills and knowledge in critical analysis and subject content. See the Admission section of this catalog for admission requirements. Upon advisement of the CMHT graduate advisor and the chair of the respective program (hospitality management or merchandising), the student will complete 12 hours of content-based courses in the area of specialization. All 12 hours must be completed through UNT and with College of Merchandising, Hospitality and Tourism courses. The courses may be completed in residence, online or a combination of both.

Certificate students who choose to continue in a degree program are required to meet all the requirements, including GPA, GRE or GMAT, and prerequisites, of students seeking a degree in the school. Satisfactory work (minimum of a B grade) on graduate courses for the certificate may be applied to a 36-hour master of science degree program upon advisement of the graduate advisor, division chair, and the student's major professor, who will be selected when proceeding for a degree.

Requirements

The merchandising graduate academic certificate program includes:

Core courses, 9 hours

- MDSE 5240 - Global Retailing
- MDSE 5710 - Digital Optimization
- MDSE 5750 - Digital Retailing

Electives, 3 hours

Three hours selected from the following.

- CMHT 5600 - Managing Customer Experiences
- CMHT 5440 - Consumer Theory

Note

CMHT 5800 can be substituted for any course except HMGT 5630 with the approval of the CMHT graduate advisor.

Disclosures

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

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College of Music

Main Office
Music Building, Room 247

Mailing address:
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940-565-2791

Office of Graduate Studies
Chilton Hall, Room 211
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Warren Henry, Senior Associate Dean for Academic Affairs
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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 in the College of Music must submit an application to the Toulouse Graduate School (www.applytexas.org) as well as to the College of Music for the specific degree they intend to pursue (music.unt.edu/admissions/graduate).

Admission requirements

Applicants for any graduate degree program must meet the requirements for the preceding degree in the same major field as listed in the *Undergraduate Catalog*. Applicants may be required to take specified courses to remove deficiencies as determined by the transcript evaluation. Students may enroll in courses to remove deficiencies concurrently with those graduate degree courses for which they are eligible. Deficiencies may be removed only by (1) enrolling in and passing an equivalent course at UNT or another accredited university, (2) submitting evidence of achievement, or (3) passing a proficiency examination, approved by the program area. To prepare for such examinations, students may audit courses, subject to university regulations (see *Undergraduate Catalog*). The auditing of a course alone cannot be the basis for removing a deficiency. In addition, the College of Music may request the applicant to validate any course work or skill by examination or performance.

For all MM and PhD students majoring in composition, musicology or theory; for all MM, MME and PhD students majoring in music education; and for all MM and DMA students majoring in performance, a grade of B or better must be earned in each undergraduate or graduate course assigned as a leveling course, including both transcript leveling courses and Graduate Placement Examination (GPE) review courses. For MM students majoring in jazz studies, all transcript leveling 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

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/tuition.

Degree plan

By the completion of 12 hours of study, the graduate student is expected to select an advisory committee (at least three members) and file a degree plan. The degree plan, listing all courses to be required for the degree, must be approved by the student's major professor and submitted to the director of graduate studies in music. Forms for this purpose are available 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

Master of Music degree program

Students seeking the master's degree should consult their applied lesson teacher, thesis advisor or division chair in preparing a tentative program to meet the degree requirements and in selecting an advisory committee.

Degree requirements

Requirements for each degree program are outlined below. The Office of Graduate Studies in Music provides complete information concerning procedures, administrative details and GRE requirements for individual programs. Students applying for the MM in performance or jazz studies may satisfy the GRE requirement by completing an on-campus writing examination. Details are available in the Office of Graduate Studies.

The Graduation Preparation Course (GPC) provided for international students by the Intensive English Language Institute will not be accepted as a substitute for the GRE requirement.

Before the degree is granted, the candidate must pass a final comprehensive examination — either oral, written or both — covering the field of concentration and, if applicable, the thesis or research problem. Performance majors must take the examination after the completion of the MM degree recital requirement. The examination may be taken no more than three times.

Participation in performance laboratories

Participation in two terms/semesters of laboratory or ensemble is recommended for all master's degree students. Students who major in band or orchestral instruments are required to participate, with or without credit, in two terms/semesters of laboratory; one term/semester is required for voice majors. Laboratories are a cappella choir, chamber choir, concert choir, men's chorus, women's chorus, grand chorus, symphony orchestra, wind ensemble, symphonic band, concert band, marching band, jazz labs and accompanying. To meet this requirement, students must choose laboratories approved by the major advisors. Credit may be earned by enrolling in the courses listed below (1 semester hour each).

Ensembles available for graduate student participation are: opera theater, collegium musicum, chamber orchestra, wind ensemble, brass choir, trumpet choir, horn choir, trombone choir, tuba-euphonium ensemble, flute choir, percussion ensemble, steel drum band, marimba ensemble, African ensemble, Gamelan ensemble, electric and acoustic guitar ensembles, NOVA ensemble, and smaller string, woodwind, brass, harp and jazz chamber ensembles.

- MULB 5171 - Large Ensemble: Choir
- MULB 5172 - Large Ensemble: Orchestra
- MULB 5173 - Large Ensemble: Band
- MULB 5174 - Large Ensemble: Jazz Lab Band
- MULB 5175 - Large Ensemble: Accompanying

Major in Jazz Studies

To be admitted to the program, each applicant must (1) play an audition that demonstrates technical and improvisational skill to the level of MUJS 2370 and (2) submit manuscripts that demonstrate arranging skill equivalent to the level of MUJS 3620.

At the end of each long semester, the student's work will be reviewed for continuance in the program. This review will consist of either an improvisation skill jury or an evaluation of written projects.

All MUJS course work counted toward the degree and 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, 17 hours

The following courses are required for all jazz studies majors:

- MULB 5174 - Large Ensemble: Jazz Lab Band (2 hours)
- MUJS 5440 - Introduction to Research in Jazz Studies
- MUJS 5470 - Conducting College Jazz Ensembles
- MUJS 5780 - Jazz Styles and Analysis
- Electives in music and outside the field of Jazz Studies, 6 hours

Note

The student may choose one of the following tracks, but must be accepted into a specific track on the basis of the audition.

Jazz performance

- MUJS 5490 - Advanced Jazz Improvisation
- MUJS 5535 - Jazz Recital
- MUCM 5550 - Jazz Chamber Music (4 hours)

Applied jazz, 6 hours chosen from

- MUJS 5531 - Jazz Piano
- MUJS 5532 - Jazz Saxophone
- MUJS 5533 - Jazz Voice
- MUJS 5536 - Jazz Trumpet
- MUJS 5537 - Jazz Trombone
- MUJS 5538 - Jazz Double Bass
- MUJS 5539 - Jazz Drumset
- MUAC 5526 - Jazz Guitar

Jazz composition

- MUJS 5760 - Jazz Arranging
- MUJS 5534 - Jazz Composition (6 hours)
- MUJS 5535 - Jazz Recital
- MUJS 5540 - Composition for the Media
- MUCM 5550 - Jazz Chamber Music

Jazz pedagogy

- MUJS 5480 - Pedagogy of Jazz
- MUJS 5535 - Jazz Recital (lecture-recital on a pedagogy related topic)
- MUCM 5550 - Jazz Chamber Music

Applied jazz, 6 hours chosen from

- MUJS 5531 - Jazz Piano
- MUJS 5532 - Jazz Saxophone
- MUJS 5533 - Jazz Voice
- MUJS 5534 - Jazz Composition

- MUJS 5536 - Jazz Trumpet
- MUJS 5537 - Jazz Trombone
- MUJS 5538 - Jazz Double Bass
- MUJS 5539 - Jazz Drumset
- MUAC 5526 - Jazz Guitar

3 hours selected from

- MUJS 5760 - Jazz Arranging
- MUED 5100 - Music Supervision
- MUED 5510 - Philosophical Foundations and Principles of Music Teaching
- MUED 5520 - Psychology of Music

To complete the jazz degree, students in the pedagogy track must demonstrate one of the following: skill in improvisation equal to MUJS 3370 or skill in jazz arranging equal to MUJS 4620. This may be accomplished through course work or appropriate proficiency examination.

Additional requirements

Students in all tracks must pass a comprehensive examination.

Music Education, 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.

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

- MUED 5120 - Applied Research in Music Education
- EPSY 5210 - Educational Statistics (or an alternate 3 hour research course chosen in consultation with the Master's coordinator.)

Electives, 10 hours

Electives must be music courses outside the field of music education.

Thesis, 6 hours

The student must complete 6 thesis hours.

- MUGC 5950 - Master's Thesis

Additional 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

- MUMH 5010 - Introduction to Research in Music
- MUGC 5930 - Research Problem in Lieu of Thesis (ethnomusicology and theory concentrations only) (6 hours)
  OR
- MUGC 5950 - Master's Thesis (6 hours)

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
- MUET 5230 - World Music Analysis

3 hours selected from:

(selected in consultation with the major advisor)

- MUCP 5080 - Composition Seminar
- MUET 5030 - Music Cultures of the World
- 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

Participation in two terms/semesters of laboratory or ensemble is recommended for all master's degree students. Laboratories include a cappella choir, chamber choir, concert choir, men's chorus, women's chorus, grand chorus, symphony orchestra, wind ensemble, symphonic band, concert band, marching band, jazz labs and accompanying. To meet this requirement, students must choose laboratories approved by the major advisors.

Ensembles available for graduate student participation include opera theater, collegium musicum, chamber orchestra, wind ensemble, brass choir, trumpet choir, horn choir, trombone choir, tuba-euphonium ensemble, flute choir, percussion ensemble, steel drum band, marimba ensemble, African ensemble, Gamelan ensemble, electric and acoustic guitar ensembles, NOVA ensemble, and smaller string, woodwind, brass, harp and jazz chamber ensembles

Credit may be earned by enrolling in

(1 semester hour each)

- MULB 5171 - Large Ensemble: Choir
- MULB 5172 - Large Ensemble: Orchestra
- MULB 5173 - Large Ensemble: Band
- MULB 5174 - Large Ensemble: Jazz Lab Band
- MULB 5175 - Large Ensemble: Accompanying

Lecture attendance requirement

Each graduate student with a declared concentration in musicology or music theory is expected to attend all lectures presented in the Division of Music History, Theory and Ethnomusicology Lecture Series during each long term/semester of full-time enrollment (9 hours). Each graduate student with a declared concentration in composition is expected to attend all Music Now events during each long term/semester of full-time enrollment.

Concentration in composition

Application procedure

Applicants to the Master of Arts degree with a major in music and a concentration in composition must submit a completed College of Music application form and a portfolio to the College of Music Admissions Office by the first Monday in December to be considered for acceptance in the following academic year. The portfolio must include scores, recordings, a resume or vita, transcripts, GRE scores, letters of recommendation, writing sample and a personal statement; details are included in the *Composition Student Handbook* 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. Applicants are expected to submit GRE scores at the time of application in order to be considered for graduate studies in composition:
    a. In lieu of the GRE, applicants may request to take a Graduate Writing Examination, administered on campus by the UNT College of Music between February 1 and March 1 each year. Please contact the administrative assistant in Composition Studies to make arrangements for this option.
    b. The Graduate Preparation Course (GPC), provided for international students by the Intensive English Language Institute, is not accepted as a substitute for the GRE requirement.
3. International applicants in composition must be provisionally accepted to the program prior to beginning study at the Intensive English Language Institute (IELI).

Additional application information may be found in the *Composition Student Handbook* 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 36-hour degree with thesis and includes the common core (15 hours, listed above), plus three possible options for the remaining 21 required hours:

Concentration in composition, 21 hours

- MUCP 5190 - Master's Composition
- MUCP 5690 - Topics in Computer Music

6 hours selected from

- MUCP 5320 - Orchestration
- MUCP 5460 - Contemporary Music
- MUCP 5685 - Topics in Composition
- MUCP 5695 - Topics in Contemporary Music

- MUCP 5590 - Intermedia Performance Arts and
- MUEN 5595 - Intermedia Performance Arts

- or other 5000-level MUCP courses approved by program

Related field in music, 9 hours

Concentration in Composition, Computer Music Media, 21 hours

- MUCP 5190 - Master's Composition
- MUCP 5690 - Topics in Computer Music

3 hours selected from

- MUCP 5320 - Orchestration
- MUCP 5460 - Contemporary Music
- MUCP 5685 - Topics in Composition
- MUCP 5695 - Topics in Contemporary Music

- MUCP 5590 - Intermedia Performance Arts and
- MUEN 5595 - Intermedia Performance Arts

- or other 5000-level MUCP courses approved by program

Related field in music or minor field outside of music, 9 hours

Concentration in Composition, Interdisciplinary, 21 hours

- MUCP 5190 - Master's Composition

- MUCP 5590 - Intermedia Performance Arts and
- MUEN 5595 - Intermedia Performance Arts

6 hours selected from

Interdisciplinary courses approved by the composition program

Minor field outside of music, 9 hours

Related field, 9 hours, select one

Conducting

Required: 9 hours selected from

- MUAG 5000 - Choral Techniques
- MUAG 5800 - Advanced Choral Conducting
- MUAG 5850 - Advanced Instrumental Conducting

Ethnomusicology

Required:

- A formal application to the Ethnomusicology Area (see mhte.music.unt.edu for more information).
- MUET 5030 - Music Cultures of the World
- 3-6 hours of MUET 5000-level courses.
- 0-3 hours of ensembles of World Music Ensembles (MUEN 5000-level)

Jazz studies

Required: audition

- MUJS 5470 - Conducting College Jazz Ensembles
- MUJS 5480 - Pedagogy of Jazz

3 hours selected from

- MUJS 5440 - Introduction to Research in Jazz Studies
- MUJS 5450 - Jazz Historiography
- MUJS 5760 - Jazz Arranging
- MUJS 5780 - Jazz Styles and Analysis

Music and medicine

Required:

- MUPH 5000 - Introduction to Performing Arts Health
- MUGC 5910 - Special Problems (with medical school faculty)
- and one elective consistent with student's area of interest in music and medicine.

Musicology

Required: 9 hours selected from

- MUMH 5020 - Introduction to Musicology
- MUMH 5110 - History of Opera
- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 5341 - Western Music History, 1700–1800
- MUMH 5342 - Western Music History, 1800–1900
- MUMH 5343 - Western Music History, 1900 to the Present
- MUMH 5430 - Music in Latin America
- MUMH 5440 - Music in the United States
- MUMH 5711 - Proseminar in Musicology
- or additional courses with approval of the division chair.

Music education

Required: 9 hours selected from any 5000- or 6000-level MUED course.

Performance

Required: audition

- MUAC 5500 level, 6 hours

3 hours selected from

- MUAG 5640 - Operatic Acting
- MUAG 5650 - Opera Stage Direction
- MUAG 5800 - Advanced Choral Conducting

- MUAG 5850 - Advanced Instrumental Conducting
- MUEN 5040 - Graduate Opera Theater
- MUEN 5530 - Early Music Ensembles
- MUEN 5602 - Brass Ensembles
- MUEN 5605 - Chamber Wind Ensemble
- MUEN 5611 - Jazz Ensembles
- MUEN 5616 - Chamber Orchestra
- MUEN 5617 - Percussion Ensembles
- MUEN 5621 - String Ensembles
- MUEN 5624 - Vocal Ensembles
- MUEN 5625 - Wind Ensembles
- MUCM 5500 level
- MULB 5170 level

Theory

Required: 9 hours selected from

- MUTH 5080 - Pedagogy of Theory
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5370 - Analytical Techniques III (Post 1900)
- MUTH 5375 - Analytical Techniques for Popular Music
- MUTH 5400 - Invertible Counterpoint and Fugue
- MUTH 5470 - Advanced Schenkerian Analysis

Additional requirements

1. Each graduate student with a declared concentration in composition is expected to attend division events, including concerts, reading sessions, seminars and Music Now presentations during every term/semester of full-time enrollment.
2. Composition students are expected to present at least one public performance or reading of original compositions each semester; these may include Spectrum programs, reading sessions, student recitals or any off-campus venues. All graduate composition majors not enrolled in thesis or dissertation will be reviewed by the composition faculty each spring semester.
3. 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.
4. Students may enroll in no more than one composition lesson each term/semester.
5. 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.
6. 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.
7. 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* (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. submit an acceptable score on the general test of the Graduate Record Examination (GRE);
3. attend all orientation sessions scheduled by the Director of Graduate Studies in Music;
4. take the Graduate Placement Examination (GPE) given by the College of Music; and
5. complete the appropriate 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 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.

Emphasis in early music performance*

Entrance requirements for the early music performance emphasis are the same as the current requirements for the MA with a major in music and a concentration in musicology with the addition of an audition (equivalent of senior recital concentration level).

The Master of Arts with a major in music, a concentration in musicology and an emphasis in early music performance is a 32-hour degree with thesis, including the common core (15 hours, listed above) plus the following requirements for the remaining 17 hours:

Concentration in Musicology, Early Music Performance, 17 hours

- MUMH 5020 - Introduction to Musicology
- MUMH 5610 - Ornamentation and Improvisation 1500–1800
- MUEN 5530 - Early Music Ensembles (1 hour, 2 semesters)
- MUAC 5532 - Early Instruments (2 hours, 1 semester at concentration level)
- MUAG 5701 - Master's Recital

6 hours selected from

- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 5341 - Western Music History, 1700–1800
- MUMH 5342 - Western Music History, 1800–1900
- MUMH 5430 - Music in Latin America

Additional requirements

Students must pass an examination testing reading knowledge of one major Western European language other than English. The thesis project includes a required recital, organized around a topic, and a related research paper.

*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)

- ANTH 5010 - Anthropological Thought and Praxis I (3 hours)
- MUET 5220 - Ethnomusicology Field and Research Methods (3 hours)

6 hours selected from

- MUET 5020 - Anthropology of Sound
- MUET 5040 - Ethnomusicology Studies Abroad
- MUET 5050 - Music of Africa
- MUET 5060 - African-American Music
- MUET 5070 - Studies in Asian Music
- MUET 5080 - Studies in Latin American Music
- MUET 5090 - Music of India

3 hours selected from

- MUJS 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)

Additional requirements

For the concentration in ethnomusicology, 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 ethnomusicology area.

Master's thesis

Graduate students with a concentration in ethnomusicology must either write a thesis proposal and thesis or write two research essays. 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

- MUTH 5080 - Pedagogy of Theory
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5370 - Analytical Techniques III (Post 1900)

6 hours selected from

- MUET 5230 - World Music Analysis
- MUTH 5375 - Analytical Techniques for Popular Music
- MUTH 5400 - Invertible Counterpoint and Fugue
- MUTH 5470 - Advanced Schenkerian Analysis
- MUTH 5550 - Professional Writing in Music Theory

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 thesis

Graduate students with a concentration in music theory 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.

Performance, MM

Master of Music degree program

Students seeking the master's degree should consult their applied lesson teacher, thesis advisor or division chair in preparing a tentative program to meet the degree requirements and in selecting an advisory committee.

Degree requirements

Requirements for each degree program are outlined below. The Office of Graduate Studies in Music provides complete information concerning procedures, administrative details and GRE requirements for individual programs. Students applying for the MM in performance or jazz studies may satisfy the GRE requirement by completing an on-campus writing examination. Details are available in the Office of Graduate Studies.

The Graduation Preparation Course (GPC) provided for international students by the Intensive English Language Institute will not be accepted as a substitute for the GRE requirement.

Before the degree is granted, the candidate must pass a final comprehensive examination — either oral, written or both — covering the field of concentration and, if applicable, the thesis or research problem. Performance majors must take the examination after the completion of the MM degree recital requirement. The examination may be taken no more than three times.

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 - Master's 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

- MUAM 5534 - Collaborative Piano (2 terms/semesters) (4 hours)
- MUAG 5701 - Master's Recital (1 hour)
- MUAG 5702 - Master's Recital (1 hour)
- Secondary Instrument, 2 hours

Collaborative Piano

Twelve hours from the following courses:

- MUAG 5260 - Piano Collaboration (Vocal)
- MUAG 5261 - Vocal Repertoire Master Class
- MUAG 5270 - Piano Collaboration (Instrumental)
- 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

- MUEN 5530 - Early Music Ensembles
- MUAG 5701 - Master's Recital
- MUAS 5531 - Keyboard Continuo Playing (2 hours) (may be fulfilled by participation in MUEN 5530)
- 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
- MULB 5100 level, music laboratory, 1 hour
- MUEN 5040 - Graduate Opera Theater (2 hours)
- MUAG 5701 - Master's Recital (1 hour)
- MUAG 5210 - Vocal Literature
- MUAG 5215 - Advanced Vocal Diction

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

- MUAM 5533 - Conducting
- MUAG 5000 - Choral Techniques
- MUAG 5850 - Advanced Instrumental Conducting
- MUAG 6850 - Advanced Score Reading and Interpretation (Band and/or Orchestra)

6 hours selected from

- MUAG 5810 - Choral Literature I
- MUAG 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

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic
- MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)
- MUTH 5360 - Analytical Techniques II (1700–1900)
- MUTH 5370 - Analytical Techniques III (Post 1900)
- 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 5616 - Chamber Orchestra
- MUEN 5617 - Percussion Ensembles
- MUEN 5621 - String Ensembles
- MUEN 5624 - Vocal Ensembles
- MUEN 5625 - Wind Ensembles
- MUCM 5500 level
- MULB 5170 level

Collaborative piano

Required: audition (audition procedures may be found in the Piano Area Handbook online); 6 hours selected from

- MUAG 5260 - Piano Collaboration (Vocal)
- MUAG 5261 - Vocal Repertoire Master Class
- MUAG 5270 - Piano Collaboration (Instrumental)
- MUAG 5271 - Instrumental Repertoire Master Class

3 additional hours

Remaining 3 hours determined in consultation with related field advisor. Students must present a public collaborative recital as a final project.

Composition

Application procedures and prerequisites are included in the *Composition Student Handbook*, which may be downloaded from the composition division web site: music.unt.edu/comp. Required:

- MUCP 5185 - Concentration Composition (3–6 hours)
- 3–6 hours of MUCP 5000-level courses selected in consultation with the related field advisor.

Computer music

9 hours

- MUCP 5690 - Topics in Computer Music

Conducting

(Not open as a related field to those with a specialization in conducting.)

Choral conduction

9 hours selected from:

- MUAG 5000 - Choral Techniques
- MUAG 5800 - Advanced Choral Conducting (may be repeated)
- MUAG 5810 - Choral Literature I
- MUAG 5811 - Choral Literature II
- MUAG 5812 - Choral Literature III

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 5690 - Topics in Computer Music
- MUCP 5590 - Intermedia Performance Arts
- MUCP 5695 - Topics in Contemporary Music
- MUEN 5595 - Intermedia Performance Arts

Early music

Required: A total of 9 hours must be completed.

- MUMH 5620 - Performance Practice: Medieval/Renaissance
  or
- MUMH 5630 - Performance Practice: Baroque

- 4 hours of applied instruction in period instrument or voice

- MUEN 5530 - Early Music Ensembles (2 hours)

Ethnomusicology

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 5450 - Jazz Historiography

- MUJS 5760 - Jazz Arranging
- MUJS 5780 - Jazz Styles and Analysis

Music and medicine

Required:

- MUPH 5000 - Introduction to Performing Arts Health
- MUGC 5910 - Special Problems (with medical school faculty)
- one elective consistent with student area of interest in music and medicine.

Music education

Required: 9 hours selected from any 5000- or 6000-level MUED course.

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

- MUMH 5020 - Introduction to Musicology
- MUMH 5110 - History of Opera
- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 5341 - Western Music History, 1700–1800
- MUMH 5342 - Western Music History, 1800–1900
- MUMH 5343 - Western Music History, 1900 to the Present
- MUMH 5430 - Music in Latin America
- MUMH 5440 - Music in the United States
- MUMH 5711 - Proseminar in Musicology
- MUET 5210 - Seminar in Ethnomusicology
- or additional courses with approval of the division chair.

Opera

Required: 9 hours selected from

- MUAG 5640 - Operatic Acting
- MUAG 5650 - Opera Stage Direction
- MUAG 5660 - Studies in Opera Repertoire

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
- MUPH 5000 - Introduction to Performing Arts Health
- MUED 5120 - Applied Research in Music Education
- MUED 5150 - Pedagogy in Practice
- MUED 5520 - Psychology of Music
- MUED 6430 - Principles of Music Learning

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

- 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 5400 - Invertible Counterpoint and Fugue
- MUTH 5470 - Advanced Schenkerian Analysis

Vocal pedagogy

Required:

- MUAG 5600 - Advanced Science and Pedagogy of Singing
- MUAG 5610 - Comparative Pedagogy of Singing

One additional course from

- MUAG 5300 - Science and Pedagogy of Singing
- MUPH 5000 - Introduction to Performing Arts Health
- MUAG 5900 - Special Problems
- ASLP 5810 - Voice Disorders

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.

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.

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
- MUMH 5711 - Proseminar in Musicology
- MUTH 6680 - Proseminar in Music Theory
- MUET 6000 - Proseminar in Ethnomusicology
- MUPH 6010 - Advanced Seminar in Performing Arts Health

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, GRE scores, letters of recommendation, a writing sample and a personal statement; details are included in the *Composition Student Handbook* and on the composition division web site (music.unt.edu/comp/admissions/graduate).

General application information

1. Please note that application to the Toulouse Graduate School is separate from application to the College of Music, and that admission to the Graduate School does not imply acceptance to the composition program.
2. Applicants are expected to submit GRE scores at the time of application in order to be considered for graduate studies in composition:
    a. In lieu of the GRE, applicants may request to take a Graduate Writing Examination, administered on campus by the UNT College of Music between February 1 and March 1 each year. Please contact the administrative assistant in Composition Studies to make arrangements for this option.
    b. The Graduate Preparation Course (GPC), provided for international students by the Intensive English Language Institute, will not be accepted as a substitute for the GRE requirement.
3. International applicants in composition must be provisionally accepted to the program prior to beginning study at the Intensive English Language Institute (IELI).

Additional application information may be found in the Composition Student Handbook or on the division web site (http://music.unt.edu/comp).

Degree requirements

The Doctor of Philosophy degree with a major in music and a concentration in composition is a 60-hour degree with dissertation, including the common core (36 hours), 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 6770 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 or MUMH 6770 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* (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

- MUMH 5711 - Proseminar 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
- MUTH 6700 - Analytical Systems I (1700–1900)
- MUTH 6710 - Analytical Systems II (Post 1900)

3 hours of 5000-level MUEN courses

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 Music Theory

The Doctor of Philosophy degree with a major in music and a concentration in music theory is a 60-hour degree with dissertation, including the common core (36 hours, listed above).

Concentration in Music Theory, 24 hours

- MUTH 6660 - History of Music Theory I
- MUTH 6670 - History of Music Theory II
- MUTH 6680 - Proseminar in Music Theory
- MUTH 6700 - Analytical Systems I (1700–1900)
- MUTH 6710 - Analytical Systems II (Post 1900)
- MUET 5230 - World Music Analysis
- Electives, 6 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

Students must demonstrate proficiency in two languages other than English. The language requirements must be satisfied before the submission of the dissertation 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 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

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 - Piano Collaboration (Vocal)
- MUAG 5270 - Piano Collaboration (Instrumental)

6 hours selected from

- MUAG 6280 - Vocal Literature
- MUAG 6290 - Vocal Literature
- MUAG 6370 - Instrumental Literature

Recommended elective

- MUAG 5210 - Vocal Literature (may be repeated for credit)

Composition

Application procedures and prerequisites are included in the Composition Student Handbook, which may be downloaded from the composition division web site (music.unt.edu/comp).

- MUCP 5185 - Concentration Composition (6 hours)
- select 6 hours from MUCP 5000- to 6000-level courses, in consultation with the related field advisor

Computer music

- MUCP 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

- MUGC 5890 - Studies in Music (3 hours)
- MUAG 5850 - Advanced Instrumental Conducting
- MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical
- MUAG 6850 - Advanced Score Reading and Interpretation (Band and/or Orchestra)

Contemporary music

Required

- MUCP 5580 - Contemporary 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

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic

6 hours selected from

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic

and 3 hours from

- MUMH 5610 - Ornamentation and Improvisation 1500–1800

Ethnomusicology

Required

- 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 5450 - Jazz Historiography
- MUJS 5490 - Advanced Jazz Improvisation
- MUJS 5760 - Jazz Arranging
- MUJS 5780 - Jazz Styles and Analysis
- MUJS 5900 - Special Problems
- MUJS 5910 - Special Problems

Music and medicine

Required:

- 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).

12 hours selected from

- 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 5400 - Invertible Counterpoint and Fugue
- 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
- MUPH 5000 - Introduction to Performing Arts Health
- MUED 5120 - Applied Research in Music Education
- MUED 5150 - Pedagogy in Practice
- MUED 5520 - Psychology of Music
- MUED 6430 - Principles of Music Learning

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:

- MUAG 5300 - Science and Pedagogy of Singing
- MUPH 5000 - Introduction to Performing Arts Health
- MUPH 6010 - Advanced Seminar in Performing Arts Health
- MUAG 6900 - Special Problems
- ASLP 5810 - Voice Disorders
- 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.

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. Submit an acceptable score on the general test of the Graduate Record Examination (GRE). Contact the College of Music or the Toulouse Graduate School for standardized admission test requirements. Students applying for the DMA in performance or jazz studies may satisfy the GRE requirement with an on-campus writing examination. Details are available from the Graduate Office in the College of Music. The Graduate Preparation Course (GPC), provided for international students by the Intensive English Language Institute, is not accepted as a substitute for the GRE requirement.
3. Be accepted by the College of Music to do doctoral level work.
4. Attend all orientation sessions scheduled by the director of graduate studies in music.
5. Take the Graduate Placement Examinations for doctoral students given by the College of Music (courses assigned as the result of the GPE must be completed within one calendar year).
6. Be accepted to a specific degree program by audition (for performance, conducting or jazz studies majors).

When all of these steps are successfully completed, the student will be considered fully admitted to the degree program.

Application procedures – Performance (Instrumental and Vocal)

1. Apply for admission to UNT through the Toulouse Graduate School, 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. Graduate performance candidates may take an on-campus writing exam in lieu of the required Graduate Record Exam (GRE) verbal score for admission to the College of Music graduate programs in performance. The writing examination is administered under the direction of the Graduate Performance Degree Program committee each long semester (fall and spring) during orientation week and once during the beginning of the first 5-week summer session (5W1 term). This exam is used to evaluate the candidate's ability to write a document coherently at a graduate level, in English, approximately 600–1,000 words in length. Evaluators review the sample for command of English language (grammar, spelling, punctuation), the ability to present an argument in a coherent manner, and evidence of critical thinking. Graduate candidates may take the exam three times.
8. In lieu of the writing exam, a GRE verbal score may be submitted. The Graduate Preparation Course (GPC), provided for international students by the Intensive English Language Institute, is not accepted as a substitute for the GRE requirement.
9. Attend all orientation sessions scheduled by the director of graduate studies in music.

10. Take the Graduate Placement Examination (GPE) given by the College of Music.

Application procedures – Performance (Conducting)

The admission process for conducting applicants consists of two stages. The materials outlined below are to be submitted by the first Monday in December to the College of Music Office of Admissions.

1. A resume providing complete information concerning the musical training and experience of the applicant.
2. Lists representing the following: works the applicant has studied, works the applicant is prepared to conduct and works the applicant previously conducted.
3. A written analysis of a movement from a major tonal work on the applicant's repertoire list.
4. A face-to-the-camera, high-quality video recording (DVD) 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. Submit GRE score (analytical writing portion only) or take on-campus writing exam administered by the jazz studies division during graduate orientation.
6. Attend all orientation sessions by the director of graduate studies in music.
7. Take the Graduate Placement Examination (GPE) given by the College of Music.

Placement examinations

Following the 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 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.

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

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.
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

All DMA students must include on their degree plan a related field of not fewer than 12 hours selected from the options listed below.

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.

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)
- MUJS 6010 - Seminar in Jazz History and Analysis
- MUJS 6020 - Seminar in Jazz Pedagogy
- MULB 5174 - Large Ensemble: Jazz Lab Band (2 hours)
- MUCM 5550 - Jazz Chamber Music (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 5260 - Piano Collaboration (Vocal)
- MUAG 5261 - Vocal Repertoire Master Class
- MUAG 5270 - Piano Collaboration (Instrumental)
- MUAG 5271 - Instrumental Repertoire Master Class

6 additional hours

Remaining 6 hours determined in consultation with related field advisor. Students must present a public collaborative recital as a final project.

Composition

Application procedures and prerequisites are included in the Composition Student Handbook, which may be downloaded from the composition division web site: music.unt.edu/comp.

Required:

- MUCP 5185 - Concentration Composition (6 hours)
- select 6 hours from MUCP 5000- to 6000-level courses, in consultation with the related field advisor.

Computer music

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

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
- 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

- MUGC 5890 - Studies in Music (to be taken during summer session)
- MUAG 5861 - Symphonic Literature of the Wind Band II—French Revolution through Present
- MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical
- MUAG 5890 - Topics in Music Performance and Pedagogy (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

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic

or 3 hours selected from

- MUMH 5620 - Performance Practice: Medieval/Renaissance
- MUMH 5630 - Performance Practice: Baroque
- MUMH 5640 - Performance Practice: Classic/Romantic

and 3 hours selected from

- MUMH 5610 - Ornamentation and Improvisation 1500–1800

Ethnomusicology

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 5450 - Jazz Historiography
- MUJS 5490 - Advanced Jazz Improvisation
- MUJS 5760 - Jazz Arranging
- MUJS 5780 - Jazz Styles and Analysis
- MUJS 5900 - Special Problems
- MUJS 5910 - Special Problems

Music and medicine

Required:

- 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 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 5400 - Invertible Counterpoint and Fugue
- MUTH 6680 - Proseminar in Music Theory

Musicology

Classes used to fulfill the musicology component may not be duplicated in the related field if musicology is the related field of choice.

Required:

- MUMH 5020 - Introduction to Musicology
- 9 additional hours (6 hours must be at the 6000 level)

Topic from before 1750

Three of the 9 hours must be from a class devoted to a topic from before 1750.

- MUMH 5331 - Western Music History, 750–1400
- MUMH 5332 - Western Music History, 1400–1600
- MUMH 5333 - Western Music History, 1600–1700
- MUMH 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 6000 - Seminar in Musicology

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. 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
- MUPH 5000 - Introduction to Performing Arts Health
- MUED 5120 - Applied Research in Music Education
- MUED 5150 - Pedagogy in Practice
- MUED 5520 - Psychology of Music
- MUED 6430 - Principles of Music Learning

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

- MUAG 5300 - Science and Pedagogy of Singing
- MUPH 5000 - Introduction to Performing Arts Health
- MUPH 6010 - Advanced Seminar in Performing Arts Health
- MUAG 6900 - Special Problems
- ASLP 5810 - Voice Disorders
- 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.

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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

Su Gao, Dean

Guido Verbeck, Associate Dean

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

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Department of Biological Sciences

Main Departmental Office
Life Sciences Building, Room A210

Mailing address:
1155 Union Circle #305220
Denton, TX 76203-5017
940-565-3627
Fax: 940-565-3591

Website: www.biology.unt.edu

Jyoti Shah, Interim 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.psm.unt.edu and www.sciencemasters.com.

Application and admission to the programs

Biology, Biochemistry and Molecular Biology, and Environmental Science programs

1. Application materials and information about our faculty and programs may be obtained by contacting the graduate advising secretary or coordinator of graduate programs in biology, biochemistry and molecular biology at 940-565-3627, the environmental science program at 940-565-2694, or from our web site (www.biology.unt.edu). Prospective applicants meeting our admission criteria are encouraged to become familiar with the research and degree programs within the department and to seek opportunities by contacting individual faculty members or the coordinator of graduate programs in biology, biochemistry and molecular biology, and environmental science.

2. Applicants must first apply and be admitted to the Toulouse Graduate School to be considered for admission to a degree program in biology, biochemistry and molecular biology, or environmental science. Applicants must also submit the following directly to the department:
    a. **departmental application form;**
    b. **letter of intent**, including the specific program and degree sought (MA, MS or PhD); faculty member(s) contacted as prospective major professor/advisor; professional goals and objectives; the reason for choosing UNT, the Department of Biological Sciences and the specific area of interest (biology, biochemistry and molecular biology, or environmental science); and
    c. **three form letters of recommendation** from former professors if a recent graduate. One letter may be from an employer if employed for more than one year since graduation.
    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

E-mail: atkinson@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 by examining the differences in tap water. 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
E-mail: atkinson@unt.edu

Sam Atkinson, Director

The Institute of Applied Sciences (IAS) provides research and educational programs that address the natural and human resource issues facing Texas, the nation and the world. With an emphasis on water, land, people and communities, IAS seeks to explore resources for the future. The strength of IAS is its interdisciplinary approach to instruction, research and community service. The Institute is presently organized into 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.

Aquatic Toxicology and Reservoir Limnology

As one of the foremost aquatic toxicology laboratories in the Southwest, the lab is equipped to conduct acute and chronic toxicity tests with freshwater and marine organisms for industries and municipalities on the effects of chemicals on aquatic ecosystems. The reservoir limnology program conducts water quality research on rivers and reservoirs throughout Texas.

Center for Remote Sensing

The Center for Remote Sensing (CRS) applies remote sensing technologies and Geographic Information Systems (GIS) to land use and water resources issues. The center's state-of-the-art computer facilities for remote sensing data collection, image enhancement, classification and analyses support a variety of basic and applied research. The primary thrust of the research is to understand interrelationships between local or regional land use patterns and water quality. The center has a fully equipped Earth Resources Data Analysis System (ERDAS) and ARC/INFO capabilities.

Center for Watershed and Reservoir Assessment and Management

Surface reservoirs in Texas currently provide 55 percent of drinking water for Texas citizens and serve as significant sources of water for agriculture, industry and recreation. However, maintaining these services is becoming increasingly more difficult and complex. The center offers scientific knowledge and expertise to address the current and emerging watershed scale issues of Texas. The center's expertise is based on more than 60 years of problem-solving research and state-of-the-art capabilities.

Ecological Risk Assessment/Water Research Field Station

UNT has two of the few facilities in the U.S. designed to assess, under field conditions, the effects of new chemicals and pesticides on aquatic ecosystems prior to their use in the general environment. The Water Research Field Station (WRFS) consists of 48 aquatic testing ponds of 0.1 acre each and 52 1,000- and 10,000-liter microcosms. The Artificial Stream Facility has 12 replicate five-meter streams, each capable of being colonized by aquatic species. The WRFS is specifically designed to assess the impacts of agrichemicals on aquatic populations and communities. The field station and stream facility are supported on campus by a biological and residue analysis laboratory with state-of-the-art equipment.

Environmental Chemistry

The Environmental Chemistry Laboratory supports research on the physical and chemical processes that control the fate and effect of chemicals in soil, surface water, ground water and the atmosphere using state-of-the-art equipment to analyze metals and organic chemicals in water and soils.

Environmental Archaeology and Geology

The institute's faculty are experienced in the design and implementation of cultural resource management projects. The emphasis is on reconstruction of past environments and cultural ecology as part of archaeological research. Quaternary geologic studies are supported by a sediment-soils laboratory that has full capabilities for mechanical, chemical and mineralogical analyses of samples from archaeological sites and natural deposits. A comparative osteology lab maintains an extensive collection of animal skeletons for zooarchaeological research and forensic analysis. An off-campus lab includes facilities for artifact washing and cataloging, detailed analysis and artifact curation. Environmental geology, groundwater hydrology, geomorphology, soil science, sedimentology and hydrology research are also conducted.

Environmental Modeling

This laboratory develops and uses mathematical models and computer simulations for the assessment of risks and impacts of anthropogenic stressors on ecological systems. Research is conducted at local, landscape, regional and global scales. The main themes of the laboratory involve linking of environmental models to remote sensing, GIS and other advanced technology in order to understand landscape and regional dynamics; reveal global change effects on ecosystems; and to relate environmental policies to environmental issues and economic development.

Laboratory of Forensic Anthropology and Human Identification

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

Harrell Gill-King, Director

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

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

BioDiscovery Institute

Life Sciences Building

Mailing address:

1155 Union Circle #305220

Denton, TX 76203-5017

940-565-2491

E-mail: Kent.Chapman@unt.edu

The BioDiscovery Institute (BDI) at the University of North Texas delivers research solutions to underpin the utilization of plants, forest products and other biomass for production of biopolymers, new bio-based materials for construction and transportation, bioactive small molecules and biofuels. The institute operates through a pipeline linking sustainable plant production platforms, metabolic engineering and the development of new materials. BDI includes 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.

Degrees in Biochemistry and Molecular Biology

Option 1

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

Option 2

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

Biochemistry and molecular biology graduate core courses

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

Option 1, Master of Science requirements and procedures

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 secretary before the student's second long term/semester.
2. 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 are not included in the graduate degree plan hours.
3. 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.
4. After the approved research proposal is filed the student may register for thesis. Once registered for thesis the student must maintain continuous enrollment in at least 3 hours of 5950 during each long term/semester until the thesis is submitted to the graduate school. Failure to maintain continuous enrollment may invalidate previous thesis credit or result in the student being dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School.
5. 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.
6. 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.

7. The student is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.
8. A final copy of the thesis must be submitted to the Department of Biological Sciences main office either bound or on disk in .pdf format.

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

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

Biology (Teaching in the Life Sciences), MS

Biology program

The biology program provides students the option of selecting a research track leading to the Master of Science (MS) or Doctor of Philosophy (PhD) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major in biology. Students interested in obtaining both a master's degree and certification to teach life sciences at the secondary level may select the non-research Master of Science with a major in biology (Teaching in the Life Sciences). Students pursuing a research degree have the opportunity to conduct research leading to a thesis or dissertation in a variety of specializations, including aquatic biology, aquatic toxicology, ecology, forensic biology, genetics, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

Degrees in biology

The **Master of Science (MS) with a major in Biology (Teaching in the Life Sciences)** is a 36-hour non-thesis degree for students who have a BA or BS in a life science and wish initial teacher certification for teaching the life sciences at the secondary level.

Biology, 18 hours

The degree requires 18 hours in biology (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 - Everyone Can Learn: Applying Theory to Teaching Practice
- EDSE 5004 - Literacy for All
- EDCI 5020 - Curriculum Development for Culturally Diverse Learners
- 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 is determined before admission.

2. During the **first** long term/semester, the student and major professor select an advisory committee of two other faculty members, one of whom must be from the departmental faculty. The third may be from another UNT department, the Federation of North Texas Area Universities, or another university if the member is granted adjunct status in the department. Additional members may be added to the committee as long as the majority of the committee are faculty in the Department of Biological Sciences. A copy of the form designating the committee should be filed with the graduate advising secretary before the student's second long term/semester. Students in the MS with a major in biology (Teaching in the Life Sciences) are advised by the Teaching in the Life Sciences Program Selection Committee.

3. Before registering for the **second** long term/semester, the student, major professor and advisory committee formulate a degree plan of the courses to be taken by the student, including core course requirements and deficiency work.

   The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in biology, or with the environmental science program's graduate advising secretary, before the beginning of the student's second long term/semester. The degree plan must be approved by the chair of the Department of Biological Sciences before it is forwarded to the Toulouse Graduate School.

   All course work must be at the 5000 and 6000 levels. Students pursuing the MA or MS may not receive graduate credit for any course below the 4000 level by taking the course under a 5000-level designation, such as special problems. Undergraduate courses, except those 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 a problems in lieu of thesis present only to their committee) during the student's final term/semester. The student must schedule a room for and publicly advertise the seminar and defense through the graduate advising secretary for biology or environmental science.

8. Directly following the seminar, the student defends the thesis in a final oral examination conducted by the major professor and advisory committee.

9. Students in the MA 36-hour biology course work option, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/major professor and advisory committee during the final term/semester. Students in the MA problems in lieu of thesis option must take their final examination during presentation of the problems in lieu of thesis to the faculty advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major in biology (Teaching in

the Life Sciences) must take a final oral comprehensive examination given by the Teaching in the Life Sciences Advisory Committee during the final term/semester.

10. The student is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.

11. A final copy of the student's thesis or problems in lieu of thesis must be submitted to the Department of Biological Sciences main office, either bound or on disk in .pdf format.

Biology with a concentration in Computational Life Science, MS

Biology program

The biology program provides students the option of selecting a research track leading to the Master of Science (MS) or Doctor of Philosophy (PhD) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major in biology. Students interested in obtaining both a master's degree and certification to teach life sciences at the secondary level may select the non-research Master of Science with a major in biology (Teaching in the Life Sciences). Students pursuing a research degree have the opportunity to conduct research leading to a thesis or dissertation in a variety of specializations, including aquatic biology, aquatic toxicology, ecology, forensic biology, genetics, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

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

Required courses

- BIOL 5130 - Biostatistics I
- BIOL 5810 - Biocomputing

Plus two of the following

- BIOL 5005 - Contemporary Topics in Biology 3 hours (when taught as "Bioinformatics and Comparative Genomics" or a similar topic)
- BIOL 5140 - Biostatistics II
- BIOL 5820 - Computational Epidemiology
- BIOL 5830 - Advanced Genetics
- BIOL 6810 - Advanced Topics in Computational Life Science

  Note: Students in the concentration also may be recommended by their thesis committee to take additional computer science and or math courses suitable for their research projects.

Master's degree requirements and procedures

Biology and Environmental Science programs

1. The program and specific degree is determined before admission.

2. During the **first** long term/semester, the student and major professor select an advisory committee of two other faculty members, one of whom must be from the departmental faculty. The third may be from another UNT department, the Federation of North Texas Area Universities, or another university if the member is granted adjunct status in the department. Additional members may be added to the committee as long as the majority of the committee are faculty in the Department of Biological Sciences. A copy of the form designating the committee should be filed with the graduate advising secretary before the student's second long term/semester.

Students in the MS with a major in biology (Teaching in the Life Sciences) are advised by the Teaching in the Life Sciences Program Selection Committee.

3. Before registering for the **second** long term/semester, the student, major professor and advisory committee formulate a degree plan of the courses to be taken by the student, including core course requirements and deficiency work.

   The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in biology, or with the environmental science program's graduate advising secretary, before the beginning of the student's second long term/semester. The degree plan must be approved by the chair of the Department of Biological Sciences before it is forwarded to the Toulouse Graduate School.

   All course work must be at the 5000 and 6000 levels. Students pursuing the MA or MS may not receive graduate credit for any course below the 4000 level by taking the course under a 5000-level designation, such as special problems. Undergraduate courses, except those 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 a problems in lieu of thesis present only to their committee) during the student's final term/semester. The student must schedule a room for and publicly advertise the seminar and defense through the graduate advising secretary for biology or environmental science.

8. Directly following the seminar, the student defends the thesis in a final oral examination conducted by the major professor and advisory committee.

9. Students in the MA 36-hour biology course work option, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/major professor and advisory committee during the final term/semester. Students in the MA problems in lieu of thesis option must take their final examination during presentation of the problems in lieu of thesis to the faculty advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major in biology (Teaching in the Life Sciences) must take a final oral comprehensive examination given by the Teaching in the Life Sciences Advisory Committee during the final term/semester.

10. The student is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.

11. A final copy of the student's thesis or problems in lieu of thesis must be submitted to the Department of Biological Sciences main office, either bound or on disk in .pdf format.

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

Biology program

The biology program provides students the option of selecting a research track leading to the Master of Science (MS) or Doctor of Philosophy (PhD) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major in biology. Students interested in obtaining both a master's degree and certification to teach life sciences at the secondary level may select the non-research Master of Science with a major in biology (Teaching in the Life Sciences). Students pursuing a research degree have the opportunity to conduct research leading to a thesis or dissertation in a variety of specializations, including aquatic biology, aquatic toxicology, ecology, forensic biology, genetics, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

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

Thirty-hour research degree that requires 24 hours of formal course work, special problems and seminars at the 5000 and 6000 levels, plus a 6-hour thesis.

Required

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

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

Master’s degree requirements and procedures

Biology and Environmental Science programs

1. The program and specific degree is determined before admission.

2. During the **first** long term/semester, the student and major professor select an advisory committee of two other faculty members, one of whom must be from the departmental faculty. The third may be from another UNT department, the Federation of North Texas Area Universities, or another university if the member is granted adjunct status in the department. Additional members may be added to the committee as long as the majority of the committee are faculty in the Department of Biological Sciences. A copy of the form designating the committee should be filed with the graduate advising secretary before the student’s second long term/semester. Students in the MS with a major in biology (Teaching in the Life Sciences) are advised by the Teaching in the Life Sciences Program Selection Committee.

3. Before registering for the **second** long term/semester, the student, major professor and advisory committee formulate a degree plan of the courses to be taken by the student, including core course requirements and deficiency work.

   The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in biology, or with the environmental science program’s graduate advising secretary, before the beginning of the student’s second long term/semester. The degree plan must be approved by the chair of the Department of Biological Sciences before it is forwarded to the Toulouse Graduate School.

   All course work must be at the 5000 and 6000 levels. Students pursuing the MA or MS may not receive graduate credit for any course below the 4000 level by taking the course under a 5000-level designation, such as special problems. Undergraduate courses, except those 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 a problems in lieu of thesis present only to their committee) during the student's final term/semester. The student must schedule a room for and publicly advertise the seminar and defense through the graduate advising secretary for biology or environmental science.

8. Directly following the seminar, the student defends the thesis in a final oral examination conducted by the major professor and advisory committee.

9. Students in the MA 36-hour biology course work option, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/major professor and advisory committee during the final term/semester. Students in the MA problems in lieu of thesis option must take their final examination during presentation of the problems in lieu of thesis to the faculty advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major in biology (Teaching in the Life Sciences) must take a final oral comprehensive examination given by the Teaching in the Life Sciences Advisory Committee during the final term/semester.

10. The student is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.

11. A final copy of the student's thesis or problems in lieu of thesis must be submitted to the Department of Biological Sciences main office, either bound or on disk in .pdf format.

Biology, MA

Biology program

The biology program provides students the option of selecting a research track leading to the Master of Science (MS) or Doctor of Philosophy (PhD) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major in biology. Students interested in obtaining both a master's degree and certification to teach life sciences at the secondary level may select the non-research Master of Science with a major in biology (Teaching in the Life Sciences). Students pursuing a research degree have the opportunity to conduct research leading to a thesis or dissertation in a variety of specializations, including aquatic biology, aquatic toxicology, ecology, forensic biology, genetics, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

Degree requirements

The **Master of Arts (MA) with a major in Biology** is a 36-hour non-thesis degree with formal course work at the 5000 and 6000 levels. Students completing the non-thesis MA at UNT are not eligible for the PhD program in the Department of Biological Sciences. The MA has a foreign language requirement.

Master's degree requirements and procedures

Biology and Environmental Science programs

1. The program and specific degree is determined before admission.

2. During the **first** long term/semester, the student and major professor select an advisory committee of two other faculty members, one of whom must be from the departmental faculty. The third may be from another UNT department, 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 a problems in lieu of thesis present only to their committee) during the student's final term/semester. The student must schedule a room for and publicly advertise the seminar and defense through the graduate advising secretary for biology or environmental science.

8. Directly following the seminar, the student defends the thesis in a final oral examination conducted by the major professor and advisory committee.

9. Students in the MA 36-hour biology course work option, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/major professor and advisory committee during the final term/semester. Students in the MA problems in lieu of thesis option must take their final examination during presentation of the problems in lieu of thesis to the faculty advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major in biology (Teaching in the Life Sciences) must take a final oral comprehensive examination given by the Teaching in the Life Sciences Advisory Committee during the final term/semester.

10. The student is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.

11. A final copy of the student's thesis or problems in lieu of thesis must be submitted to the Department of Biological Sciences main office, either bound or on disk in .pdf format.

Biology, MS

Biology program

The biology program provides students the option of selecting a research track leading to the Master of Science (MS) or Doctor of Philosophy (PhD) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major in biology. Students interested in obtaining both a master's degree and certification to teach life sciences at the secondary level may select the non-research Master of Science with a major in biology (Teaching in the Life Sciences). Students pursuing a research degree have the opportunity to conduct research leading to a thesis or dissertation in a variety of specializations, including aquatic biology, aquatic toxicology, ecology, forensic biology, genetics, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

Degree requirements

The **Master of Science (MS) with a major in biology** is a 30-hour research degree that requires 24 hours of formal course work, special problems and seminars at the 5000 and 6000 levels, plus a 6-hour thesis.

Master's degree requirements and procedures

Biology and Environmental Science programs

1. The program and specific degree is determined before admission.

2. During the **first** long term/semester, the student and major professor select an advisory committee of two other faculty members, one of whom must be from the departmental faculty. The third may be from another UNT department, the Federation of North Texas Area Universities, or another university if the member is granted adjunct status in the department. Additional members may be added to the committee as long as the majority of the committee are faculty in the Department of Biological Sciences. A copy of the form designating the committee should be filed with the graduate advising secretary before the student's second long term/semester. Students in the MS with a major in biology (Teaching in the Life Sciences) are advised by the Teaching in the Life Sciences Program Selection Committee.

3. Before registering for the **second** long term/semester, the student, major professor and advisory committee formulate a degree plan of the courses to be taken by the student, including core course requirements and deficiency work.

   The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in biology, or with the environmental science program's graduate advising secretary, before the beginning of the student's second long term/semester. The degree plan must be approved by the chair of the Department of Biological Sciences before it is forwarded to the Toulouse Graduate School.

   All course work must be at the 5000 and 6000 levels. Students pursuing the MA or MS may not receive graduate credit for any course below the 4000 level by taking the course under a 5000-level designation, such as special problems. Undergraduate courses, except those 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 a problems in lieu of thesis present only to their committee) during the student's final term/semester. The student must schedule a room for and publicly advertise the seminar and defense through the graduate advising secretary for biology or environmental science.

8. Directly following the seminar, the student defends the thesis in a final oral examination conducted by the major professor and advisory committee.

9. Students in the MA 36-hour biology course work option, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/major professor and advisory committee during the final term/semester. Students in the MA problems in lieu of thesis option must take their final examination during presentation of the problems in lieu of thesis to the faculty advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major in biology (Teaching in the Life Sciences) must take a final oral comprehensive examination given by the Teaching in the Life Sciences Advisory Committee during the final term/semester.

10. The student is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.

11. A final copy of the student's thesis or problems in lieu of thesis must be submitted to the Department of Biological Sciences main office, either bound or on disk in .pdf format.

Environmental Science, MS

Environmental Science program

The environmental science program is an interdisciplinary collaboration among the Department of Biological Sciences, the Department of Geography, the Department of Chemistry, the Department of Philosophy and Religion Studies and other departments at UNT to examine major environmental issues through an interdisciplinary perspective. The program offers graduate studies in environmental science that lead to the MS and PhD, granted through the Department of Biological Sciences. The course of study, involving both core and elective courses, is designed for those students who desire an interdisciplinary perspective concerning human–environmental interactions.

Visit www.biology.unt.edu or www.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 is determined before admission.

2. During the **first** long term/semester, the student and major professor select an advisory committee of two other faculty members, one of whom must be from the departmental faculty. The third may be from another UNT department, the Federation of North Texas Area Universities, or another university if the member is granted adjunct status in the department. Additional members may be added to the committee as long as the majority of the committee are faculty in the Department of Biological Sciences. A copy of the form designating the committee should be filed with the graduate advising secretary before the student's second long term/semester. Students in the MS with a major in biology (Teaching in the Life Sciences) are advised by the Teaching in the Life Sciences Program Selection Committee.

3. Before registering for the **second** long term/semester, the student, major professor and advisory committee formulate a degree plan of the courses to be taken by the student, including core course requirements and deficiency work.

   The degree plan, signed by all committee members, should be filed with the graduate advising secretary for programs in biology, or with the environmental science program's graduate advising secretary, before the beginning of the student's second long term/semester. The degree plan must be approved by the chair of the Department of Biological Sciences before it is forwarded to the Toulouse Graduate School.

   All course work must be at the 5000 and 6000 levels. Students pursuing the MA or MS may not receive graduate credit for any course below the 4000 level by taking the course under a 5000-level designation, such as special problems. Undergraduate courses, except those 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 a problems in lieu of thesis present only to their committee) during the student's final term/semester. The student must schedule a room for and publicly advertise the seminar and defense through the graduate advising secretary for biology or environmental science.

8. Directly following the seminar, the student defends the thesis in a final oral examination conducted by the major professor and advisory committee.

9. Students in the MA 36-hour biology course work option, the environmental science MS non-thesis option II (Professional Science Master's [PSM]) and the molecular biology MS non-thesis option II (Professional Science Master's) must take a final comprehensive oral examination given by the advisor/major professor and advisory committee during the final term/semester. Students in the MA problems in lieu of thesis option must take their final examination during presentation of the problems in lieu of thesis to the faculty advisor/major professor and advisory committee in the final term/semester. Students in the MS with a major in biology (Teaching in the Life Sciences) must take a final oral comprehensive examination given by the Teaching in the Life Sciences Advisory Committee during the final term/semester.

10. The student is responsible for completing all requirements and meeting all deadlines for graduation within the time specified by the graduate school.

11. A final copy of the student's thesis or problems in lieu of thesis must be submitted to the Department of Biological Sciences main office, either bound or on disk in .pdf format.

Professional Science Master's degree option, 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.psm.unt.edu and www.sciencemasters.com.

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 9–12 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, chemistry, computer science, mathematics or physics as the advisory committee deems appropriate. 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 granted adjunct status in the department. Additional members may be added to the committee as long as the majority of the committee members are faculty in the Department of Biological Sciences. A copy of the form designating the committee should be filed with the graduate advising secretary before the student's third long term/semester.

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 72 hours for students having only a bachelor'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 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 for the correction of deficiencies and are not included in the graduate degree plan hours.

3. Doctoral students may take written and oral candidacy examinations only after completing a minimum of four (equivalent to 12 hours) of foundation courses and two (equivalent to 6 hours) advanced courses. Oral examinations may be taken only after the student has passed all written examinations. All exams must be completed within one month, and must be completed by the end of the fifth long semester. The manner and form of the written and oral candidacy examinations are determined by the major professor, who is chair of the student's advisory committee, and the committee members. The examining professor sets guidelines for administration of written examinations. The student is responsible for scheduling rooms for the examinations.

4. 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.

5. Students may not register for dissertation hours (6950) until all formal courses (excluding seminar), candidacy exams and the research proposal are complete and approved, and documentation is filed with the graduate advising secretary. PhD candidates should be actively writing their dissertations while taking dissertation hours. Once registered for dissertation, the student must maintain continuous enrollment in at least 3 hours of 6950 during each long semester until the dissertation is submitted to the graduate school. Failure to maintain continuous enrollment may invalidate previous 6950 credit or result in the student being dismissed from the degree program, unless granted an official leave of absence by the dean of the Toulouse Graduate School. If the student uses university facilities or faculty time or both during one or both summer terms/semesters, the student must also enroll for a minimum of 3 hours of 6950 during the summer.

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. Directly following the seminar, the candidate defends the dissertation in a final oral examination conducted by the major professor and advisory committee.

8. The candidate 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 dissertation must be submitted to the Department of Biological Sciences main office either bound or on disk in .pdf format.

Biology with a concentration in Exercise Physiology, PhD

Biology program

The biology program provides students the option of selecting a research track leading to the Master of Science (MS) or Doctor of Philosophy (PhD) with a major in biology, or a non-research track leading to the Master of Arts (MA) with a major in biology. Students interested in obtaining both a master's degree and certification to teach life sciences at the secondary level may select the non-research Master of Science with a major in biology (Teaching in the Life Sciences). Students pursuing a research degree have the opportunity to conduct research leading to a thesis or dissertation in a variety of specializations, including aquatic biology, aquatic toxicology, ecology, forensic biology, genetics, limnology, microbiology, neurobiology, physiology and plant biology. Visit www.biology.unt.edu for research interests of the faculty.

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

The PhD with a major in biology and concentration in exercise physiology is a scholarly research program of 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 5360 - Applied Paleozoology in Conservation Science
- 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.

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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.

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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.

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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.

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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.

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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

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PhD with a major in Environmental Science

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- 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, 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.

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Department of Chemistry

Main Departmental Office
Chemistry Building, Room 101

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

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 chemistry education. Specific areas of study include synthesis, properties and kinetic investigations of transition metal and organometallic compounds; synthesis and properties of nitrogen heterocycles; NMR applications to organometallic chemistry; gas phase kinetics; spectroelectrochemistry; thermodynamics; Raman scattering; materials analysis and development; properties of surface adsorbed molecules; crystallography; polymer liquid crystals; interfacial processes; medicinal chemistry; molecular optics and electronics; ferroelectric thin films; computational chemistry method development; computer-aided catalyst design; computational organic chemistry; chemical vapor deposition; and reactivities of metal and oxide surfaces.

The department possesses more than $6.3 million of capital equipment, including 400 MHz and 500 MHz multinuclear FT-NMR with CP/MAS solids capability, Auger/ESCA, FT-IR, Raman, mass spectrometers, HPLC, GCs, GCMSs, Powder XRD, single crystal XRD, AA, UV-vis, electrochemical analyzers, stopped-flow kinetic analyzer, pulsed-laser flash photolysis, laser-induced fluorescence spectrometers, thermal analysis, ICP-MS. Within the chemistry department, there are four computer server rooms, which house several state-of-the-art Linux computer clusters and super computers, entailing more than 150 computer nodes with a total of 3,252 CPU cores available for the department's computational chemistry research endeavors.

Full-time PhD-level staff manage the X-ray diffraction laboratory, NMR facilities, high performance computing facilities and instrumentation laboratory. Other technical personnel include instrument technicians 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 Air Force Office of Scientific Research, the Army Research Office, the Office of Naval Research, the Department of Energy, the Robert A. Welch Foundation, NVIDIA Foundation, and the Semiconductor Research Corporation. In addition, graduate students have successfully competed for independent support through fellowships from the National Science Foundation, the National Institutes of Health, and other private and federal sources.

Degree programs

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

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

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

Additional information regarding degree requirements is contained in the *Department of Chemistry Graduate Policy Bulletin*. A copy can be obtained by visiting the Chemistry Department website or by emailing a request to the chair of the Graduate Affairs Committee at chemistry@unt.edu.

Admission requirements

Departmental forms for applying for teaching and research support may be obtained from the Student Services Office in the Department of Chemistry or from the department website. Complete college transcripts, three letters of recommendation with at least two coming from faculty in chemistry or closely related fields, statement of purpose, C.V. and acceptable GRE scores are required for conditional admission. Contact the department for information concerning competitive admission test scores.

New students should contact the Student Services Office immediately upon arriving on campus for information on departmental requirements. A departmental policy bulletin that delineates these requirements is available to (see Degree Programs, above).

Students must take placement examinations covering analytical, inorganic, organic and physical chemistry 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. The chemistry department employs a core course system that requires its students to take a 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 the beginning student. When a field of specialization and a major professor have been selected, a committee is then selected in consultation with his or her research advisor to serve in an advisory capacity. The minimum number of committee members is three for the master's and four for the doctoral advisory committee. The student meets yearly with this committee for research progress reports and consultation. Ph.D. committees will also choose an individual from outside the university who is knowledgeable in the student's area of research to serve in an advisory capacity to the committee.

Professional Science master's degree option

The Professional Science Master's (PSM) is an innovative graduate degree option designed to allow students to pursue advanced training in science while simultaneously developing workplace skills highly valued by employers. PSM degrees prepare students for science and technology careers in business, government and nonprofit organizations. PSM degrees are MS degrees in an emerging or interdisciplinary area of science, mathematics or technology and contain a set of professional skills courses selected from such areas as business, communication, policy, law and leadership. Contrary to a traditional master's degree, a thesis is not required but a 3 or 6 semester credit hour internship is included within the science requirement. The program leads to a non-thesis degree requiring 36 semester hours of formal course work, at least one-half of which (18 hours) must be in chemistry. Students must meet the normal proficiency requirements set forth by the departments. Supplemental non-chemistry courses must include at least 12 hours and must be approved by the student's committee. In addition to the formal courses, either 3 or 6 hours of the total 36 hours must comprise on-the-job research training in an industrial position (or equivalent on-the-job training).

The Department of Chemistry offers one PSM degree option:

- Master of Science with a major in industrial chemistry.

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

Master's Degree

Chemistry, MS

Analytical, Inorganic, Organic or Physical Chemistry

The applicant seeking a master's degree in one of these areas will plan a program with the assistance of his/her research professor and the committee. A graduate major must present credit for at least 30 semester hours. The student must maintain a B average in all formal chemistry course work. The student must write a thesis describing his or her research and must defend the thesis at an oral examination administered by the advisory committee.

The Department of Chemistry requires completion of three of the four core courses (one of which must be in the student's area of research) with an average grade of B or above. A thesis is required. The degree requirements are determined by consultation with the Graduate Affairs Committee.

Chemistry Education

With the aid of the chemistry advisor, the student may choose a 30-semester-hour program, including thesis, or a 36-semester-hour program without thesis. In order to qualify for this degree, a student must have received teaching certification prior to admission or must obtain this certification prior to receiving the degree.

Under each option above, a minimum of 18 hours of the formal graduate courses must be in the chemistry department. Of these 18 hours, course work must include three 3-hour graduate-level (5000 or above) lecture classes in any of the four traditional areas of chemistry (analytical,

inorganic, organic, physical). Students must meet the normal proficiency requirements set forth by the department. The other 9 hours may include courses in chemistry education or other approved chemistry courses. The remaining 18 hours required for the chemistry education concentration are the graduate courses required for certification, if the student is not already certified. If the student is already a certified teacher, the 18 remaining hours may be selected from graduate-level chemistry courses or other approved graduate courses. No more than 3 credits of seminar may be included in the required 30 or 36 hours.

Doctorate

Chemistry, PhD

The course requirements for the PhD degree require that a student complete core courses in three of the four traditional areas of chemistry (including the student's area of research). Students must complete three additional advanced courses (of which at least two must be in the Department of Chemistry). The student must maintain a B average or better in these six courses. This research must culminate in the writing of a dissertation of demonstrable scientific merit. 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 be accepted in a refereed 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.

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.

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.

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Department of Mathematics

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General Academic Building, Room 435

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940-565-2155
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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, topology, statistics, probability and foundations to new and applied topics such as chaos theory, dynamical systems, image processing and stochastic differential equations.

Faculty research is supported by federal and private grants. Many of these grants provide research support for graduate students.

The library collection in the mathematical sciences is one of the nation's finest, with more than 18,000 volumes, and many are available electronically.

Advising

All graduate students will consult with the graduate advisor regarding a program of study. Graduate students are evaluated annually regarding progress toward graduation. Those not making satisfactory progress will be dismissed from the mathematics program. Appeals for reinstatement may be made to the department's graduate affairs committee.

Admission requirements

Application for admission to the Toulouse Graduate School is made through the office of the dean of the Graduate School. The applicant should have the equivalent of an undergraduate major in mathematics at UNT. Deficiencies in this respect will be evaluated and must be remedied as a condition of final admission. General GRE scores are 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, MA

The Master of Arts degree with a major in mathematics is designed primarily for those students who plan to pursue the PhD degree and who plan careers in college teaching, business or industry. The program consists of 24 hours of approved course work (numbered 5000 or above) and a thesis carrying 6 hours of credit.

A minor of 6 semester hours may be elected by the student with consent of the department. A final oral examination is scheduled after completion of the thesis.

Candidates for the MA degree must demonstrate proficiency in a foreign language (normally French, German, Spanish or Russian). See the Master’s Degree Requirements section of this catalog for further details.

Required courses

A student in this program normally will take five of these six courses:

- MATH 5310 - Real Analysis
- MATH 5320 - Real Analysis
- MATH 5520 - Modern Algebra
- MATH 5530 - Selected Topics in Modern Algebra
- MATH 5610 - Topology
- MATH 5620 - Topology

Mathematics, MS

The Master of Science degree with a major in mathematics is designed for those students who wish to develop a high level of competence in mathematical theory and technique in order to apply this knowledge in fields outside mathematics. The program consists of 36 hours of approved course work, possibly including a minor of up to 9 hours in a field outside mathematics.

A final oral presentation normally will be scheduled during the final term/semester of the student's course work. A thesis is optional. Candidates must demonstrate a proficiency in computer programming equivalent to that acquired in a 6-hour introductory course.

Required courses

The student normally will take five of these six courses:

- MATH 5310 - Real Analysis
- MATH 5320 - Real Analysis
- MATH 5520 - Modern Algebra
- MATH 5530 - Selected Topics in 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 - Functions of a Complex Variable
- MATH 5420 - Functions of a Complex Variable
- MATH 5520 - Modern Algebra
- MATH 5530 - Selected Topics in Modern Algebra
- MATH 5610 - Topology
- MATH 5620 - Topology

In addition

The student is required to take 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.

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Department of Physics

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Jingbiao Cui, Chair

Duncan Weathers, Associate Chair

Faculty

Students in the Department of Physics have the opportunity to obtain training with state-of-the-art equipment in new and modern research laboratories in areas of interest to the scientific and industrial communities, particularly those involved in microelectronics, semiconductors, applications of accelerators, lasers and modern computational methods. Opportunities are available to develop highly marketable skills in modern basic and applied physics as well as close interactions with regional industries.

Research

The 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 seven principal areas:

- Atomic, molecular and optical physics
- Astrophysics
- Complex systems and non-linear phenomena
- Ion beam analysis and modification of materials
- Optical materials, photonics and biophotonics
- Materials modeling
- Solid state physics
- Plasma science

Supporting these seven principal 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
- 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 in two separate parts:

1. The prospective student must complete all of the general application requirements for the UNT Toulouse Graduate School. These requirements are described in this catalog and on the Toulouse Graduate School web site. To satisfy the requirements for a standardized admission test, the prospective student must take the general Graduate Record Examination (GRE); of principal interest are the results from the quantitative and analytical portions of the examination.
2. The prospective student must also complete the Department of Physics Graduate Application and submit it along with a current curriculum vitae and three letters of reference to the attention of the graduate advisor, UNT Department of Physics. The application and reference forms are available from the UNT Department of Physics web site. The letters of recommendation must be from individuals familiar with the applicant's academic and/or professional abilities. One letter may be from a current or past employer (if such experience exists), and at least one letter must be from the last academic institution attended.

In addition to the above, the program may consider the applicant's related work experience, research and publication record, presentations at professional meetings, leadership roles, teaching excellence, awards, potential to enhance the intellectual diversity of the department and program, potential to enhance the diversity of the university, and other factors that might provide evidence of potential success in completion of a graduate degree in the Department of Physics.

Master's Degree

Physics, MS

Thesis option

The graduate credit requirements for the Master of Science degree is 36 semester hours chosen in the following manner:

- PHYS 5500 - Quantum Mechanics I
- PHYS 5510 - Quantum Mechanics II
- PHYS 5710 - Advanced Classical Mechanics I
- PHYS 5720 - Electromagnetic Theory I

- PHYS 5950 - Master's Thesis (6 hours) The thesis must be submitted in the manuscript form prescribed by the American Institute of Physics. An oral presentation of the master's thesis is required. The thesis is accepted by the student's advisory committee after an oral examination is successfully completed and the thesis is filed in the graduate dean's office.
- 12 semester hours chosen from organized courses in physics. Organized courses from related fields may be substituted with permission of the academic advisor and major professor.
- 6 semester hours of PHYS 5900 or PHYS 5910

Research problems option

The graduate credit requirement for the Master of Science degree is 36 semester hours chosen in the following manner:

- PHYS 5500 - Quantum Mechanics I
- PHYS 5510 - Quantum Mechanics II
- PHYS 5710 - Advanced Classical Mechanics I
- PHYS 5720 - Electromagnetic Theory I
- PHYS 5920 - Research Problems in Lieu of Thesis
- PHYS 5930 - Research Problems in Lieu of Thesis

- 15 semester hours chosen from organized courses in physics. Organized courses from related fields may be substituted with permission from the academic advisor and major professor.
- 3 semester hours of PHYS 5900 or PHYS 5910

Note

Research problems in lieu of thesis are independent though not necessarily original studies that may be experimental, computational, tutorial, bibliographic, pedagogic or a combination of these. As part of the requirements for each problems course, the student must present a formal written report of the work done in the course, which must be approved by the advisory committee. Reports for PHYS 5920 and PHYS 5930 must be submitted in the manuscript form prescribed by the American Institute of Physics (see *AIP Style Manual*, current edition). Problems in lieu of thesis (PHYS 5920 and PHYS 5930) must be accepted by the student's advisory committee; oral presentation is optional.

Course work option

The graduate credit requirement for the Master of Science degree is 36 semester hours chosen in the following manner:

- PHYS 5500 - Quantum Mechanics I
- PHYS 5510 - Quantum Mechanics II
- PHYS 5710 - Advanced Classical Mechanics I
- PHYS 5720 - Electromagnetic Theory I
- PHYS 6030 - Electromagnetic Theory II
- PHYS 6110 - Statistical Mechanics I
- 6 semester hours of PHYS 5900 or PHYS 5910. To satisfy a requirement to show evidence of independent study, a student must submit a written report upon completion of PHYS 5900 or PHYS 5910 to the major professor.
- 12 semester hours chosen from organized courses in physics. Organized courses from related fields may be substituted with permission from the academic advisor and major professor.

Other requirements

- The candidate for the master's degree under the course work option who has not otherwise demonstrated competency is nominally required to pass an oral comprehensive final examination.
    - A candidate for the master's degree under the course work option may demonstrate competency by earning at least a grade of B in PHYS 5500, PHYS 5510, PHYS 5710, PHYS 5720, PHYS 6030 and PHYS 6110.

- The oral comprehensive final examination usually takes less than 1 and 1/2 hours to complete. The departmental examination committee administers the exam.
- The candidate for the master's degree under the course work option is expected to demonstrate physics problem solving skills and a mastery of conceptual understanding of the topics covered. The scope of the examination is on the topics of classical mechanics, quantum mechanics, electrodynamics and statistical mechanics. The questions can range from undergraduate to graduate level.

Additional requirements

Seminar in current literature or colloquium

All physics 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 core courses at UNT or their equivalent elsewhere and earn a grade of at least B in all six:

- 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

Additional requirements

Additionally, students must pass a qualifying examination over the core areas of physics, to be scheduled and administered by a departmental examination committee. Course duplications are allowed, as described elsewhere in this catalog. If a course is repeated, the last grade recorded will be considered by the department in determining whether the student has passed this part of the qualification process. To continue in the program, 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.

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College of Visual Arts and Design

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Design
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Phone: 940-565-3621

Studio Art
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Phone: 940-369-7671

Web site: www.art.unt.edu

Greg Watts, Dean

Eric Ligon, Associate Dean for Administrative Affairs
Denise Amy Baxter, Associate Dean for Academic and Student Affairs

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.

Art Education

The Department of Art Education offers the BFA, MA and PhD in art education and a graduate academic certificate program in art museum education.

Art History

The Department of Art History offers the BA and MA in art history.

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 concentrations in interior design for sustainability and 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. 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 in order 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

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 and Art History, Department of Design, and Department of Studio Art in this catalog, through the web site www.art.unt.edu or by calling the department office. Admission deadlines are as follows:

- Fall term/semester: February 1
- Spring term/semester: October 1

Students are admitted to the MFA in studio art in fall terms/semesters only.

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Department of Art Education

Department of Art Education

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Website: www.art.unt.edu

Denise Amy Baxter, Interim Chair

Faculty

Generally speaking, the discipline of art education concerns itself with the theory and practice of teaching art to others. At the undergraduate level, a degree in 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 the 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, a minimum of two letters of recommendation (three letters of recommendation for the PhD program) and Graduate Record Examination scores. Applicants to the graduate academic certificate in art museum education apply through the Toulouse Graduate School.

Prospective applicants for graduate degree programs must obtain admission forms from the UNT Toulouse Graduate School and information from the College of Visual Arts and Design at www.art.unt.edu. Admission decisions are made on a rolling basis, but priority deadlines for consideration for funding are as follows:

- Fall term/semester: January 5
- Spring term/semester: October 1

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 the Onstead Institute/Amon Carter Museum Fellowship in Museum Education. This fellowship for a 10-hour-per-week internship is generously funded through the Onstead Institute and the Amon Carter Museum of American Art.

New graduate students have the opportunity to apply for a limited number of fellowships when they apply to their program. See the college web site for additional information about these opportunities.

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, to be admitted to the Toulouse Graduate School, and to have submitted GRE scores. Additional background requirements depend on the option the applicant intends to pursue, as follows:

- **Option 1: 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 AEAH 5799 - MA Project or additional course work in consultation with the MA advisor.

For detailed program information, see the program web site at www.art.unt.edu.

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 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 60 hours:

- 12 hours of doctoral core of art education classes
- 12 hours in a specialization (must be approved by major professor)
- 9 hours of research courses
- 6 hours of theoretical/conceptual framework courses (must be approved by major professor)
- 9 hours of electives (it is strongly recommended that 6 of these hours be reserved for the last semester of course work)
- 12 hours of dissertation

Doctoral degrees are conferred in recognition of scholarship as shown by (1) the satisfactory completion of a prescribed course of study, (2) the ability to function at a professional level in the designated area of major, (3) the completion of examinations showing a satisfactory grasp of the field of specialization and its relation to allied areas and (4) the preparation of a dissertation demonstrating ability to investigate a problem with originality and independent thought. The candidate must earn a minimum of 60 hours of graduate credit beyond the master's degree and must complete the doctoral residence requirement.

Successful completion of a qualifying examination determines admission to candidacy. Once admitted to candidacy by the dean of the Toulouse Graduate School, the doctoral student must conduct independent research in the field of specialization and submit a dissertation. The final oral examination will be a defense of the completed dissertation.

For additional information concerning doctoral study in art education, contact the College of Visual Arts and Design, Department of Art Education.

Satisfactory progress

Each student is expected to make satisfactory progress toward the completion of the doctoral program. Satisfactory progress towards the PhD with a major in art education is defined as the following:

- Degree plan designed and approved prior to the completion of 24 credit hours.
- A 3.0 semester GPA in student's major area (art education) and a 3.0 cumulative GPA.
- All art education courses passed with a grade of B or better.

- Successfully passing written and oral qualifying examination within one year of completion of course work.
- Final dissertation proposal approved one long term/semester after written/oral qualifying exam.
- Dissertation progress reviews – completed by major professor each term/semester.

Should a student not meet any of the above standards, he or she may be counseled, evaluated as unsatisfactory, placed on academic probation and/or dismissed from the program.

Probation

Any PhD student not meeting satisfactory progress will be notified in writing by the department chair. After receipt of notice of probationary status, the student is required to seek formal counseling with his or her PhD major professor to discuss his/her progress. The student will then be given the following long term/semester to correct the situation. The following are criteria for probation:

- Degree plan has not been completed after 24 credit hours.
- Student's GPA falls below a 3.0.
- Student receives a grade of C or lower in any one* art education course.
- Student receives two grades of W in any two courses in the same term/semester.
- Fails or does not take either the written or oral examination within one year of completion of course work.
- Dissertation proposal not approved.
- Student fails to make adequate progress on dissertation.

Dismissal

Any PhD student who does not correct the infraction which caused him or her to be placed on probation within the probationary term/semester will be subject to removal from the program. The department chair will notify the student of his or her dismissal in writing with a duplicate for the student's file and the Toulouse Graduate School. Such notification will cite the reason(s) for removal.

Any student wishing to appeal his or her dismissal from the doctoral program may petition the Graduate Faculty Committee within 30 days of the notification or attempted notification of the student's removal.

*__Note__: Receipt of two or more grades of C or lower in any two art education courses, whether in the same term/semester or in separate terms/semesters, is an automatic cause for dismissal from the program.

Graduate Academic Certificate

Art Museum Education certificate

In cooperation with the Toulouse Graduate School, the College of Visual Arts and Design and the Department of Art Education 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

- AEAH 5940 - Seminar in Art Museum

- AEAH 5942 - Seminar in Art Museum Education I
- AEAH 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 tsgs.unt.edu/certificatedisclosure.

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Department of Art History

Main Office
Art Building, Room 224

Mailing address:
1155 Union Circle #305100
Denton, TX 76203-5017
940-565-4777

E-mail: ah@unt.edu
Web site: www.art.unt.edu

Denise Amy Baxter, Interim 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 Jain cave temples in India, 18th-century French and British art, history of fashion, European art of the late 19th and early 20th centuries, British art in the late 20th century, 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 in colonial Mexico. 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, a statement of objectives, a minimum of two letters of recommendation, and Graduate Record Examination scores. Students may wish to concurrently pursue the the graduate academic certificate in art museum education and should apply through the Toulouse Graduate School for that.

Prospective applicants for graduate degree programs must obtain admission forms from the UNT Toulouse Graduate School and information from the College of Visual Arts and Design at www.art.unt.edu. Admission decisions are made on a rolling basis, but priority deadlines for consideration for funding are as follows:

- Fall term/semester: January 5

- Spring term/semester: October 1

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 the Onstead Institute/Amon Carter Museum Fellowship in Museum Education. This fellowship for a 10-hour-per-week internship is generously funded through the Onstead Institute and the Amon Carter Museum of American Art.

New graduate students have the opportunity to apply for a limited number of scholarships when they apply to their program. See the college web site for additional information about these opportunities.

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 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 in the Department of Art Education and 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 (AEAH 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 AEAH 5849.

Required course work

- AEAH 5800 - Methodologies of Art History and Visual Culture
- AEAH 5849 - Art History Research Project (6 hours)
- Art history graduate seminars (15 hours)
- Art history graduate seminars or minor field (6 hours)

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Department of Design

Main Office
Art Building, Room 221

Mailing address:
1155 Union Circle #305100

Denton, TX 76203-5017
940-565-3621

E-mail: design@unt.edu
Web site: www.art.unt.edu

Hepi Wachter, Chair

Faculty

MFA application requirements

Prospective applicants for graduate degree programs must obtain admission forms from the UNT Toulouse Graduate School (at gradschool.unt.edu) and information from the College of Visual Arts and Design (at www.art.unt.edu). Priority admission deadlines are as follows:

- Fall term/semester: February 1
- Spring term/semester: October 1

MFA application requirements are two-fold.

1. Applicants must apply for and be granted admission to the Toulouse Graduate School.
    a. Applicants must supply official GRE scores.
    b. Applicants must supply official transcripts.
    c. Applicants for the MFA programs in design with concentrations in fashion design, interior design or design research must hold a bachelor's degree from an accredited U.S. institution or equivalent degree at an international university in the specific area of design or in a closely related field.
2. Applicants must also apply separately to and be accepted by the Department of Design into the concentration of fashion design, interior design or design research.
    a. Applicants for the MFA programs in design with concentrations in fashion design, interior design or design research must have a minimum of two or three years of professional experience in their area of study.
    b. Applicants must submit a statement of purpose (500–750 words).
    c. Applicants must supply a professional resume 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 their responsibility for any submitted work completed as part of a team.

MA application requirements

Prospective applicants for graduate degree programs must obtain admission forms from the UNT Toulouse Graduate School (at gradschool.unt.edu) and information from the College of Visual Arts and Design (at www.art.unt.edu). Priority admission deadlines are as follows:

- Fall term/semester: February 1
- Spring term/semester: October 1

MA application requirements are two-fold.

1. Applicants must apply for and be granted admission to the Toulouse Graduate School.
    a. Applicants must supply official GRE scores.
    b. Applicants must supply official transcripts.
    c. Applicants for the MA programs in design with a concentration in design research must hold a bachelor's degree from an accredited U.S. institution or equivalent degree at an international university.
2. Applicants must also apply separately to and be accepted into the design research concentration.
    a. Applicants must submit a statement of purpose (500–750 words).
    b. Applicants must supply a minimum of one writing sample; however, two samples of the applicant's writing is preferable.

c. Applicants must submit at least three reference letters from persons familiar with their academic and/or professional work if applicable.
d. Applicants may submit a portfolio of work relevant to their discipline or concentration. Applicants should identify their responsibility for any submitted work completed as part of a team.

Funding

Each term/semester the department is able to provide a limited number of teaching assistant/teaching fellow positions for graduate students. If interested, the student should complete an application and submit it to the department by the deadline for each term/semester: January 5 for fall and October 1 for spring.

New graduate students have the opportunity to apply for a limited number of scholarships when they apply to their program. See the college web site for additional information about these opportunities.

Additional funding opportunities may be available through the Toulouse Graduate School.

Master's Degree

Design with a concentration in Design Research, MA

All graduate students seeking the MA with a major in design and concentration in design research are required to participate in graduate reviews every semester until admitted into the practicum sequence. The MA with a major in design and concentration in design research requires 36 hours. The degree requires the following.

Design research concentration, 21 hours

Practicum, 6 hours

- ADES 5546 - Practicum in Design Research, Part 1
- ADES 5548 - Practicum in Design Research, Part 2

Interdisciplinary courses, 9 hours

9 hours of interdisciplinary courses taken within one UNT-based departmental area of study.

Design with a concentration in Design Research, MFA

All graduate students seeking the MFA with a major in design and concentration in design research are required to participate in graduate reviews every semester until admitted into the practicum sequence. The MFA with a major in design and concentration in design research requires a minimum of 60 hours. The degree requires the following.

Program requirements

Design research concentration, 21 hours

Pedagogy course work, 9 hours

Practicum, 6 hours

- ADES 5546 - Practicum in Design Research, Part 1

- ADES 5548 - Practicum in Design Research, Part 2

Graduate art history, 9–12 hours

- AEAH 5842 - History of Graphic Design (required)
- 6–9 additional hours

Interdisciplinary courses, 9 hours

9 hours of interdisciplinary courses taken within one UNT-based departmental area of study.

Free elective, 3–6 hours

Design with a concentration in Fashion Design, MFA

Program requirements

A minimum of 60 semester credit hours, including 30 hours of studio.

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, 12 hours

Minor, 9–15 hours

Research methods, 3 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 following 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 institution of higher learning accredited by at least one of the following regional accreditors:
    - The Middle States Association of Colleges and Schools (MSACS)
    - The New England Association of Schools and Colleges (NEASC)
    - The North Central Association of Colleges and Schools (NCACS)
    - The Northwest Accreditation Commission (NWAC)
    - The Western Association of Schools and Colleges (WASC)
    - The Southern Association of Colleges and Schools (SACS)
    - The National Association of Schools of Art and Design (NASAD)

  Please note that so-called "online undergraduate degrees" are generally not accepted as adequate preparation for this MA program in interaction design.

- An undergraduate GPA of at least 3.1 (3.4 is preferred)
- Two to four samples of the applicant's writing that effectively convey his/her ability to 1) engage in critical thinking and analysis, or to 2) strategically plan and execute an initiative that requires 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. Bottom line: writing samples that reveal how and why the applicant thinks and acts as he/she does are most desirable.
- (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 program in interaction design. This letter should make clear how the knowledge and skills the applicant will acquire during this graduate experience could help him/her 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?"
- At least 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.

An overall evaluation of an applicant'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 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

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 - Research in Technical Communication

Design with a concentration in Interior Design for Sustainability, MA

Program requirements

The Master of Arts with a major in design and a concentration in interior design for sustainability is a 30 semester credit hour program. Requirements for the degree include the following.

Major area of study, 18-24 hours

- ADES 5520 - Methods Employed by Design Researchers
- ADES 5530 - Theories Employed by Design Researchers
- ADES 5635 - LEED Certification Systems and Accreditations
- ADES 5637 - Wellness, Health and Safety
- ADES 5640 - Environment and Systems
- ADES 5642 - Seminar in Design Sustainability

Electives, 0-6 hours

Selected with faculty approval.

Practicum, 6 hours

- ADES 5646 - Practicum in Interior Design Sustainability I
- ADES 5648 - Practicum in Interior Design Sustainability II

Design with a concentration in Interior Design, MFA

Program requirements

A minimum of 60 semester credit hours, including 30 hours of studio.

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, 12 hours

Minor, 9–15 hours

Research methods, 3 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.

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Department of Studio Art

Main Office
Art Building, Room 230

Mailing address:
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Denton, TX 76203-5017
940-369-7671

E-mail: studio@unt.edu
Web site: art.unt.edu

Lauren Lake, 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 in order 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

Application deadline: 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:

1. Apply to the Toulouse Graduate School via the ApplyTexas portal.
2. Submit materials to the department using our SlideRoom portal.

Funding

New graduate students have the opportunity to apply for a limited number of scholarships when they apply to their program. See the college web site (art.unt.edu/fellowships-assistantships) for additional information about these opportunities.

The department is able to provide a limited number of teaching assistant/teaching fellow positions for graduate students each semester. Interested students should complete an application and submit it to the department (art.unt.edu/fellowships-assistantships) by the deadline for each term/semester.

Additional funding opportunities may be available through the Toulouse Graduate School.

Master's Degree

Studio Art, MFA

Program requirements

For the Master of Fine Arts degree, students fulfill the 60 hours of degree requirements.

- ART 5700 - Seminar in University Art Teaching
- ASTU 5001 - Praxis: Rotating Topics (24 credits, 18 within studio concentration)
- ASTU 5010 - Professional Practices for the Studio Artist
- ASTU 5015 - MFA Project In Lieu of Thesis Research
- ASTU 5020 - MFA Project in Lieu of Thesis
- Art History Courses, 9 hours
- Elective Courses, 15 hours (3 hours should be taken from outside of the College of Visual Arts and Design)

Additional requirements

A student seeking the Master of Fine Arts must have completed the equivalent of the Bachelor of Fine Arts as offered at UNT.

Students may pursue a concentration in one of the following: **ceramics, drawing and painting, metalsmithing and jewelry, new media art, photography, printmaking, or sculpture**.

All graduate students on the MFA track in the studio art department are required to participate in graduate reviews each year until they are admitted to candidacy.

For more information and the graduate handbook: https://art.unt.edu/studio-graduate-resources.

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Honors College

Main Office
Sage Hall, Room 320

Mailing address:
1155 Union Circle #310529
Denton, TX 76203-5017
940-565-3305
Fax: 940-369-7370

E-mail: honorscollege@unt.edu

Web site: honors.unt.edu

Glênisson de Oliveira, Dean, TAMS and the Honors College

Bethany Blackstone, Associate Dean for the Honors College

James Duban, Associate Dean for Research and National Scholarships

Eric Gruver, Associate Dean for TAMS

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.

New College

Dean's Office

Hurley Administration Building, Room 306

Mailing address

1155 Union Circle #311190
Denton, TX 76203-5017

940-565-2289

Web site: frisco.unt.edu

Division of International Affairs

Main Office
Marquis Hall, Room 105

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2197
Fax: 940-565-4822

E-mail: international.events@unt.edu
Web site: https://international.unt.edu/

Pia Wood, Dean

The Division of International Affairs is guide and champion for internationalization at the University of North Texas. The division supports international teaching, research, and service. The division strives 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.

The Division of International Affairs functions in a leadership and facilitation role to support the university's global endeavors and international agenda. 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 Office

Marquis Hall, Room 105

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-369-5292
Website: international.unt.edu/globalengagement

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. Global Engagement manages UNT's special programs with partner institutions abroad, such as the China Undergraduate Transfer Program, undergraduate/graduate transfer program, short-term programs, and others. Contact 940-369-5292 or international.unt.edu/globalengagement.

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: ielimainoffice@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. Contact 940-565-2003 or Marquis Hall, Room 223 or visit international.unt.edu/ieli.

International Recruitment Office

Marquis Hall, Room 125

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

940-369-7624
Fax: 940-565-4822

E-mail: studyatunt@unt.edu
Web site: https://international.unt.edu/content/international-recruitment-office

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. Contact 940-369-7624 or Marquis Hall, Room 125 or visit https://international.unt.edu/content/international-recruitment-office.

International Student and Scholar Services Office

Marquis Hall, Room 106

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

The **International Student and Scholar Services Office** provides 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. Contact 940-565-2195 or Marquis Hall, Room 125 or visit https://international.unt.edu/content/international-student-scholar-services.

Sponsored Student Programs

Marquis Hall, Room 114

Mailing address:
1155 Union Circle #311067
Denton, TX 76203-5017
940-565-2196
Fax: 940-565-4822

E-mail: sspc@unt.edu
Web site: https://international.unt.edu/content/sponsored-students

The **Office of Sponsored Student Programs** is part of the International Student and Scholar Services Offices. Sponsored Student Programs maintains relationships with sponsoring agencies around the world to place fully and partially funded international students into undergraduate, graduate and academic English language programs at UNT. Contact 940-565-2196 or sspc@unt.edu or Marquis Hall, Room 114 or https://international.unt.edu/content/sponsored-students.

Study Abroad Office (SAO)

Marquis Hall, 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 local Denton communities. Contact 940-565-2207 or Marquis Hall, Room 145 or visit studyabroad.unt.edu.

UNT at Frisco

Main Office

UNT at Frisco - Hall Park
2811 Internet Blvd., Suite 100
Frisco, TX 75034

972-668-7100

Email: UNTFrisco@unt.edu
Website: frisco.unt.edu

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:

- Applied Arts and Sciences, BAAS
- Business Integrated Studies, BBA, Sport Entertainment Management Track
- Computer Science, BS
- Consumer Experience Management, BS
- Information Technology, BA
- Integrative Studies, BS, Project Design and Analysis
- Integrative Studies, BS, with a focus in Strategic Corporate Communication
- Interdisciplinary Studies, BS (EC-6)
- Journalism with a concentration in Public Relations, BA
- Logistics and Supply Chain Management, BS
- Marketing, BBA
- Psychology, BA
- Recreation, Event and Sport Management, BS

UNT at Frisco offers graduate programs in the following areas:

- Advanced Data Analytics, MS
- Business Analytics, MBA
- Business Administration with a concentration in Business Studies, MBA, Sport Entertainment Management track
- Business Administration with a concentration in Marketing Analytics, MBA
- Counseling, MS/MEd
- Design with a concentration in Interaction Design, MA
- Educational Leadership, EdD
- Educational Leadership, PhD

- Heath Services Administration, MS
- Interdisciplinary Studies, MS
- Interdisciplinary Studies, MA

Academic Advising

Undergraduate academic advising is available for students whose majors are offered at Frisco. Click one of the following links to reserve a timeslot: Prospective Students Appointments | Current Student Appointments.

Career Services

Career and professional development workshops are frequently available each semester; check the UNT Frisco Events Calendar to see what's coming up next. Career advising appointments can be made through your student account on Handshake or by emailing your Career Coach. Please bring a draft of your resume to the appointment. Email appointment requests to Frisco.careerready@unt.edu or call Hall Park at 972-668-7100.

Counseling Services

Counselors are available on two days each semester, contact UNTFrisco@unt.edu for scheduled hours. Services available include 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'll provide a copy of your LoA to each instructor at the start of every semester to begin receiving accommodations in your courses.

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 front desk or by calling 972-668-7100.

Financial Aid and Scholarships

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

Health and Wellness

Look for activities and workshops on the events calendar such as Fall Flu Shot Clinics, stress-reduction activities, dietician consultations and more. For students planning to Study Abroad, you may request a waiver for medical form charges at the Student Health and Wellness Center in Denton; email UNTFrisco@unt.edu. A Nurse Hotline is available 24/7 to answer questions on treatment of medical issue or how to determine severity at 214-266-8777.

Recreation and Fitness

Opportunities to join peers in recreational activity, look for monthly opportunities on the events calendar for items such as group exercise, personal fitness consultations, body composition testing, and more. Submit suggestions for future activities to UNTFrisco@unt.edu.

Student Organizations

As our campus grows, the need for specialized connections among students is becoming more and more 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!

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.*

Courses of Instruction

Course Numbering System

Freshman courses, 1000-1999.
Sophomore courses, 2000-2999.
Junior courses, 3000-3999.
Senior courses, 4000-4999.
Graduate courses, 5000 and above.

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

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

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

Honors College Capstone Thesis (4951) allows a student in the Honors College to complete an honors thesis as a course within the student's major. The Honors College Capstone Thesis is a major research project prepared by the student with the mentorship of a faculty member in the student's major department. An oral defense is required for successful completion of the thesis.

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

General Course Information

Individual courses of instruction are subject to change or withdrawal at any time and may not be offered each term/semester or every year. Any course may be withdrawn from current offerings if the number of registrants is too small to justify conducting the course. Students interested in a particular course during a particular period should inquire in advance and/or consult the applicable online schedule of classes at *registrar.unt.edu*.

Figures in parentheses following the course credit hours indicate the number of clock hours per week devoted to lecture and laboratory. When it appears, the third and final number in these parentheses indicates the number of recitation (or "other") hours per week.

A given course may not be taught every term/semester or even every year. Consult the *Schedule of Classes* online (*registrar.unt.edu*) for the most up-to-date information concerning course offerings.

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

How to Read Course Descriptions

Note: A sample has been compiled to identify different components of the course description and does not accurately reflect an existing course. Explanations are given below the example. Not all course descriptions include every component shown in the following example.

Example:

MUAG 5420 — Harpsichord Literature and Pedagogy

3 hours. (3;1;1)

Harpsichord literature from the mid-17th century to the present, including the music of Bach. Survey of major composers, styles, forms and ensemble literature; construction and design of appropriate instruments. Performance practices are thoroughly explored. Pedagogical principles are applied to repertoire. Individual research projects.

Prerequisite(s): Consent of college.
Corequisite(s): MUAG 5410.

Same as MUMH 5420.

Explanation of Example:

MUAG is the course prefix. **5420** is the course number. **Harpsichord Literature and Pedagogy** is the name of the course. **3 hours** represents the number of semester hour credits earned. **(3;1;1)** shows that 3 hours will be spent in lecture, 1 hour will be spent in laboratory, and 1 hour will be spent in recitation. **Harpsichord literature from the mid-17th century to the present, including the music of Bach. Survey of major composers, styles, forms and ensemble literature; construction and design of appropriate instruments. Performance practices are thoroughly explored. Pedagogical principles are applied to repertoire. Individual research projects** is the course description and general comments regarding the course. **Prerequisite(s): Consent of college** explains that the consent of the college must be obtained prior to enrolling in MUAG 5420. **Corequisite(s): MUAG 5410** shows that MUAG 5410 must be completed before or while enrolled in MUAG 5420. **Same as** MUMH 5420 indicates that MUAG 5420 and MUMH 5420 are cross-listed. Cross-listed courses are the same course, offered under two different prefixes.

Course Descriptions

Accounting

ACCT 5020 - Accumulation and Analysis of Accounting Data

3 hours

Provides an understanding of accounting procedures and concepts utilized by management in making decisions. Basic concepts and techniques of accounting; the role of an accounting system in business operations management; preparation and interpretation of financial reports.

Prerequisite(s): None.

Meets the deficiency requirement in accounting for MBA candidates and may be counted as part of a graduate program in a field other than business administration. May not be taken for credit if ACCT 2010 and ACCT 2020 or the equivalent has been taken and a grade of C or better was earned.

ACCT 5110 - Fundamentals of Accounting Research

3 hours

Designed to develop student skills in recognizing accounting problems and isolating relevant issues: to develop student skills in generating documentary support and arguments for an acceptable solution to complex accounting problems; to enhance student skills in effectively organizing and communicating, in written and oral form, proposed solutions to accounting problems; and to familiarize students with contemporary accounting practice.

Prerequisite(s): ACCT 4300 and ACCT 4400. Acceptance into either the ACCT- MS, or ATAX - MS program.

ACCT 5120 - Data Analysis in Accounting

3 hours

Designed to develop student understanding of the role of accounting information systems and their functions in business. Students develop computer skills in applications for all accounting disciplines. Upon the completion of the course, students understand how accounting information systems facilitate the accomplishment of strategic and operational objectives within the organization.

Prerequisite(s): ACCT 4400 or consent of instructor.

ACCT 5130 - Accounting for Management

3 hours

Designed to provide an understanding of managerial accounting data in making business decisions. Cases, readings and projects are used to examine a wide variety of managerial topics.

Prerequisite(s): ACCT 5020 and ECON 5000; MATH 1190 or MATH 1400 or MATH 1710. For students not seeking a BS or MS with a major in accounting.

ACCT 5140 - Advanced Accounting Analysis

3 hours

Advanced topics in financial accounting and reporting, including business combinations and consolidations, international accounting and monetary translation, governmental accounting and fiduciary accounting.

Prerequisite(s): ACCT 3120. ACCT 3270 or ACCT 5130.

May not be taken for credit if ACCT 4140 or the equivalent has been taken.

ACCT 5150 - The Development of Accounting Theory

3 hours

Theory of accounting as it has developed in the economy of the United States. Particular emphasis on concepts, income measurement, valuation of assets, and valuation and measurement of equities. Application of accounting theory to contemporary problems is analyzed by cases and research papers on selected areas.

Prerequisite(s): Consent of department.

ACCT 5160 - 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.

ACCT 5180 - Topics in Financial Accounting

3 hours

Seminar in new topics and areas of current interest to students of financial accounting.

Prerequisite(s): Consent of department.

May be repeated for credit.

ACCT 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.

ACCT 5250 - Strategic Cost Management

3 hours

The role and scope of the strategic cost management function (management accounting) within organizations is changing rapidly. New cost management tools provide organizations with information for decision making and control in an international marketplace. These tools directly incorporate organization strategy and focus on process understanding. Typically includes readings, cases and discussion of planning and budgeting, activity based concepts, target costing, performance measurement, quality and environmental cost management. Specific topics will vary.

Prerequisite(s): ACCT 3270 or ACCT 5130.

ACCT 5270 - Managerial Cost Accounting

3 hours

Accumulation, analysis and interpretation of accounting data relevant to purposes of managerial decision making; profit planning and control, and application of 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.

ACCT 5300 - Federal Taxation of Income

3 hours

Comprehensive introduction to the U.S. federal income tax system. Emphasizes the taxation of individuals but many topics also apply to business entities. Coverage includes technical tax rules and motivations behind these rules, as well as tax planning opportunities and limitations.

Prerequisite(s): ACCT 4400. Graduate standing.

May not be taken for credit if ACCT 4300 or equivalent has been taken for credit.

ACCT 5310 - Tax Research and Administrative Procedure

3 hours

Objectives are to develop the technical and research skills needed to address contemporary tax issues. Students learn to identify tax issues, formulate research questions and develop the research skills needed to address them. Upon completion of this course, students are able to use the major tax services, evaluate the relevant authorities and communicate their findings in a professionally written research memorandum. Familiarizes students with federal tax policies and procedures and the authorities that govern tax practice by tax professionals.

Prerequisite(s): ACCT 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.

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.

ACCT 5330 - Taxation of C Corporations

3 hours

Comprehensive study of federal income taxation of C corporations and their shareholders. Emphasis placed on reading and interpreting tax laws to determine the tax consequences of completed transactions and generate tax planning strategies.

Prerequisite(s): ACCT 5310 or ACCT 5110 (either may be taken concurrently).

ACCT 5340 - Oil and Gas Taxation

3 hours

Focuses on tax problems relative to the oil and gas industry. Topics may include acquisition, operation and disposition of natural resource properties; preproduction expenditures, depletion, depreciation and ad valorem taxes; tax planning for natural resource investments; or other topics.

Prerequisite(s): ACCT 4320 with a grade of C or better or consent of department.

May be repeated for credit for a maximum of 6 hours.

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.

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).

ACCT 5370 - Family Tax Planning

3 hours

Comprehensive study of federal estate and gift taxation, as well as advanced family tax planning issues.

Prerequisite(s): ACCT 5310.

ACCT 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. Student must have completed at least 18 hours of graduate-level course work before enrolling.

May be repeated for credit for a maximum of 6 hours.

ACCT 5410 - External Auditing

3 hours

Typical topics include professional issues, ethical responsibilities, the auditor's role in society, audit planning, the evaluation of evidence pertaining to internal controls and account balances, and the auditor's consideration of fraud. Audit cases, short essay(s), and presentations allow students to improve technical auditing skills, their understanding of professional and ethical issues, their understanding of current issues in practice, and communication skills.

Prerequisite(s): ACCT 4100 and ACCT 4400.

ACCT 5430 - Auditing — Special Problems

3 hours

In-depth study of particular problems in auditing. The topics change to cope with the dynamic nature of the profession. Specific topics can be offered on a part-term/semester or term/semester basis.

Prerequisite(s): ACCT 5410.

ACCT 5440 - IT Auditing

3 hours

Addresses the skills and knowledge required of auditors, both internal and independent, in technology-based accounting environments. Primary focus is on the use of the computer as an audit tool for controls and financials, through Generalized Audit Software. Included is a data analytics capstone assignment, utilizing different software applications, applied to 'big data' financial datasets. Additional topics covered include computer fraud, IT governance and security.

Prerequisite(s): ACCT 4100 and ACCT 4400. Student must have completed 18 hours of graduate-level course work before enrollment.

May be repeated for credit for a maximum of 6 hours.

ACCT 5450 - Seminar in Internal Auditing

3 hours

Study of the theory and practice of internal auditing. The course examines the difference between internal and external auditing, focusing on such issues as independence, audit scope, reporting and human relations. Specific internal audit topics include operational auditing, audit administration, planning and supervision, and internal audit reporting.

Prerequisite(s): ACCT 4100 and ACCT 4400.

ACCT 5470 - Auditing — Advanced Theory

3 hours

Conceptual approach to the auditing process, stressing the interrelations of objectives, standards, techniques and procedures. Current topics, including significant legal cases, are included.

Prerequisite(s): ACCT 5410. ACCT 5800 is recommended.

ACCT 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.

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.

ACCT 5630 - Accounting Systems and Controls

3 hours

Comprehensive study of computerized managerial accounting systems. Major topics include: role of accounting systems in managerial planning and control (decision making), application of computers in accounting systems, role of the managerial accountant in technology management.

Prerequisite(s): ACCT 3270 or ACCT 5130, ACCT 4100; or consent of department.

ACCT 5640 - Current Topics in Accounting Information Systems

3 hours

Acquaints students with current topics related to accounting information systems. Current topics will be selected by the instructor and may include, but will not be limited to, the following: accounting issues involving Enterprise Resource Planning software packages, the accountant's role in electronic commerce and forensic auditing. Instruction may include cases and/or lecture format. The course is structured to enhance the ability of students to think critically and to develop the knowledge, skills and attitudes necessary to compete effectively in the rapidly changing world of information technology. Intended for those interested in new and emerging areas of accounting information systems.

Prerequisite(s): ACCT 4100 or 6 hours of BCIS above the 3000 level.

ACCT 5641 - Current Electronic Commerce Topics in Accounting Information Systems

1.5 hours

Part of the electronic commerce track of the MBA program. Discussion addresses how electronic commerce is employed in the field of accounting, how the issue of e-com changes and challenges accounting information systems, control issues arising from the use of e-com in AIS, and methods for controlling these risks.

Prerequisite(s): None.

Students should complete a packet of materials prior to the first day of class. Contact the department for materials.

ACCT 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.

Prerequisite(s): None.

ACCT 5710 - Oil and Gas Accounting

3 hours

Introduction to the oil and gas industry and the specialized financial accounting procedures associated with the industry. Areas emphasized include accounting for exploration, development, production, depreciation, depletion and amortization; conveyances, joint operations, asset impairment and retirement obligations; and disclosures and reserves. Successful-efforts and full-cost accounting methods are covered.

Prerequisite(s): ACCT 3120, and ACCT 3270 or ACCT 5130.

ACCT 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.

ACCT 5760 - Accounting, Business Analysis and Valuation

3 hours

Utilization of strategic and critical thinking skills to investigate accounting issues. Through the analysis of intra-disciplinary cases, students show that they have the relevant research skills and technological sophistication to access, evaluate and interpret relevant information needed for decision making.

Prerequisite(s): ACCT 5110 or ACCT 5310, and ACCT 5120; student must have completed 18 graduate hours of courses before enrollment.

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.

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.

ACCT 5890 - International Accounting

3 hours

Integrates the functional areas of accounting and the functional areas of business administration in a global decision-making framework. Cross-functional and global approaches to organizational issues are emphasized. Structured to enhance the ability of students to think critically and to develop knowledge, skills and attitudes necessary to compete effectively in the global perspectives on accounting, environmental, social and political influences on accounting, accounting information systems in a multinational enterprise, performance evaluation in a multi-national enterprise, comparative international analysis of financial statements and the exploration of timely topical issues related to international accounting.

Prerequisite(s): ACCT 3270 or ACCT 5130.

May not be taken for credit if ACCT 4420 or equivalent has been taken for credit.

ACCT 5900 - Special Problems

3 hours

Topic chosen by the student and developed through conference and activities under the direction of the instructor. Course activities include required regular participation in a specified 4000-level class and additional assignments by the instructor.

Prerequisite(s): Approved applications for special problems/independent research must be submitted to the CoB Graduate Programs Office prior to registration.

A maximum of 3 semester hours of Special Problems may be applied toward a degree. Course credit might not count in fulfilling CPA exam requirements.

ACCT 5910 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conference and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research must be submitted to the CoB Graduate Programs Office prior to registration.

A maximum of 3 semester hours of 5000-level special problems course work may be applied toward the degree. Course can be counted only as an elective or in special circumstances as a required course. Might not count in fulfilling CPA exam requirements. Graded or pass/no pass.

ACCT 6010 - Seminar on Advanced Topics in Accounting Research

3 hours

Covers one or more special fields. Topics covered in this course depend on the needs of the students enrolled each term/semester.

Prerequisite(s): Consent of department.

ACCT 6190 - Seminar on Theory Development and Theory Formulation

3 hours

Explores theory formulation and development in disciplines related to accounting; evaluates the ontological, epistemological and methodological structure of contemporary accounting research and critically examines the adequacy of contemporary research from a historical perspective.

Prerequisite(s): Doctoral status and consent of instructor.

ACCT 6290 - Seminar on Behavioral Research in Accounting

3 hours

Critically examines behavioral theories as well as methods and their application to accounting research. The course draws on cognitive psychology and accounting literature.

Prerequisite(s): Doctoral status and consent of instructor.

ACCT 6390 - Seminar on Capital Markets-Based Accounting Research

3 hours

Presents a synthesis of capital markets research in accounting. Covers "classic" papers in the major research areas within the field, methodological issues, and emerging issues in financial accounting.

Prerequisite(s): Doctoral status and consent of instructor.

ACCT 6490 - Independent Research Paper I

3–4 hours

Major paper, independently prepared, that presents results of an intensive and critical review of accounting research that focuses on a topic of interest to the student. The paper concludes with an assessment of research opportunities, if any, in the area examined.

Prerequisite(s): Doctoral status and consent of instructor.

ACCT 6590 - Independent Research Paper II

3–4 hours

Major empirical research paper, independently prepared, that presents results of an empirical analysis. Students specializing in archival research conduct an empirical analysis using archival data (i.e., stock prices, accounting numbers, analyst forecasts, management forecasts, etc.). Students specializing in behavioral research conduct a pilot study. The paper includes discussion of the research problem, its importance, and all other aspects of the research design (i.e., assumptions, theory, hypotheses, potentially relevant explanatory variables that need to be controlled for, etc.). Students present their papers to accounting faculty and doctoral students in a research workshop.

Prerequisite(s): Doctoral status and consent of instructor.

ACCT 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

May be repeated for credit.

ACCT 6910 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

May be repeated for credit.

ACCT 6940 - Individual Research

1–12 hours

Individual research for the doctoral candidate.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

May be repeated for credit.

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 CoB Graduate Programs Office prior to registration.

May be repeated for credit.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

ADTA 5560 - Recurrent Neural Networks for Sequence Data

3

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. This course 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 5250 , ADTA 5340 , or ADTA 5550 , or the instructor consent.

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.

Anthropology

ANTH 5000 - Seminar in Cultural Anthropology

3 hours

Survey of anthropological attempts to understand and explain the similarities and differences in culture and human behavior.

Prerequisite(s): None.

ANTH 5010 - Anthropological Thought and Praxis I

3 hours

Considers the history of anthropological concepts, the major historical debates in anthropological theory and historical tensions between applied and theoretical knowledge. Special emphasis is given to critical examination of concept and theory formation and the application of anthropological ideas to the problems of everyday life.

Prerequisite(s): ANTH 5000 or 12 hours of anthropology.

For students taking the online version of ANTH 5010, attendance at the orientation for the Department of Anthropology's online master's students is also required.

ANTH 5021 - Anthropological Thought and Praxis II

3 hours

Considers contemporary anthropological concepts and theories and the major debates that have been produced by them. Special emphasis is given to the most recent tensions and debates on the relationships between theoretical and applied knowledge. Specific attention is paid to the relationships between social theory and social policy formation.

Prerequisite(s): ANTH 5010.

ANTH 5031 - Ethnographic and Qualitative Methods

3 hours

Focuses on ethnographic and qualitative methods and the development of the skills necessary for the practice of anthropology. Special emphasis is given to qualitative techniques of data collection and analysis, grant writing, the use of computers to analyze qualitative data and ethical problems in conducting qualitative research.

Prerequisite(s): None.

ANTH 5032 - Ethnographic and Qualitative Methods for Non-Majors

3 hours

Designed to teach non-majors the basics of ethnographic and qualitative methods. Students develop the skills necessary to conduct qualitative research through reviewing and applying the relationship of research to theory, research ethics, project design, data collection (observation, interviewing and focus groups), coding, analysis of data through the use of computer software, and presentation of findings.

Prerequisite(s): None.

ANTH 5041 - Quantitative Methods in Anthropology

3 hours

Basic principles and techniques of research design, sampling, and elicitation for collecting and comprehending quantitative behavioral data. Procedures for data analysis and evaluation are reviewed, and students get hands-on experience with SPSS in order to practice

organization, summarizing, and presenting data. The goal is to develop a base of quantitative and statistical literacy for practical application across the social sciences, in the academy and the world beyond.

Prerequisite(s): None.

ANTH 5050 - Preparation for Practice and the Applied Thesis

3 hours

Emphasis on planning the applied thesis project, professional development, and bringing students into the community of practice of applied/practicing anthropologists. Students learn skills in client development, project design, proposal writing, informational interviews, how to obtain a job, how to succeed in the workplace, and networking. In addition, students are exposed to contested issues in the field and career trajectories of practitioners. A number of practitioners are invited as guest speakers.

Prerequisite(s): None.

ANTH 5100 - Organizational Anthropology

3 hours

Anthropologists have developed numerous tools for analyzing culture and culture change. Many of these can be put to use in studying business organizations. This course is a look at business organizations from an anthropological point of view. Often an organization's productivity or lack thereof is directly related to the degree to which its strategy and culture mesh. Methods used in anthropology can aid in defining the specific culture of an organization and in providing strategies for change within it. This course explores those anthropological tools that can be useful in increasing productivity in business organizations.

Prerequisite(s): None.

ANTH 5110 - Design Anthropology

3 hours

Fundamentals of the field of design anthropology. Students collaborate on an applied project, practice applied research methods and video ethnography. Students learn to engage in collaborative analysis and work with customers to translate their research into practical applications. In addition to hands-on experience, students conduct readings on topics relevant to the project and to design anthropology in general.

Prerequisite(s): None.

ANTH 5201 - Medical Anthropology

3 hours

Perspectives in contemporary medical anthropology, with a focus on the biocultural basis of health and sociocultural variations in illness and healing (ethnomedicine). Study of comparative health systems, political-economic and ethical issues in health and care, health professions and patients' views of illness.

Prerequisite(s): None.

ANTH 5210 - Anthropology 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.

Prerequisite(s): None.

ANTH 5300 - Migrants and Refugees

3 hours

Focuses on the factors embedded in people's displacement, either through migration or refugee movements. Aims at identifying the cultural processes that promote displacement and those emanating from the consequences of displacement. Emphasizes the human factor encapsulated in the phenomenon of displacement.

Prerequisite(s): None.

ANTH 5400 - Environmental Anthropology

3 hours

Emphasis on theory, major environmental questions, problems, issues, and possible solutions illustrated by case studies from different parts of the world. Examination of environmental issues pertaining to land/sea and natural resources, food production systems, deforestation, population problems, poverty and environmental justice, natural hazards and risks, resource conflicts and warfare, over-fishing, economic development, globalization and transnationalism, mineral and oil extraction, landscapes, biodiversity conservation, the commons, ecofeminism, and valuation of nature. Course goals are to provide a global sample of the literature in environmental anthropology; a survey of concepts, issues, theories, methods and practices in environmental anthropology; and an in-depth acquaintance with a particular topic in environmental anthropology through an individual research project.

Prerequisite(s): Consent of instructor.

ANTH 5620 - Anthropology of Education

3 hours

Examines issues and approaches relevant to the study of education within the field of anthropology. Provides an introduction to anthropological concepts and anthropological methods used in the study of education and schooling. Includes an examination of the relation between anthropology and education as it pertains to cultural transmission. In addition, it looks at cultural difference, minority status, and educational outcomes. It also highlights current perspectives and critiques relevant to educational "problems" and emerging solutions derived from an anthropological perspective of education.

Prerequisite(s): None.

Same as EDCI 5620.

ANTH 5700 - Topics in Applied Anthropology

3 hours

Applied ethnographic investigation, analysis and discussion of a significant, contemporary topic of interest to students in various graduate programs.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ANTH 5710 - Symbolic/Cognitive Anthropology

3 hours

Anthropological consideration of symbolism provides a unique view of cultural beliefs and values as stamped in the process of policy making. Attention is given to how symbols are used to give meaning to social life and how symbols define and create belief systems, including traditional anthropological concerns with religion, kinship, politics, economics, business and advertising.

Prerequisite(s): None.

ANTH 5760 - Advanced Studies in Urban Anthropology

3 hours

A historical and contemporary account of approaches to urban anthropology with a focus on social justice.

Prerequisite(s): None.

Meets with ANTH 4760.

Not open to students who have completed ANTH 4760.

ANTH 5800 - Applying Anthropology: Practicum I

3 hours

Provides experiential learning in applied anthropology through placement in business, government, community, and social service organizations and agencies. Students design and implement an applied anthropology project under the supervision of a faculty member. This placement is planned in cooperation with the student to meet specialized career goals.

Prerequisite(s): ANTH 5010, ANTH 5021, ANTH 5031, ANTH 5041, ANTH 5050.

ANTH 5810 - Applying Anthropology: Practicum II

3 hours

Provides experiential learning in applied anthropology through placement in business, government, community, and social service organizations and agencies. Continuation of Practicum I. Students finish up any remaining research, deliver their findings to the client, and prepare a written report and a verbal presentation for the department of anthropology.

Prerequisite(s): ANTH 5010, ANTH 5021, ANTH 5031, ANTH 5041, ANTH 5050, ANTH 5800.

ANTH 5900 - Special Problems

1–3 hours

Prerequisite(s): None.

ANTH 5910 - Special Problems

1–3 hours

Prerequisite(s): None.

ANTH 5950 - Applied Thesis

3 or 6 hours

To be scheduled with consent of department. 6 hours required. No credit assigned until thesis has been completed and filed with the graduate 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.

Applied Economics

AECO 5010 - Interdisciplinary Seminar

1–6 hours

Prerequisite(s): None.

AECO 5050 - Seminar in Contemporary Applied Economic Problems

3 hours

Analysis and discussion of significant contemporary issues in economics and public policy.

Prerequisite(s): None.

May be repeated for credit.

AECO 5870 - Research Methods

3 hours

Research methodology for business and the social sciences. Topics include research design; techniques of exploratory data analysis; measures of association; a survey of multivariate factor, discriminant and clustering procedures; and an introduction to linear regression analysis.

Prerequisite(s): 3 hours of college statistics or consent of instructor.

Offered fall term/semester only.

AECO 5880 - Multivariate Regression Analysis

3 hours

Application of multivariate regression analysis to issues in business and the social sciences. Topics include estimation and analysis of linear models under ideal and non-ideal conditions, instrumental variables estimation and estimation of models with limited dependent variables. Emphasis is placed upon the application of computer technology to practical problems in forecasting and policy analysis.

Prerequisite(s): 3 hours of college statistics or consent of instructor.

AECO 5900 - Special Problems

1–3 hours

Open to advanced students capable of doing independent research in economic education, and labor and industrial relations under the direction of the instructor.

Prerequisite(s): None.

May be repeated for credit.

AECO 5910 - Special Problems

1–3 hours

Open to advanced students capable of doing independent research in economic education, and labor and industrial relations under the direction of the instructor.

Prerequisite(s): None.

May be repeated for credit.

AECO 5920 - Research Problems in Lieu of Thesis

6 hours

Research methods emphasizing the philosophy of science, basic statistical methods and basic research design; preparation of a number of research proposals reflecting alternative research designs and alternative statistical methodologies and a mini-thesis with emphasis on empirical studies.

Prerequisite(s): None.

Required of all Master of Science candidates.

AECO 5930 - Research Problems in Lieu of Thesis

6 hours

Research methods emphasizing the philosophy of science, basic statistical methods and basic research design; preparation of a number of research proposals reflecting alternative research designs and alternative statistical methodologies and a mini-thesis with emphasis on empirical studies.

Prerequisite(s): None.

Required of all Master of Science candidates.

AECO 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

Applied General Music

MUAG 5000 - Choral Techniques

3 hours

Choral organizations, singing, conducting, performing, repertoire and history. Actual experience in a model a cappella choir.

Prerequisite(s): None.

May be repeated for credit.

MUAG 5001 - Student Teaching in Studio Piano

3 hours

Observation and supervised student teaching with emphasis on private studio teaching.

Prerequisite(s): Consent of college.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): MUAG 5160 or consent of instructor.

MUAG 5200 - Piano Literature

3 hours

Bach through the early romantics. Survey of major composers, styles and forms; individual topics.

Prerequisite(s): None.

Meets with MUAG 1270.

MUAG 5201 - Piano Literature

3 hours

The late romantics to the present. Survey of major composers, styles and forms; individual topics.

Prerequisite(s): None.

Meets with MUAG 3270.

MUAG 5210 - Vocal Literature

3 hours

Advanced song literature from all national styles from 1750. Stylistics analysis and historical significance.

Prerequisite(s): MUAG 4210 or equivalent.

Meets with MUAG 4210.

Offered spring semester, odd-numbered years.

MUAG 5215 - Advanced Vocal Diction

2 hours

Advanced Italian, French and German diction. Phonetics and pronunciation.

Prerequisite(s): MUAG 1906, MUAG 1907, MUAG 1909, or consent of instructor.

MUAG 5220 - Advanced Singing-Acting Techniques

1 hour

Working with the techniques of H. Wesley Balk, the course develops singing/acting skills that integrate the full system of each student. An experiential learning course in which the student applies the techniques to his or her individual operatic repertoire or assigned scenes from opera.

Prerequisite(s): Acceptance into the graduate program or artist's certificate. Must have at least three operatic arias in personal repertoire.

Highly recommended to be taken before MUAG 5640.

MUAG 5225 - Oratorio Repertoire and Practicum

3 hours

Comprehensive study and performance of oratorio repertoire from the Baroque through Contemporary periods.

Prerequisite(s): None.

Meets with MUAG 4225.

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.

Prerequisite(s): None.

Meets with MUAG 3230.

May be repeated for credit.

MUAG 5260 - Piano Collaboration (Vocal)

3 hours

Skills and techniques of vocal collaboration through study and performance with soloists of art song and vocal repertoire with orchestral reduction; study of relevant reference works; sight-reading, transposition, coaching and teaching collaborative skills.

Prerequisite(s): Consent of instructor.

MUAG 5261 - Vocal Repertoire Master Class

3 hours

Intensive study and performance of art song with piano and other vocal repertoire with orchestral reduction.

Prerequisite(s): MUAG 5260, MUAM 5503, or consent of instructor.

May be repeated for credit.

MUAG 5270 - Piano Collaboration (Instrumental)

3 hours

Fundamentals of instrumental collaboration; rehearsal techniques; score reading (transposition and clefs); orchestral reductions and thorough bass realization; instrumental repertoire; work with soloists.

Prerequisite(s): Consent of instructor.

MUAG 5271 - Instrumental Repertoire Master Class

3 hours

Intensive study and performance of sonata and other instrumental literature.

Prerequisite(s): MUAG 5270 or consent of instructor.

May be repeated for credit.

MUAG 5275 - Survey of Instrumental Collaborative Literature with Piano

3 hours (2;0;1)

Comprehensive study of standard repertoire for piano (or keyboard) with one other instrument.

Prerequisite(s): None.

MUAG 5280 - Service Playing Skills I

2 hours

Intense study of basic hymn playing, keyboard harmony, transposition, figured bass, open score reading, sight-reading and beginning improvisation.

Prerequisite(s): Satisfactory score on Graduate Placement Exam or MUTH 5001 , MUTH 5002 and MUTH 5003 .

MUAG 5290 - History of Organ Style and Design

2 hours

Survey of national styles of organ building in Germany, France, Italy, Spain and England, 1550–1900. Emphasis on construction of action, windchests and pipes. Contemporary development of the organ in North America.

Prerequisite(s): MUAG 4390 (undergraduate organ literature).

MUAG 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.

Prerequisite(s): None.

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.

Prerequisite(s): MUAG 1125 or MUAG 1225 or consent of college.

Meets with MUAG 4350.

MUAG 5360 - Instrumental Pedagogy and Repertoire

3 hours

Study and analysis of instrumental literature; correlation of literature and pedagogical materials; survey of schools of performance and instruction; brass, percussion, keyboard, strings and woodwinds.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MUAG 5550 - Basso Continuo

3 hours (0;0;3)

General knowledge of figured bass and study of basso continuo sources from 1600 to present.

Prerequisite(s): Consent of instructor.

May be repeated for credit.

MUAG 5560 - Advanced Piano Pedagogy and Musicianship

3 hours

Instructional techniques, materials, curriculum planning and philosophical basis for teaching piano and musicianship at the college and university levels with focus on group instruction.

Prerequisite(s): MUAG 4260 and MUAG 4270, or equivalent.

Field experience required.

MUAG 5570 - Comparative Piano Pedagogy and Repertoire

3 hours

Instructional techniques, repertoire, curriculum planning and philosophical basis for teaching piano performance at the high school and undergraduate collegiate levels.

Prerequisite(s): MUAG 4260 and MUAG 4270, or equivalent.

Field experience required.

MUAG 5600 - Advanced Science and Pedagogy of Singing

3 hours

Advanced literature on research in singing; laboratory instrumentation; practical studio procedures for building and equalizing the singing voice. Topics include vocal abuse and misuse, fitness for singers, and the psychology of singing and teaching of singing. Studio observations and practice in teaching.

Prerequisite(s): MUAG 4300 or consent of college.

MUAG 5610 - Comparative Pedagogy of Singing

3 hours

Comparison of Western pedagogical models from the bel canto period (1685–1825) to the present and of current national styles. Formulation of teaching strategies harmonious with the common ideals of Western artistic voice culture.

Prerequisite(s): MUAG 5600 or consent of college.

MUAG 5640 - Operatic Acting

3 hours

Analysis and preparation of roles, exercises in pantomime, improvisation, visualization and concentration.

Prerequisite(s): None.

May be repeated for credit.

MUAG 5650 - Opera Stage Direction

3 hours

Prerequisite(s): MUAG 5640 or MUEN 3040 (two terms/semesters), and consent of college.

May be repeated for credit.

MUAG 5660 - Studies in Opera Repertoire

3 hours

Extensive analysis and background study of representative operas from one of the following periods: beginnings through Mozart, 19th-century Italian and French opera, 19th-century German and Russian opera, and 20th-century opera. Guided research on individual projects.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MUAG 5701 - Master's Recital

1 hour

The master's recital is the culmination of study in the performance degree. A public performance is given and evaluated. Specific requirements are provided by each area.

Prerequisite(s): MUAM 5503.

May be repeated for credit as MUAG 5702 in piano and collaborative piano only.

MUAG 5702 - Master's Recital

1 hour

The master's recital is the culmination of study in the performance degree. A public performance is given and evaluated. Specific requirements are provided by each area.

Prerequisite(s): MUAM 5503.

May be repeated for credit as MUAG 5702 in piano and collaborative piano only.

MUAG 5800 - Advanced Choral Conducting

3 hours

Class is organized as an a cappella choir for performance practice; manipulating the group and the music.

Prerequisite(s): MUAG 3820 or equivalent.

May be repeated for credit.

MUAG 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.

Prerequisite(s): None.

Meets with MUAG 3800

MUAG 5810 - Choral Literature I

3 hours

Music from 1600–1750. Score study, listening, performance practice, technical demands and rehearsal requirements.

Prerequisite(s): None.

May be repeated for credit.

MUAG 5811 - Choral Literature II

3 hours

Music from 1750–1900. Score study, listening, performance practice, technical demands and rehearsal requirements.

Prerequisite(s): None.

MUAG 5812 - Choral Literature III

3 hours

Music from 1900 to the present. Score study, listening, performance practice, technical demands and rehearsal requirements.

Prerequisite(s): None.

MUAG 5815 - Symphonic Literature I

3 hours

Broad spectrum study of major symphonic works by major composers of the 18th, 19th and 20th centuries.

Prerequisite(s): Consent of instructor.

MUAG 5820 - Symphonic Literature II

3 hours

Broad spectrum study of works in the following categories: shorter and minor works by major composers, concerti, choral/orchestral works, solo vocal works for orchestra, opera.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MUAG 5850 - Advanced Instrumental Conducting

3 hours

Exercises to develop coordination of mind and hands; techniques of noted conductors; musical terms; score reading and actual conducting.

Prerequisite(s): MUAG 3800-3870 and consent of instructor.

Audition required. May be repeated for credit.

MUAG 5851 - Fundamentals of Score Reading

2 hours

Designed for conducting majors. Intense application of score study, interpretation, and analysis utilizing aural skills.

Prerequisite(s): Admittance to graduate major in instrumental or choral conducting.

MUAG 5860 - Symphonic Literature of the Wind Band I—Ancient through Classical

3 hours

Comprehensive survey and study of the important wind repertoire for large and smaller instrumental ensembles, from ancient times through the Classical Period. Topics include programming, analysis, interpretation, rehearsal problems and performance style.

Prerequisite(s): None.

May be repeated for credit.

MUAG 5861 - Symphonic Literature of the Wind Band II—French Revolution through Present

3 hours

Comprehensive survey and study of the important wind repertoire for large and smaller instrumental ensembles, from the French Revolution to the present. Topics include programming, analysis, interpretation, rehearsal problems and performance style.

Prerequisite(s): None.

MUAG 5890 - Topics in Music Performance and Pedagogy

1–3 hours

Selected topics in music performance and pedagogy that are not met by the regular offerings. Short courses and workshops on specific topics organized on a limited-offering basis.

Prerequisite(s): None.

May be repeated for credit.

MUAG 5900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUAG 5910 - Special Problems

1–3 hours

Prerequisite(s): None.

MUAG 6260 - Piano Literature

3 hours

Baroque and classical periods; recordings and student performances.

Prerequisite(s): None.

MUAG 6270 - Piano Literature

3 hours

Romantic period to present; recordings and student performances.

Prerequisite(s): None.

MUAG 6280 - Vocal Literature

3 hours

Seminar in song literature from 1500 to 1750 in all national styles, the Lied from 1750 to the present; stylistic analysis and historical significance.

Prerequisite(s): MUAG 5210 or equivalent.

Offered fall semester, odd-numbered years.

MUAG 6290 - Vocal Literature

3 hours

Seminar in song literature from 1750 to present from the French, British, American, and nationalistic repertoire; stylistic analysis and historical significance.

Prerequisite(s): MUAG 5210 or equivalent.

Offered fall semester, even-numbered years.

MUAG 6360 - Instrumental Literature

3 hours

Solo works for the student's major instrument.

Prerequisite(s): None.

MUAG 6370 - Instrumental Literature

3 hours

Chamber and orchestral works for the student's major instrument.

Prerequisite(s): None.

MUAG 6380 - Organ Literature

3 hours

To 1750.

Prerequisite(s): None.

MUAG 6390 - Organ Literature

3 hours

From 1750 to present.

Prerequisite(s): None.

MUAG 6850 - Advanced Score Reading and Interpretation (Band and/or Orchestra)

3 hours

Analysis of works of various styles and periods to determine interpretive dimensions, rehearsal and baton techniques. Conducting experience provided with performing organizations. Course content varies each term/semester.

Prerequisite(s): Examination and consent of college.

May be repeated for credit.

MUAG 6900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUAG 6910 - Special Problems

1–3 hours

Prerequisite(s): None.

Applied Gerontology

AGER 5200 - Seminar on Research Methods and Design

1–3 hours

Focuses on policy research and its implications for programs in aging and on techniques of evaluation of programs for the elderly.

Prerequisite(s): None.

AGER 5250 - Topics in Gerontology

1–3 hours

In-depth analysis and discussion of significant subjects in aging.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AGER 5350 - Basic Mediation Skills in Aging

3 hours

Utilizes negotiation and mediation principles and techniques to meet the dispute resolution training needs of individuals serving the elderly and their families. Included are such professionals as social workers, counselors, discharge planners, home health administrators, care managers, nursing home staff, adult protective service workers, ombudsmen, health and human services staff, and anyone else contracted to serve the elderly and their family members.

Prerequisite(s): None.

AGER 5420 - Introduction to Health Services Research

3 hours

Survey of the history of the development of the field of health services research; the interdisciplinary contributions of the disciplines of sociology, economics, anthropology, gerontology, political science and public health to the field; and the use of survey research to collect information on health status and health services utilization.

Prerequisite(s): None.

Same as ANTH 5220 .

AGER 5550 - Retirement and Retirement Preparation

1–3 hours

Investigation of retirement as a social institution with emphasis upon the implications for the individual and society. Includes rationale, content and methods involved in retirement planning programs.

Prerequisite(s): None.

AGER 5560 - Seminar on Minority Aging

3 hours

Examination of the current state of gerontological knowledge with regard to each of the federally designated minority groups in the United States: African-Americans, Asians/Pacific Islanders, Hispanics and Native Americans. Each student will have the opportunity to explore the state of knowledge about a particular group or a research issue across populations.

Prerequisite(s): None.

AGER 5600 - Housing for the Elderly: Planning, Public Policy and Research

1–3 hours

Theoretical, research and practical literature concerning housing alternatives is considered. Emphasis is on the four housing development stages: need assessment, financing, physical design and management of a housing site; and how theory, research and public policy relate to each of these issues.

Prerequisite(s): None.

AGER 5700 - Social Gerontology

1–3 hours

Demographic, social and cultural aspects of aging, with particular emphasis upon American society and the types of problems encountered by older people.

Prerequisite(s): None.

Same as SOCI 5700.

May be repeated for credit as topics vary.

AGER 5750 - Processes of Aging

1–3 hours

Advanced seminar in social gerontology with emphasis upon psychosocial changes associated with aging.

Prerequisite(s): None.

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.

Prerequisite(s): None.

AGER 5770 - Program Evaluation in Aging Services

3 hours

Designed to provide students with the basic skills and perspectives required to undertake evaluations of health and social programs for the aged, and to assess the merits of program evaluations conducted by others. Emphasis is placed on the unique service needs of older persons; the distinctive character of the facilities, agencies and programs that serve them; and special challenges faced by those who attempt to assess the benefits of such efforts.

Prerequisite(s): None.

AGER 5780 - Federal, State and Local Programs in Aging

1–3 hours

History of social policy in aging; derivations and directions of public policy, interrelationships of agencies; discussion of selected programs and services for the aged.

Prerequisite(s): None.

AGER 5790 - Needs Assessment, Program Planning and Evaluation in the Services for the Elderly

3 hours

Principles, techniques and skills used to identify the needs of elders at the community level and to design and evaluate programs individually tailored to meet those needs in such areas as access, health, nutrition, housing, income maintenance, employment, personal support, and training and education.

Prerequisite(s): None.

AGER 5800 - Grant Proposal Writing for Aging Services

1–3 hours

Today's health, social and housing programs for older persons are rarely self-supporting. Government funding, insurance payments and client fees cover only a portion of the cost of delivering needed services. As a result, a program's success depends on its ability to secure other types of income. This course provides the skills needed to conceive, prepare and submit successful proposals for external funding of innovative human service projects for the elderly. As part of the course, each student will develop a proposal designed to help a community program respond to a specific problem facing the aged.

Prerequisite(s): None.

AGER 5810 - Seminar on Administration of Programs in Aging

3 hours

Management of residential and community-based programs for the elderly, focusing on employment and personnel issues; provision and oversight of services to clients; government regulation; marketing and fundraising; relations with families, volunteers and the public; and other topics pertinent to the administration of these programs.

Prerequisite(s): None.

May be repeated for credit.

AGER 5840 - Internship in Administration of Programs in Aging

3 hours

Five-hundred-clock-hour practicum in approved agency serving the aged.

Prerequisite(s): None.

Credit awarded only upon completion of internship. Pass/no pass only.

AGER 5850 - Internship in Administration of Programs in Aging

3 hours

Five-hundred-clock-hour practicum in approved agency serving the aged.

Prerequisite(s): None.

Credit awarded only upon completion of internship. Pass/no pass only.

AGER 5860 - Seminar on the Psychology of Aging

1–3 hours

Theoretical and research literature concerned with the psychological aspects of aging. Age-related changes in physical, perceptual and cognitive processes are considered with regard to their effects on the occupational, social and personal adjustments and motivations of the aging adult.

Prerequisite(s): None.

Same as PSYC 5860.

AGER 5890 - Psychological Counseling for Late Maturity and Old Age

1–3 hours

Study of the predictable and normal dependencies of aging; techniques of individual, family and group counseling applied to later life with emphasis on problems of retirement, health and bereavement.

Prerequisite(s): None.

Same as PSYC 5890.

AGER 5900 - Special Problems

1–3 hours

Individual study assigned with consent of major professor and instructor.

Prerequisite(s): None.

AGER 5910 - Special Problems

1–3 hours

Individual study assigned with consent of major professor and instructor.

Prerequisite(s): None.

AGER 5960 - Studies in Aging Institute

1–3 hours

Scheduled regularly for participants in institutes.

Prerequisite(s): None.

May be repeated for credit. No more than 6 hours allowed for regular students.

AGER 5970 - Studies in Aging Institute

1–3 hours

Scheduled regularly for participants in institutes.

Prerequisite(s): None.

May be repeated for credit. No more than 6 hours allowed for regular students.

AGER 6150 - Theories of Aging

3 hours

Intensive analysis of the theories of aging that have been advanced by researchers in the social and behavioral sciences from 1950 to the present.

Prerequisite(s): A minimum of 12 hours in gerontology, including AGER 4550 or AGER 5700, or equivalent.

AGER 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.

Prerequisite(s): None.

AGER 6500 - Regulatory Strategies

3 hours

Introduction to current issues and strategies in the regulation of health care service delivery and other benefits to older Americans; development of a general awareness of the intended and unintended impacts of regulations governing benefits to older adults and their families.

Prerequisite(s): Admission to the doctoral program in applied gerontology, or consent of instructor.

AGER 6700 - Formal Organization of Aging Services

3 hours

Provides students with an understanding of the nature, structure and functioning of large-scale organizations in the field of aging. Rational and conflict models from the social and managerial sciences are used to analyze the creation, operation, growth, transformation and decline of governmental agencies, and for-profit and not-for-profit service providers, including federal institutes, regulatory agencies, advocacy organizations, foundations, long-term care facilities and companies, home care programs and continuing care retirement communities.

Prerequisite(s): Admission to the doctoral program in applied gerontology, or consent of instructor.

AGER 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.

Prerequisite(s): None.

AGER 6750 - Global Perspectives on the Future of Aging

3 hours

The growing proportion of older persons worldwide, in both high-income and low-income societies, is redefining what it means to be old, the relationship between young and old, and the place of the aged in society. Our expectations about what older people can and should expect from society and, in turn, what society may expect from them, are changing. These changes are evident in the institutions of work, family, education and politics. This course explores current trends in individual and population aging and their implications for future societies in which even larger numbers of individuals will live to an even more advanced age.

Prerequisite(s): Admission to the doctoral program in applied gerontology, or consent of instructor.

AGER 6770 - Program Evaluation in Aging Services

3 hours

Methods of evaluation in aging services, emphasizing the special issues associated with defining, measuring and determining program impacts for older patients and clients. Evaluation techniques and examples drawn from the aging services network encompass needs assessment, setting objectives, selecting and implementing programs and interventions, determining program outcomes and making recommendations for improved program functioning. Each student is involved in evaluating a program in the field of aging.

Prerequisite(s): Admission to the doctoral program in applied gerontology, or consent of instructor.

AGER 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.

Prerequisite(s): None.

AGER 6800 - Social Policy and Aging

3 hours

Examination of the impact of public policies related to an aging society in the U.S. as well as in other nations. Policies related to income security, support services, access to health care, institutional services and housing access are reviewed.

Prerequisite(s): Admission to the doctoral program in applied gerontology or related doctoral program.

AGER 6840 - Practicum in Applied Gerontology

1–6 hours

Field experience in an agency or facility servicing the aging population or dealing with aging issues, allowing the doctoral candidate to contribute to program operation or the formulation of policy through the conduct of systematic inquiry.

Prerequisite(s): None.

AGER 6850 - Special Topics in Applied Gerontology

3 hours

Organized classes specially designed to accommodate needs of students and the demands of program development that are not met by regular offerings.

Prerequisite(s): Consent of department.

Limited-offering basis; may be repeated for credit.

AGER 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.

AGER 6900 - Special Problems

1–9 hours

Research by doctoral students in a field of special interest. Includes projects, research studies and intensive reading programs.

Prerequisite(s): None.

AGER 6910 - Special Problems

1–9 hours

Research by doctoral students in a field of special interest. Includes projects, research studies and intensive reading programs.

Prerequisite(s): None.

AGER 6950 - Doctoral Dissertation

3–9 hours

Twelve credit hours required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing the qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Applied Technology, Training and Development

ATTD 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

ATTD 6910 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

ATTD 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Archaeology

ARCH 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. 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.

Art

ART 5200 - Contemporary Architecture

3 hours

Biological, structural and social problems of human shelter; analysis of achievement in contemporary architecture.

Prerequisite(s): None.

ART 5450 - Professional Internship

3–6 hours

In-training programs offered in cooperation with approved businesses and professional organizations with career connections to the studio arts.

Prerequisite(s): 12 hours and approval of instructor.

ART 5700 - Seminar in University Art Teaching

3 hours

Study of problems unique to university art faculty; professional practices in various fields of art teaching.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ART 5813 - Digital Art Studio

3 hours (2;4)

Topics classes, focusing on new and experimental subject matter in the digital media environment.

Prerequisite(s): None.

ART 5900 - Special Problems

1–3 hours

Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): None.

Not to be registered for except when other graduate courses are not available. Registration permitted only with consent of college. A maximum of 3 semester hours of credit for each course.

ART 5910 - Special Problems

1–3 hours

Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): None.

Not to be registered for except when other graduate courses are not available. Registration permitted only with consent of college. A maximum of 3 semester hours of credit for each course.

ART 5920 - Research Problems in Lieu of Thesis

3 hours

Research dealing with significant problems in the field of art. Student must mount an MFA exhibition as part of course requirements.

Prerequisite(s): None.

Course open to MFA students who are doing a project in lieu of a thesis.

ART 5930 - Research Problems in Lieu of Thesis

3 hours

Research dealing with significant problems in the field of art. Student must mount an MFA exhibition as part of course requirements.

Prerequisite(s): None.

Course open to MFA students who are doing a project in lieu of a thesis.

ART 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of college. 6 hours credit required. No credit assigned until thesis has been completed and filed with graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

ART 6900 - Special Problems

1–3 hours

Conference courses for doctoral students. Directed reading and research in fields of special interest.

Prerequisite(s): None.

ART 6910 - Special Problems

1–3 hours

Conference courses for doctoral students. Directed reading and research in fields of special interest.

Prerequisite(s): None.

ART 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of college. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Art Education and Art History

AEAH 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.

Prerequisite(s): None.

May be repeated for credit for a maximum of 12 hours.

AEAH 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. Offers the opportunity to analyze and reflect on the nature of the urban (and extra-urban) experience. Discussions consider the contradictions of the city, such as connections and differences, transience and permanence, public and private, work and enjoyment, and inclusion and isolation. The readings are not exhaustive. Rather the course offers a broad examination of historical and contemporary discourses that inform and orient urban art 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.

Prerequisite(s): Admission to MA with a major in art education with a concentration in urban art education studies or consent of instructor.

AEAH 5712 - Communities, Schools, and Museums

3 hours

Introduction to community, school and museum partnerships and pedagogies. Includes site visits to city museums and guest lectures from museum professionals, school teachers, and community groups engaged in building relationships and empowering learners across institutions.

Prerequisite(s): Admission to MA with a major in art education with a concentration in urban art education studies or consent of instructor.

AEAH 5714 - Aesthetic Inquiry with Urban Youth and Communities

3 hours

Explores multiple ways of dialoguing and inquiring into art that can be adapted to educational sites including city museums, urban school art classrooms, and community arts programs. The goal is to expand how children and youth understand what art is, how it functions in a sociocultural context, how we value art, and finally, how art affects the body and the senses. Through these modes of inquiry and dialogue, students learn how to reflect on their experiences of art, articulate these experiences to others, and develop heightened sensitivity toward and appreciation of the power of the arts.

Prerequisite(s): Admission to MA with a major in art education with a concentration in urban art education studies or consent of instructor.

AEAH 5716 - Seminar in Urban Art Education Studies

3 hours

Introduces students to special topics relevant to urban art education theory, practice and research.

Prerequisite(s): 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.

AEAH 5718 - MA Project in Urban Art Education Studies

3 hours

Capstone course for MA with a major in art education and concentration in urban art education studies. Practice-oriented investigation of a problem in the field of urban art education studies that is acted upon, studied, and relayed in an oral presentation and written formal report.

Prerequisite(s): AEAH 5787. Admission to the MA with a major in art education and concentration in urban art education studies.

May be repeated for credit for a maximum of 6 hours.

AEAH 5750 - Theory and Practice of Teaching Elementary and Secondary Art

3 hours

Examines how educational and art educational theory inform contemporary art education practice in both elementary and secondary art classrooms. In addition to scheduled class meetings, students are required to complete 55 hours (half in an elementary art classroom, half in a secondary art classroom) of observation at an assigned location.

Prerequisite(s): Admission to the MA program in art education (Option III).

Students must contact instructor prior to registration to arrange for observation assignments and to complete required paperwork/criminal history forms.

AEAH 5753 - Contemporary Trends in Art Education

3 hours

The relation between theory and practice in art education is introduced and examined through analysis of topics currently affecting the field.

Prerequisite(s): Admission to a graduate program in art education or consent of instructor.

May be repeated for credit as topics vary for a maximum of 12 hours.

AEAH 5757 - History and Philosophy of Art Education

3 hours

Seminar explores the history and philosophy of education in relationship to the teaching of art in public schools and higher education.

Prerequisite(s): Admission to a graduate program in art education or consent of instructor.

AEAH 5760 - Seminar in Art Education

3 hours

Selected problems in art education, theory and practice.

Prerequisite(s): Admission to a graduate program in art education or consent of instructor.

May be repeated for credit as topics vary for a maximum of 12 hours.

AEAH 5763 - Politics of Aesthetics

3 hours

Examination of aesthetics in the visual arts through visual discrimination and critical thinking in relationship to the historical and socio-political influences. Application of the theories of aesthetics and criticism to curriculum development.

Prerequisite(s): None.

May be repeated for credit as topics vary for a maximum of 9 hours.

AEAH 5767 - Issues and Applications of Technology in Art Education

3 hours

Historical and philosophical issues related to the use of technology and digital imagery in the art classroom as well as advanced application of technology to enhance the acquisition of and manipulation of knowledge and imagery.

Prerequisite(s): AEAH 5750 or consent of instructor.

AEAH 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.

Prerequisite(s): None.

May be repeated for credit as topics vary for a maximum of 9 hours.

AEAH 5773 - Curriculum Theory in Art Education

3 hours

Processes for developing and sequencing the curriculum and methodologies for the assessment of educational programs and student learning in art for elementary and secondary public schools and higher education.

Prerequisite(s): None.

May be repeated for credit as topics vary for a maximum of 9 hours.

AEAH 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.

Prerequisite(s): None.

May be repeated for credit as topics vary for a maximum of 9 hours.

AEAH 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.

Prerequisite(s): None.

May be repeated for credit as topics vary up to a maximum of 6 hours.

AEAH 5777 - Politics and Advocacy I

3 hours

Introduces students to the importance of effective advocacy and political action in relation to the arts with a focus on the local level, e.g., local arts agencies, school boards and city government. Students examine important issues in the arts and arts education worthy of advocacy and political action at this level; review the literature, print and electronic, related to advocacy and political action; and identify exemplary advocacy efforts in the arts and arts education by local groups. Students develop skills in identifying and analyzing issues and public policy in the arts, understanding constituencies with whom advocates must work and developing advocacy plans.

Prerequisite(s): Admission to the graduate program in art education or consent of instructor.

AEAH 5778 - Politics and Advocacy II

3 hours (0;0;3)

Builds on Politics and Advocacy I, continuing to involve students in effective advocacy and political action in relation to the arts with an emphasis on state and federal groups. Students continue to examine important issues in the arts and arts education, especially those with a state or national focus that are worthy of advocacy and political action. Students review the literature, print and electronic, related to advocacy and political action at the state and national levels and identify exemplary advocacy efforts in the arts and arts education by state and national groups. Students develop skills in tracking legislation, identifying and analyzing issues and public policy in the arts, understanding constituencies with whom advocates must work, grant writing, and developing advocacy plans and accompanying tool kits.

Prerequisite(s): AEAH 5777 or consent of instructor.

AEAH 5779 - Phenomenological Theory and Research 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.

Prerequisite(s): None.

May be repeated for credit as topics vary for a maximum of 9 hours.

AEAH 5780 - Seminar in Art Education Reform

3 hours

The demand for educational reform in today's schools powerfully affects art education. Current reform initiatives are examined through the lenses of theory development, program implementation and the human dynamic.

Prerequisite(s): Admission to the graduate program in art education or consent of instructor.

AEAH 5781 - Contemporary Art and Theory Pedagogy

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.

Prerequisite(s): None.

AEAH 5787 - Introduction to Research in Art Education

3 hours

Study of research techniques and their applications in the field of art education; preparation of a prospectus.

Prerequisite(s): Admission to the graduate program in art education or consent of instructor.

AEAH 5788 - Advanced Research Methods in Art Education

3 hours

Students conduct an in-depth investigation of a research methodology used by art education and education researchers, including epistemological, methodological, and ethical issues and debates that surround it.

Prerequisite(s): AEAH 5787.

May be repeated for credit as topics vary for a maximum of 9 hours.

AEAH 5790 - Art Institute

1–3 hours

For current students and students accepted by the university as participants in special institute programs.

Prerequisite(s): None.

AEAH 5799 - MA Project

6 hours

Practice-oriented investigation on a problem in the field of art or museum education, which is acted upon, studied, and relayed in an oral presentation and written formal report.

Prerequisite(s): AEAH 5787. Completion of all other master's degree program courses.

Course open to MA students in art education.

AEAH 5800 - Methodologies of Art History and Visual Culture

3 hours

Examination of methodologies associated with art history and visual culture studies. Taught as a seminar, with emphasis on readings, oral presentations, and written assignments.

Prerequisite(s): Admission to the MA in art history.

Required of MA art history students. May not be repeated.

AEAH 5801 - Topics in Art History

3 hours

Research and study in selected topical areas in art history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5805 - Seminar in Medieval Art

3 hours

Selected problems in Medieval art.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5806 - Seminar in Renaissance Art

3 hours

Selected problems in Renaissance art.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5807 - Seminar in Seventeenth-Century Art

3 hours

Selected problems in 17th-century art.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5809 - Seminar in Eighteenth-Century Art

3 hours

Selected problems in 18th-century art.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5811 - Seminar in Nineteenth-Century Art

3 hours

Selected problems in 19th-century art.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5813 - Seminar in Twentieth- and Twenty-First–Century Art

3 hours

Selected problems in 20th- and 21st-century art.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5817 - Seminar in American Art

3 hours

Selected problems in American art.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5818 - Seminar in Latin American Art

3 hours

Selected problems in Latin American art.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5819 - Seminar in Native American Art

3 hours

Selected problems in native North American art.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5821 - Seminar in Pre-Columbian Art

3 hours

Arts of the Pre-Columbian cultures of Mesoamerica.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5824 - Seminar in Asian Art

3 hours

Selected problems in the arts of Asia.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5825 - Seminar in Islamic and/or Middle Eastern Cultures

3 hours

Selected problems in the arts of the Islamic and/or Middle Eastern cultures.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5840 - Topics in the History of Crafts

3 hours

Selected topics in the history of crafts.

Prerequisite(s): None.

AEAH 5842 - History of Graphic Design

3 hours

Provides economic, political, social and technological perspectives on the work that has been created and disseminated by designers of visual communications, particularly over the course of the last 125 years, in a manner that makes their endeavors relevant to the design world of today and to contemporary society. Students gain an understanding of the major movements, styles and figures in the world of visual communication design that have emerged around the world since the latter portion of the 19th century.

Prerequisite(s): None.

AEAH 5843 - History of Photography

3 hours

Selected problems in the history of photography.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5844 - History of Prints

3 hours

Selected problems in the history of prints.

Prerequisite(s): None.

May be repeated for credit as topics vary.

AEAH 5845 - Seminar in the History of Architecture and Design

3 hours

Selected problems in the history of architecture and design.

Prerequisite(s): None.

AEAH 5848 - Seminar in Art History

3 hours

Research and study in selected topical areas of art history.

Prerequisite(s): None.

For art history majors only. May be repeated for credit as topics vary.

AEAH 5849 - Art History Research Project

6 hours

Research and writing on a significant problem in the field of art history.

Prerequisite(s): AEAH 5800. Successful completion of at least 21 hours of master's degree program courses; department language requirement satisfied.

Course open to MA students in art history.

AEAH 5935 - Proseminar in Art Education and Art History

1.5 hours

Study of correspondence in the histories, methodologies, theories and practices of art education and art history, with an emphasis on visiting lecturers, readings, discussion, and individual and collaborative presentations and written assignments. Course topic changes annually.

Prerequisite(s): Admission to the MA in either art education or art history, the doctoral program in art education, or consent of instructor.

May not be repeated.

AEAH 5940 - Seminar in Art Museum

3 hours

Study of the functions of an art museum collection, preservation, exhibitions, research and interpretation of art objects. Visits to North Texas museums required.

Prerequisite(s): None.

AEAH 5942 - Seminar in Art Museum Education I

3 hours

Applied study of the practice of art museum education. Emphasis on teaching, writing and program development for multiple audiences in the art museum.

Prerequisite(s): Admission to an art graduate degree and museum certification program, or consent of instructor.

AEAH 5945 - Seminar in Art Museum Education II

3 hours

Study of contemporary and historical issues regarding the educational function of art museums. Concentration on object-based learning, pedagogical theory and audience identification.

Prerequisite(s): AEAH 5942, or consent of instructor.

AEAH 6700 - Orientation to Graduate Studies in Art Education

3 hours

Orientation to both the research and professional skills necessary for students of art education to proceed through their graduate studies.

Prerequisite(s): None.

AEAH 6750 - Issues in Pre-Service Art Education

1–3 hours

Investigation of issues relevant to pre-service education in art at the university level.

Prerequisite(s): Admission to the doctoral program in art education or consent of instructor.

AEAH 6783 - Multimedia: Theory and Practice in the Arts

3 hours

Explores new media in the arts, both in theory and in practice, particularly as it can be used in arts leadership.

Prerequisite(s): Admission to the doctoral program in art education or consent of instructor.

Audiology and Speech-Language Pathology

ASLP 5060 - Practicum in Speech-Language Pathology and Audiology

1–3 hours

Diagnostic and management experiences in a variety of clinical settings. Requirements: the first enrollment for students with no previous clinical practicum in the UNT Speech and Hearing Center must be in a fall or spring term/semester; a 3.0 GPA must be maintained in department graduate courses for subsequent enrollments. Students who enter the program with inadequate preparation for graduate clinical practicum will be required to gain experience in a SPHS 4060 enrollment.

Prerequisite(s): Admission to a graduate degree program in speech and hearing sciences.

Pass/no pass only.

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.

ASLP 5070 - Clinical Management in Communication Disorders

1 hour

Provides information on therapeutic management, opportunities for student to develop professional competence and skills through case staffings, interdisciplinary interactions and discussion of current trends and issues.

Prerequisite(s): None.

Corequisite(s): ASLP 5060.

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): ASLP 4050 or consent of instructor.

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): ASLP 4050 or consent of instructor.

ASLP 5755 - Neuromotor Speech Disorders

3 hours

Study of neurologically based communication disorders such as cerebral palsy, dysarthria, apraxia and demyelinization.

Prerequisite(s): None.

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.

Prerequisite(s): Minimum of three prior/present enrollments in ASLP 5060 or consent of instructor.

ASLP 5780 - Diagnostics Speech Pathology

3 hours

Philosophical and practical considerations of the diagnostic process: current principles, methods, techniques.

Prerequisite(s): None.

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): None.

ASLP 5810 - Voice Disorders

3 hours

Principles, methods and techniques of evaluation and management of voice disorders.

Prerequisite(s): None.

ASLP 5820 - Language Development

3 hours

Stages of normal language acquisition in children, with consideration of current psycholinguistic theory and research issues.

Prerequisite(s): None.

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): None.

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): ASLP 3035 and ASLP 4040, or equivalents.

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): None.

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): ASLP 3035 and ASLP 4040, or equivalent.

ASLP 5870 - Seminar in Speech-Language Pathology

1-4 hours

Consideration of current research, clinical or professional trends and issues in speech-language pathology.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ASLP 5920 - Research Problems in Lieu of Thesis

1-3 hours

Prerequisite(s): None.

ASLP 5950 - Master's Thesis

3 or 6

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): None.

May be repeated for credit.

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.

Prerequisite(s): None.

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.

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.

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 staffings, interdisciplinary interactions and discussions of current trends and issues.

Prerequisite(s): None.

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.

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.

Prerequisite(s): ASLP 3025 and ASLP 4050 or consent of instructor.

ASLP 6650 - Audiologic Assessment

3 hours

Fundamental principles and clinical application of pure tone and speech audiometry.

Prerequisite(s): None.

ASLP 6660 - Hearing Science

3 hours

Physical and psychological aspects of audition.

Prerequisite(s): None.

ASLP 6670 - Medical Audiology

3 hours

Functional anatomy, physiology and neurology of the hearing mechanism as applied to various pathologies and their otological management.

Prerequisite(s): ASLP 6200.

ASLP 6680 - Pediatric Audiology

2 hours

Clinical evaluation and audiological management of children with normal hearing, hearing impairment, developmental delay and special considerations.

Prerequisite(s): ASLP 6650 or equivalent.

ASLP 6690 - Hearing Aids I

3 hours

Physical characteristics and clinical aspects of auditory amplification for the hearing impaired.

Prerequisite(s): ASLP 6650, ASLP 6660, or equivalents.

ASLP 6695 - Hearing Aids II: Strategies for Selecting and Fitting Hearing Aids

2 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.

ASLP 6730 - Seminar in Audiology

1-3 hours

Consideration of current research, clinical or professional trends, and issues in audiology.

Prerequisite(s): ASLP 6650.

May be repeated for credit as topics vary.

ASLP 6750 - Advanced Audiologic Assessment

3 hours

Application of pure tone, speech audiometry and electrophysiological measures to complex auditory problems.

Prerequisite(s): ASLP 6650, ASLP 6700 , or equivalents.

ASLP 6770 - Electrophysiologic Assessment

4 hours

Consideration of electrical potentials in the cochlea; electrical activity in the auditory nerve and brain stem; methodological considerations in studies of human evoked potentials; normal and abnormal cochlear, auditory nerve and brain stem responses. Otoacoustics emissions evoked and emitted and their clinical applications.

Prerequisite(s): ASLP 6650.

ASLP 6800 - (Re)Habilitative Audiology for Adults and Children

4 hours

(Re)Habilitative management of 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.

Prerequisite(s): None.

Required course for AuD.

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.

Prerequisite(s): None.

May be repeated for credit.

ASLP 6990 - Research Project

3 hours

Faculty-directed research project that may be a prospective study of a selected aspect of auditory evaluation or rehabilitation, a retrospective analysis of existing audiologic databases, a historical survey of a particular problem area, or a feasibility study of an existing or proposed evaluation or intervention technique.

Prerequisite(s): PSYC 2317 or MATH 1680 or equivalent and ASLP 5775.

May be repeated for credit.

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.

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.

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.

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.

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.

Behavior Analysis

BEHV 5000 - Observation and Measurement of Behavior and Environment

3 hours

Examination of the factors to be considered in observing and measuring behavior and environment; methods of recording data with emphasis on the conditions under which each method is most appropriate.

Prerequisite(s): None.

BEHV 5010 - Experimental Analysis of Behavior

3 hours

Reviews classical experimental literature in behavior analysis. Compares methodology to that in natural and social sciences. Special emphasis on experimental analysis of human behavior.

Prerequisite(s): None.

BEHV 5020 - Theory and Philosophy in Behavior Analysis

3 hours

Study of the conceptual framework of behavior analysis; studies epistemological issues and nature of scientific explanation; examines common misconceptions and provides theoretical foundations for applications and basic research.

Prerequisite(s): None.

BEHV 5028 - Autism I: Conceptual/Methodological Issues in Applied Behavior Analysis

3 hours

Describes basic conceptual and methodological issues involved in behavioral treatment of children with autism. Topics studied include theories and controversies regarding etiology and assessment, distinctions between behavioral and alternative approaches to treatment, comparisons of treatment formats, and critical review of curriculum options.

Prerequisite(s): None.

Corequisite(s): Behavior analysis majors must take BEHV 5810 concurrently with BEHV 5028.

BEHV 5029 - Autism II: Applied Behavior Analysis Research and Practice

3 hours

Describes research and practice associated with the scientist-practitioner model of applied behavior analysis intervention for young children with autism. Students conduct comprehensive reviews of experimental literature in the three critical areas of autism intervention and learn to evaluate this literature according to accepted rules of scientific evidence. Students propose and implement an intervention that addresses at least one experimental question and extends existing scientist/practitioner literature. Students complete projects that translate research findings to practice.

Prerequisite(s): BEHV 5028, BEHV 5810. Behavior analysis majors must have received an A in BEHV 5810 and BEHV 5028.

Corequisite(s): Behavior analysis majors must take BEHV 5815 (second practicum) concurrently with BEHV 5029.

BEHV 5030 - Applied Behavior Analysis and Autism III: Supervision and Training

4 hours

Describes behavioral intervention literatures as they relate to the change agents responsible for treatment implementation. Students design and implement change agent data collection systems, training packages and complete extensive practical training. Students also explore issues in the funding and systems involved in the provision of treatment.

Prerequisite(s): BEHV 4000.

BEHV 5100 - Introduction to Behavior Analysis

3 hours

Defines and delimits the subject matter of behavior analysis. Examines the principles that describe behavioral processes and distinguishes the learned and unlearned components of operant and respondent behavior. Relates behavior change procedures to the processes accounting for learned behavior.

Prerequisite(s): None.

BEHV 5130 - Basic Behavior Principles

3 hours

First in a sequence of 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.

Prerequisite(s): None.

The course sequence has been designed to meet minimum course content specified by the Behavior Analysis Certification Board as part of the requirements for certification.

BEHV 5140 - Research Methods in Behavior Analysis

3 hours

Overview of strategies and tactics of experimental design in behavior analysis. Includes strengths and weaknesses of single organism methodology in basic and applied research. Topics include issues of experimental logic, experimental control, variability, data analysis and display, and interpretation of experimental findings.

Prerequisite(s): None.

BEHV 5150 - Techniques in Applied Behavior Analysis

3 hours

Analysis of problems in behavioral terms. Selection of management strategy and behavior change techniques, including behavioral contracting, contingency management, programmed instruction, removal or reduction of environmental stressors. Consideration of ethical issues, including informed consent, need for non-coercive or at least restrictive intervention. Supervised practical experience.

Prerequisite(s): None.

BEHV 5170 - Research and Applications in Behavior Analysis

3 hours

Third in a sequence of 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.

BEHV 5250 - Topics in Behavior Analysis

3 hours

In-depth analysis and discussion of significant topics in behavior analysis. Topics include but are not limited to the following: philosophy of measurement of behavioral phenomena; rule-governed vs. contingency-governed behavior; the creation of settings and interpersonal dynamics; legal, ethical and professional issues in behavior analysis.

Prerequisite(s): None.

BEHV 5330 - Verbal Behavior and the Analysis of Human Behavior

3 hours

Use of behavior analysis in understanding the nature and development of human communication. Explores how and why communication fails; develops guidelines for enhancing communication through understanding of the underlying behavioral processes.

Prerequisite(s): None.

BEHV 5540 - Legal, Ethical and Professional Issues in Behavior Analysis

3 hours

Addresses and reviews the effects of court decisions in development and implementation of behavioral interventions, ethical requirements of the Behavior Analysis Certification Board, and professional conduct in treatment, intervention and consultation settings. Topics include accountability, confidentiality, quality of services, quality of life, emergency management, research, professional collaborations and ethical safeguards.

Prerequisite(s): None.

BEHV 5560 - Development of Behavior Intervention Programs

3 hours

Focus is on the integrated components of behavioral programming. Includes developing behavioral objectives, functional analysis, design of intervention procedures, evaluative criteria and the integration of these components into a readable document.

Prerequisite(s): None.

BEHV 5570 - Training and Supervision of Staff in Human Service Settings

3 hours

Includes analysis of political and social contingencies existing in most institutional settings. Describes training considerations and ways to establish a positive work environment for staff and clients. Principles underlying effective supervisory practices are described.

Prerequisite(s): None.

BEHV 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.

BEHV 5611 - Applied Behavior Analysis Change Fundamentals and Techniques

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 5610 (may be taken concurrently).

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 5610 (may be taken concurrently).

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 5610 (may be taken concurrently), BEHV 5612 (may be taken concurrently).

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 5611, BEHV 5612, BEHV 5613.

BEHV 5615 - Improving Staff Performance in Applied Behavior Analysis

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 5610, BEHV 5611, BEHV 5612, BEHV 5613.

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 5610 (may be taken concurrently), BEHV 5612 (may be taken concurrently), BEHV 5613 (may be taken concurrently).

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).

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 5610, BEHV 5612, BEHV 5613 (may be taken concurrently), BEHV 5616 (may be taken concurrently), BEHV 5618 (may be taken concurrently).

BEHV 5620 - ABA Issues: Autism Intervention Across the Lifespan

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 5610, BEHV 5611, BEHV 5612, BEHV 5613.

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 5611, BEHV 5612, BEHV 5613.

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 5610, BEHV 5612, BEHV 5613, BEHV 5616 (may be taken concurrently), BEHV 5618 (may be taken concurrently), BEHV 5619 (may be taken concurrently).

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 5611, BEHV 5612, BEHV 5613.

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 5611, BEHV 5612, BEHV 5613.

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 5611, BEHV 5612, BEHV 5613.

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 5611, BEHV 5612, BEHV 5613.

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 5610, BEHV 5612, BEHV 5613, BEHV 5616, BEHV 5618 (may be taken concurrently), BEHV 5619 (may be taken concurrently), BEHV 5622 (may be taken concurrently).

BEHV 5630 - ABA Capstone: The Promise and Power of a Science of Behavior

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 5610, BEHV 5611, BEHV 5612, BEHV 5613, BEHV 5614, BEHV 5615.

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 5610, BEHV 5612, BEHV 5613, BEHV 5616., BEHV 5618, BEHV 5619 (may be taken concurrently), BEHV 5622 (may be taken concurrently), BEHV 5627 (may be taken concurrently)

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 5610, BEHV 5612, BEHV 5613, BEHV 5616, BEHV 5618, BEHV 5619, BEHV 5622 (may be taken concurrently), BEHV 5627 (may be taken concurrently), BEHV 5634 (may be taken concurrently).

BEHV 5810 - Practicum

2 hours (0;0;2)

Students work in a small group in a field setting under the immediate supervision of a faculty member in the department. The purpose of this practicum is to provide experience in applying behavioral principles in a setting where faculty feedback is continuously available.

Prerequisite(s): None.

BEHV 5815 - Practicum

1 hour (0;0;1)

Students work individually or in pairs on a project in any of a variety of applied settings. They are supervised by faculty through weekly meetings and occasional on-site observation. Project must be pre-approved, in writing, by faculty supervisor before registration. Practicum projects typically require about 100 clock hours (including time in the field and time meeting with supervisor). The purpose of this practicum is to provide the student with experience in planning and implementing behavior change.

Prerequisite(s): BEHV 5810.

May be repeated for credit.

BEHV 5820 - Internship

3 hours (0;0;3)

Students work in the field, under the supervision of a qualified behavior analyst, in a setting of their choice for a period of 6 weeks. Internship settings include (but are not limited to) agencies serving persons with developmental disabilities, business and industry, consulting firms, research facilities, schools and offices of physicians, psychologists and other private practitioners.

Prerequisite(s): BEHV 5810, BEHV 5815.

BEHV 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of independent work in a specific area of interest. Outline of problem and proposed activities must be submitted in writing to faculty and approved in advance of registration.

Prerequisite(s): None.

BEHV 5910 - Special Problems

1–3 hours

Open to graduate students who are capable of independent work in a specific area of interest. Outline of problem and proposed activities must be submitted in writing to faculty and approved in advance of registration.

Prerequisite(s): None.

BEHV 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit given until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

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): BEHV 5000, BEHV 5010, BEHV 5100 and BEHV 5140, or equivalents.

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): BEHV 5010, BEHV 5020, BEHV 5140 and BEHV 5330, or equivalents.

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): BEHV 5000, BEHV 5010, BEHV 5100, BEHV 5140, or equivalents.

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): BEHV 5140, BEHV 6010, BEHV 6020, BEHV 6140, or equivalents.

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.

BEHV 6400 - Behavioral Interventions in Health and Medicine

3 hours

Course is constructed around a series of cases in which behavioral interventions are planned to improve health, prevent disease, or mitigate the effects of chronic health problems of individuals. A behavioral analysis of the problem in the context of individuals' overall repertoire and life circumstances is followed by design of an intervention plan based on behavioral principles. Problems likely to need resolution for successful intervention are identified and addressed.

Prerequisite(s): None.

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): BEHV 5000, BEHV 5010, BEHV 5100, BEHV 5140, or equivalents; BEHV 6020, BEHV 6200.

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): BEHV 5000, BEHV 5010, BEHV 5100, BEHV 5140, or equivalents; BEHV 6010, BEHV 6020, BEHV 6140.

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): BEHV 5000, BEHV 5010, BEHV 5100, BEHV 5140, BEHV 6810, or equivalents.

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.

Prerequisite(s): None.

EDBE 5570 - Assessing Language and Content Learning in EC–12 Bilingual and English as a Second Language Education

3 hours

Examination of issues related to assessment of language proficiency and cognitive abilities of EC–12 English language learners, including the importance of appropriate diagnostic testing to the teaching and learning process; a review of potential cultural bias in EC–12 assessment procedures for assessing eligibility of EC–12 students for special language programs.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

Placement through departmental Spanish proficiency test.

EDBE 5590 - Pedagogy of English as a Second Language for EC–12 Classrooms

3 hours

Examination of appropriate procedures and materials for academic content instruction and language development for English Language Learners (ELLs). Topics to be explored include structured and unstructured techniques for teaching ELLs, the relationship between oral language development and literacy skills, the development of literacy skills in English for students who are not literate in the first language and methods for effective sheltered English instruction. Emphasis placed on inclusion of all learners.
Note. - 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.

Prerequisite(s): None.

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 linguistically and culturally diverse educational contexts and communities.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EDBE 5680 - Diversity 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.

Prerequisite(s): None.

Biochemistry

BIOC 5340 - Biochemistry and Molecular Biology of the Gene

3 hours

Mechanisms and regulation of genetic expression, chromosome replication, mutagenesis and DNA repair, and gene cloning in prokaryotic and eukaryotic systems.

Prerequisite(s): At least one of the following: BIOL 3510/BIOL 3520, BIOL 3451/BIOL 3452, BIOC 3621, BIOC 4540. Meets with BIOC 4570/BIOL 4570.

Same as BIOL 5340.

BIOC 5540 - Biochemistry I

3 hours (3;0;1)

Chemistry and biochemistry of carbohydrates, lipids, amino acids and proteins, and nucleic acids; biochemical energetics, enzyme catalysis, vitamins and coenzymes, and their inter-relationships in energy-producing cycles and pathways. A recitation period is scheduled for problem-solving and student reports from the current biochemical literature.

Prerequisite(s): CHEM 2380 or consent of department.

BIOC 5550 - Biochemistry II

3 hours (3;0;1)

Continuation of BIOC 5540. Metabolic pathways in biosynthesis and degradation of lipids, nucleic acids, proteins and carbohydrates, photosynthesis, nitrogen cycle, biochemical genetics and metabolic regulation. A recitation period is scheduled for problem-solving and student reports from the current biochemical literature.

Prerequisite(s): BIOC 5540 or consent of department.

BIOC 5560 - Biochemistry Laboratory

2 hours (1;3)

Analysis and characterization of amino acids, peptides, enzymes, lipids, nucleic acids, carbohydrates, and metabolic pathways and processes. Techniques include a variety of chromatographic methods, electrophoresis, UV-vis spectroscopy and radiochemistry.

Prerequisite(s): BIOC 5540 (may be taken concurrently).

Same as BIOC 4560.

BIOC 5580 - Molecular Biology and Biotechnology Laboratory

2 hours

Experiments in recombinant DNA techniques, gene regulation and other areas of molecular biology.

Prerequisite(s): BIOC 5340 or BIOL 5340 (may be taken concurrently).

Same as BIOC 4580 and BIOL 5580.

BIOC 5680 - Selected Topics in Biochemistry

1–3 hours

Current research interests in the field of biochemistry.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

BIOC 5900 - Special Problems

1–3 hours

Independent study or laboratory research for the master's level. Problem must be approved by the major professor.

Prerequisite(s): None.

BIOC 5910 - Special Problems

1–3 hours

Independent study or laboratory research for the master's level. Problem must be approved by the major professor.

Prerequisite(s): None.

BIOC 5940 - Seminar in Current Biochemistry

1 hour

Study of current literature; current research emphasized.

Prerequisite(s): None.

May be repeated for credit.

BIOC 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate 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.

BIOC 6010 - Seminar for Doctoral Candidates

3 hours

Demonstration of competence in a specific area of biochemistry and/or molecular biology as evidenced by criteria established by the faculty.

Prerequisite(s): None.

May be repeated for credit.

BIOC 6600 - Advanced Molecular Biology

3 hours

Genetic structure and regulation of gene expression in prokaryotic and eukaryotic organisms; mechanisms of gene action, gene/enzyme relationships and metabolic control; bio-chemical manipulation and characterization of genetic macromolecules.

Prerequisite(s): BIOL 4570 or BIOL 5340 or equivalent.

Same as BIOL 6600.

BIOC 6610 - Advanced Metabolism

3 hours

Advanced intermediary metabolism of carbohydrates, lipids, nitrogenous compounds and nucleic acids. Relevant new findings particularly regarding the regulation of these pathways are also covered.

Prerequisite(s): BIOC 4550/BIOC 5550 or consent of department.

BIOC 6620 - Advanced Cell Biology

3 hours

Structure and function of animal and plant cells with emphasis on cell membranes, cytoplasmic organelles and the nucleus; readings in current literature.

Prerequisite(s): Biochemistry, BIOL 3510/BIOL 3520 or equivalent, or consent of department.

Same as BIOL 6620.

BIOC 6630 - Protein Structure and Function

3 hours

Introduction to protein structure. Coverage of recurring structural motifs and the determination of protein structure as it determines enzyme function. Catalytic reaction mechanisms, protein-substrate interactions and the kinetics of enzyme catalyzed reactions.

Prerequisite(s): BIOC 4550 or BIOC 5550.

BIOC 6640 - 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.

BIOC 6650 - Plant Biochemistry and Biotechnology

3 hours

Contemporary plant biochemistry, with a focus on the major pathways for carbon and nitrogen metabolism and the acquisition of mineral nutrients, is integrated with plant physiology. The biotechnology component focuses on metabolic engineering and secondary metabolites (also called natural products) that help plants cope with their environments and provide compounds that improve quality of life for humans.

Prerequisite(s): Consent of department.

BIOC 6680 - Advanced Techniques in Biochemistry

1–3 hours

Methods and instrumentation currently used in biochemical analyses. Presented in four-week minicourses consisting of 8 hours of lecture and 24 hours of laboratory. Topics vary from year to year but include, among others, protein sequencing and amino acid analysis, nucleic acid sequencing, tissue culture, monoclonal antibody production, column chromatography, radioisotopes, peptide synthesis, and gel electrophoresis and electrofocusing.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

BIOC 6900 - Special Problems

1–3 hours

Independent study or laboratory research for doctoral students. Problem must be approved by the major professor.

Prerequisite(s): None.

BIOC 6910 - Special Problems

1–3 hours

Independent study or laboratory research for doctoral students. Problem must be approved by the major professor.

Prerequisite(s): None.

BIOC 6940 - Individual Research

1–12 hours

Doctoral research of independent nature. Number of hours counted toward the PhD determined by major professor and graduate advisory committee.

Prerequisite(s): None.

BIOC 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours of credit required. No credit assigned until dissertation has been completed and filed with the graduate 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.

BIOC 6990 - Postdoctoral Research

1–3 hours

For post-doctoral fellows to further training and research experience in developing and solving research problems independently.

Prerequisite(s): Consent of department.

May be repeated for credit.

Biological Sciences

BIOL 5001 - Contemporary Topics in Molecular Biology

1–3 hours

Contemporary topics in molecular biology and biochemistry. Topics may vary from semester to semester and may include eukaryotic and prokaryotic molecular genetics, DNA profiling, physiology and metabolism and application of recombinant DNA technologies.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 5002 - Contemporary Topics in Microbiology

1–3 hours

Contemporary topics in microbiology. Topics vary from semester to semester and may include bacterial physiology or metabolism and microbial chemistry.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 5003 - Contemporary Topics in Neuroscience

1–3 hours

Contemporary topics in neuroscience and physiology. Topics vary from semester to semester and may include neuro-physiology, computational neuroscience, neurotransmitters, central nervous system trauma.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 5005 - Contemporary Topics in Biology

1–3 hours

Contemporary topics in the biological sciences. Topics may vary from semester to semester and may include topics such as human development, epidemiology or plant physiology.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 5006 - Topics in Forensic Biology

1–3 hours

Specific titles vary but may include forensic entomology, forensic toxicology or forensic biology of the human skeleton.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 5030 - Foundations of Environmental Science

1 hour

Course lays the foundation for graduate studies in environmental science. Introduces graduate students to the faculty, research expertise and resources available in environmental sciences at UNT. Covers topics essential to a successful graduate experience and career in environmental science.

Prerequisite(s): None.

BIOL 5040 - Contemporary Topics in Environmental Science and Ecology

1–3 hours

Contemporary topics and issues in environmental science and ecology. Topical themes include global climate change, biodiversity, wetlands, population and aquatic, terrestrial or plant ecology.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BIOL 5045 - 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.

Prerequisite(s): None.

BIOL 5050 - Foundations of Ecological Theory

3 hours

Background and concepts of ecological theory are reviewed through the survey of both original and current literature.

Prerequisite(s): A course in ecology or consent of instructor.

BIOL 5051 - Community Ecology

3 hours

Structure, dynamics and diversity of biotic communities and ecosystems. Focus on population interactions, niche relationships and processing of matter and energy.

Prerequisite(s): 6 hours of biology including BIOL 2140.

BIOL 5052 - Community Ecology Laboratory

1 hour

Field and laboratory exercises on distribution, dispersion, abundance and diversity of organisms and their populations. Focus on quantitative description of biotic communities and ecosystems.

Prerequisite(s): Concurrent enrollment in or credit for BIOL 5051, or consent of department.

BIOL 5053 - Subantarctic Biocultural Conservation

3 hours

In-depth study of the relationship between subantarctic ecosystems and cultures of southern South America including geography, climate, ethnography, history and ecology, which exposes students to both the practical and theoretical aspects of biocultural conservation, including its interdisciplinary character integrating the sciences and humanities.

Prerequisite(s): None.

Meets with BIOL 4053/PHIL 4053. Same as PHIL 6780.

BIOL 5054 - Tracing Darwin's Path

3 hours

Annual in-depth field course that explores sub-Antarctic biota, geography, history, cultures and ecosystems of the Cape Horn Biosphere Reserve, integrating ecological science and field environmental ethics approaches to the study and conservation of biocultural diversity.

Prerequisite(s): Consent of instructor. BIOL 5350 or PHIL 6780 recommended.

Same as PHIL 6781.

BIOL 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.

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.

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.

BIOL 5060 - Electron Microscopy

4 hours (2;6)

Theory and application of scanning and transmission electron microscopy, including sample preparation and analytical techniques.

Prerequisite(s): None.

BIOL 5070 - Insect Biology

4 hours (3;3)

Morphology, physiology, ethology, classification and control of insects and related arthropods.

Prerequisite(s): 6 hours of biology.

BIOL 5080 - Radiation Safety

1 hour

Radiation sources, interaction of radiation with matter and human tissues, radiation measurement and dosage, instrumentation, regulations and practical safety procedures.

Prerequisite(s): None.

BIOL 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.

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.

Prerequisite(s): None.

BIOL 5110 - Endocrinology

3 hours

Regulation of physiological processes in animals by hormones and related chemical agents.

Prerequisite(s): BIOL 3800 or equivalent, or consent of department.

BIOL 5120 - Environmental Chemistry

3 hours

Presents a scientific overview of environmental contaminants, their occurrence, sources and impact on humans and the environment.

Prerequisite(s): 8 hours of chemistry.

Meets with BIOL 4120.

BIOL 5130 - Biostatistics I

3 hours

Introduction to statistical methods, experimental design, data presentation and hypothesis testing in biological research. Statistical inference includes tests for normality, skewness, kurtosis, and two-sample data sets for goodness of fit, contingency, means, medians and non-parametric methods. Introduces probability and SAS software.

Prerequisite(s): MATH 1100.

BIOL 5140 - Biostatistics II

3 hours

Continuation of Biostatistics I. Statistical methods and experimental designs in biological research. Coverage of parametric and non-parametric correlation, multi-sample inference tests (ANOVA) including one-way, block, nested and factorial designs; multiple range (comparison) analyses; simple linear, non-linear and multiple regressions; ANCOVA. Introduces multiple variable approaches including discriminate, factor and cluster analysis.

Prerequisite(s): MATH 1100, BIOL 5130.

BIOL 5150 - Pharmacology: The Biological Basis of Drug Action

3 hours

Overview of pharmacology for graduate students, based on principles of drug action. The course emphasizes drugs by class, not specific drugs per se. Course covers general principles, antibiotics and pharmacology of the autonomic, cardiovascular, central nervous and endocrine systems.

Prerequisite(s): None.

BIOL 5160 - Advanced Techniques in Microbiology and Molecular Biology

6 hours (0;6)

Intensive laboratory exercises in cultivation, analysis and gene transfer in bacterial mutants. Further emphasis on techniques for studying macromolecular and enzyme synthesis, preparation and analysis of plasmid DNA, cloning and gene expression.

Prerequisite(s): Microbiology, biochemistry or BIOL 3510.

BIOL 5180 - Techniques in Molecular Biology

6 hours (1;6)

Teaches advanced molecular biology laboratory methodology. Techniques include gene cloning, plasmid purification, restriction analysis, DNA fingerprinting and DNA sequencing.

Prerequisite(s): BIOL 4570/BIOC 4570, or BIOL 5340, or consent of instructor.

BIOL 5200 - Environmental Health

3 hours

Introduction to the environmental determinants of health that focuses on health risks of human-mediated changes to the environment, as well as the regulatory framework that directs decision making on environmental issues. Consideration given to health implications of growing populations, available food quantity and quality, loss of habitat and biodiversity, radiation, toxins in the environment, sanitation, solid and hazardous waste disposal and environmental degradation including noise, air and water pollution.

Prerequisite(s): None.

BIOL 5220 - Neuropsychopharmacology

3 hours

Comprehensive examination of the physiological effects on major psychotropic drug classes that affect the central nervous system, including the interactions between neurotransmitter systems and physiology; neuroanatomical pathways and behavior; synaptic functions and behavioral disorders.

Prerequisite(s): None.

BIOL 5221 - Experimental Methodologies in Neuropsychopharmacology

1 hour

Critical examination of scientific methodologies in studying the effectiveness of psychotropic medicine in treating mental disorders and other mental conditions. Students discuss and apply the methodologies to test hypotheses and present research findings reviewed in neuropsychopharmacological literature.

Prerequisite(s): BIOL 5220 or consent of instructor.

Meets with BIOL 4221.

BIOL 5250 - Advanced Human Physiology

3 hours

Physiological mechanisms in humans, with emphasis on medical physiology.

Prerequisite(s): None.

BIOL 5260 - Principles of Evolution

3 hours

Genetic, systematic, ecological, historical and geographical concepts of evolution.

Prerequisite(s): Consent of department.

BIOL 5261 - Principles of Evolution Laboratory

1 hour (0;3)

Laboratory and discussion exercises focused on topics related to evolutionary biology.

Prerequisite(s): BIOL 5260.

BIOL 5270 - Limnology

4 hours (2;4;1)

Physical, chemical and biological factors that affect productivity in reservoirs, lakes and ponds. Field studies using current limnological methods and instruments. For biologists, chemists, teachers and sanitarians.

Prerequisite(s): 12 hours biology or 6 hours biology plus 6 hours of another science.

BIOL 5280 - Aquatic Botany

3 hours (2;3)

Ecology, identification and management of aquatic plants and algae. Special emphasis on the role of aquatic plants in reservoir and river ecosystems.

Prerequisite(s): 8 hours of biology.

BIOL 5290 - Marine Biology

3 hours

Covers the basics of marine biology with a global approach, using examples from numerous regions and ecosystems worldwide. Highlights interactions of physical and chemical factors and habitat diversity with the biological components of the world's oceans. Environmental topics such as fisheries, mariculture, pollution and conservation.

Prerequisite(s): 8 hours each of biology and chemistry.

Meets with BIOL 4290.

BIOL 5300 - Physiological Ecology

3 hours

Physiological, behavioral and biochemical adaptations of animals to environmental limiting factors, including temperature, oxygen, water, salinity, light and toxic chemicals.

Prerequisite(s): None.

BIOL 5310 - Experimental Design in Biology

3 hours

Optimizing the design of field and laboratory experiments to aid in data analysis. Develops concepts of statistical power, efficiency, and univariate and multivariate tools of use in biological sampling programs.

Prerequisite(s): BIOL 5130 or equivalent or consent of department.

Meets with BIOL 4310.

BIOL 5330 - Developmental Biology

3 hours

Mechanisms of development, differentiation, and growth in animals at the molecular, cellular, and genetic levels. Areas of emphasis include transcriptional control mechanisms, embryonic patterning, cell–cell interactions, growth factors and signal transduction, and regulatory hierarchies. Includes the roles that environmental factors play in development, the medical applications of our knowledge of development, and the roles that development plays in evolution.

Prerequisite(s): 16 hours of biology or consent of department.

Meets with BIOL 4330.

BIOL 5340 - Biochemistry and Molecular Biology of the Gene

3 hours

Mechanisms and regulation of genetic expression, chromosome replication, mutagenesis and DNA repair, and gene cloning in prokaryotic and eukaryotic systems.

Prerequisite(s): At least one of the following: BIOL 3510/BIOL 3520, BIOL 3451/BIOL 3452, BIOC 3621, BIOC 4540.

Meets with BIOC 4570/BIOL 4570. Same as BIOC 5340.

BIOL 5370 - General Toxicology

3 hours

Introduction to the basic principles of toxicology. Focus on absorption, distribution, metabolism and elimination of toxicants; target organ toxicity; mechanisms of toxic action; carcinogenesis; and risk assessment.

Prerequisite(s): 8 hours each of biology and chemistry.

Meets with BIOL 4370.

BIOL 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 toxilogical research literature. Includes the writing of a mock grant proposal.

Prerequisite(s): 8 hours each of biology and chemistry.

Meets with BIOL 4375.

BIOL 5380 - Fundamentals of Aquatic Toxicology

3 hours (2;3)

Theory and methodologies used by scientists, regulatory agencies and industry to measure the impact of man's activities on freshwater aquatic ecosystems. The course has its foundations in history, but concentrates on current methodologies and theories.

Prerequisite(s): None.

BIOL 5400 - Wetland Ecology and Management

4 hours (3;4)

Ecology and management of various types of wetlands with emphasis on the role of aquatic and wetland plants in determining wetland structure and function. Wetland restoration and creation for wildlife habitat or water quality benefits are reviewed.

Prerequisite(s): None.

BIOL 5420 - Industrial Microbiology

3 hours

Use of micro-organisms and microbial processes in the pharmaceutical, chemical and food industries.

Prerequisite(s): Biochemistry.

BIOL 5440 - Stream Ecology

4 hours (3;4)

Ecological principles of how stream dynamics influence the biological and hydrologic patterns and processes occurring in stream ecosystems. Laboratory studies designed to teach techniques and to test hypotheses related to environmental assessment.

Prerequisite(s): 3 hours of ecology.

Same as BIOL 4440.

BIOL 5460 - Eukaryotic Genetics

3 hours

Research and theory in eukaryotic genetics with an emphasis in metazoan genetic model systems and human genetics, including chromosome structure, genomic analysis, developmental genetics and diseases.

Prerequisite(s): BIOL 3451, BIOL 3452, BIOL 3510, BIOL 3520. Molecular biology or biochemistry suggested (may be taken concurrently).

BIOL 5470 - Laboratory Techniques in Cytology

1 hour (0;3;1)

Cytological techniques in plants, animals and humans, including karyotyping, cell and tissue culture, and sex chromatin analysis.

Prerequisite(s): Consent of department.

May be taken with or without BIOL 5490.

BIOL 5490 - Cytology and Cytogenetics

3 hours

Cell structure and function in plants and animals with emphasis on genetic and chromosomal aberrations.

Prerequisite(s): Consent of department.

BIOL 5501 - Bacterial Diversity and Physiology

3 hours

Comparative survey of bacteria. Growth, ecology, metabolism, energy transformations, differentiation and adaptive mechanisms.

Prerequisite(s): None.

BIOL 5502 - Bacterial Diversity and Physiology Laboratory

1 hour

Isolation of bacteria from nature. Enrichment methods, morphology, enumeration of bacterial growth and enzymes.

Prerequisite(s): BIOL 5501 (may be taken concurrently).

BIOL 5503 - Plant Physiology 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.

Prerequisite(s): None.

BIOL 5505 - Comparative Animal Physiology

3 hours

Comparison of structure and physiological function in a wide variety of animals. Emphasis on thermoregulation and on respiratory, circulatory, excretory, endocrine and digestive systems.

Prerequisite(s): 8 hours of biology.

BIOL 5520 - Invertebrate Biology

4 hours (3;3)

Biology of non-vertebrate animals with emphasis on anatomical, physiological and behavioral adaptations to varied environments and phylogenetic relationship.

Prerequisite(s): 6 hours of biology.

BIOL 5570 - Aquatic Insects of North America

4 hours (3;4)

Ecology, sampling methods, systematics and classification of Nearctic aquatic insects at the family level; use of keys and key terminology in aquatic insect identification.

Prerequisite(s): Invertebrate zoology or entomology, or consent of instructor.

BIOL 5580 - Molecular Biology and Biotechnology Laboratory

2 hours (0;5)

Experiments in recombinant DNA techniques, gene regulation and other areas of molecular biology.

Prerequisite(s): BIOL 5340 or BIOC 5340 (may be taken concurrently).

Same as BIOC 5580.

BIOL 5650 - Environmental Science Field Course

6 hours (3;5)

Advanced field methods and approaches for analysis of the physical, chemical and ecological aspects of aquatic, terrestrial and estuarine ecosystems are covered. On a rotating basis, the field course focuses on alpine lakes, deserts and estuaries.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

BIOL 5670 - Natural History and Philosophy of Rivers

6 hours (3;5)

Ecological, geological and philosophical history of arid watersheds of the western United States. Extended field trip required. Desert canyons are geologically unique and present wonderful opportunities to study interactions of geology, fauna, flora, environment, cultural development and environmental ethics.

Prerequisite(s): Consent of instructor.

Same as PHIL 5670.

BIOL 5700 - Procedures and Materials for Science Instruction

3 hours (2;4)

Problems, techniques and procedures for classroom and laboratory experiences based on current science education research. Recommended for students who desire secondary teacher certification in a science field. Field experience in the public schools is a required component.

Prerequisite(s): Completion of undergraduate science courses required for certification and consent of department.

BIOL 5701 - Biotechnology and Society

3 hours

Survey of major advances in biotechnology. Emphasis on the development of the technology, underlying biological principles, historical context, current practices and societal implication.

Prerequisite(s): Genetics or biochemistry or consent of department.

BIOL 5720 - Sediment Toxicology

3 hours

Mechanisms of contaminant transport and fate in freshwater and marine sediments and pollutant effects at the individual, population and biotic community levels. Sediment contaminant bioavailability and bioaccumulation into food webs and the scientific aspects of legal control and remediation of hazardous sediments.

Prerequisite(s): One year of chemistry and biology or consent of department.

BIOL 5751 - Neuroscience I: Cells and Circuits

3 hours

Neuroscience research strategies, neurons and glia, synaptic transmission, neurotransmitters, developmental brain anatomy, sensory and motor systems.

Prerequisite(s): 12 hours of biology or consent of department.

Meets with BIOL 4751.

BIOL 5752 - Neuroscience II: Brain and Plasticity

3 hours

Brain basis of motivation, sex, emotion, sleep, mental illness, memory; plasticity in developing and adult brains.

Prerequisite(s): 12 hours of biology or consent of department. BIOL 5751 recommended.

Meets with BIOL 4752.

BIOL 5760 - Neurobiology Laboratory

1 hour (0;3)

Vertebrate neuroanatomy and experimental neurobiology using electrophysiological and behavioral methods.

Prerequisite(s): Concurrent enrollment in BIOL 6460 or consent of department.

BIOL 5800 - Microbial Genetics

3 hours

Genetic structure, inheritance and gene expression in microorganisms and their viruses.

Prerequisite(s): Consent of department.

BIOL 5810 - Biocomputing

3 hours

Introduction to computational problems inspired by the life sciences and overview of available tools. Methods to compute sequence alignments, regulatory motifs, phylogenetic trees and restriction maps.

Prerequisite(s): None.

Meets with BIOL 4810 and CSCE 4810. Same as CSCE 5810 and MATH 5810.

BIOL 5820 - Computational Epidemiology

3 hours

Application of computational methods to problems in the fields of public health. Design and implementation of disease outbreak models.

Prerequisite(s): None.

Meets with BIOL 4820 and CSCE 4820. Same as CSCE 5820.

BIOL 5830 - Advanced Genetics

3 hours

Genetic structure and inheritance in viruses, bacteria and higher organisms, including gene biochemistry, gene expression, population genetics, cytogenetics and organelle genetics.

Prerequisite(s): Consent of department.

BIOL 5840 - Medical Genetics and Genetic Counseling

3 hours

Human genetics, including cytogenetics, immunogenetics, population genetics, molecular genetics, human biochemical genetics and genetic counseling.

Prerequisite(s): BIOL 3350 or equivalent.

BIOL 5860 - Biological Sciences Seminar Series

1 hour

Weekly seminar series covering a broad range of biological research topics. Invited speakers are prominent local, regional or national researchers.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

BIOL 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.

BIOL 5880 - Environmental Sciences Seminar Series

1 hour

Weekly seminar series covering a broad range of environmental research topics. Invited speakers are prominent local, regional or national researchers.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

BIOL 5900 - Special Problems

1–3 hours

Independent study or laboratory research for the master's level. Problem must be approved by the major professor.

Prerequisite(s): None.

No more than 6 hours can be counted toward a master's degree.

BIOL 5910 - Special Problems

1–3 hours

Independent study or laboratory research for the master's level. Problem must be approved by the major professor.

Prerequisite(s): None.

No more than 6 hours can be counted toward a master's degree.

BIOL 5920 - Research Problems in Lieu of Thesis

3 hours

Prerequisite(s): None.

BIOL 5930 - Research Problems in Lieu of Thesis

3 hours

Prerequisite(s): None.

BIOL 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate 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.

BIOL 5960 - Science Institute

1–6 hours

For students who assist in instruction or participate in special research workshops.

Prerequisite(s): Consent of department.

No more than 6 hours may be counted toward a degree.

BIOL 6010 - Biology Seminar

1 hour

Weekly lectures on research in biology and related disciplines.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

BIOL 6070 - Ecology of Benthic Organisms

4 hours (3;2;1)

Adaptations, biotic interrelationships and population characteristics of bottom-dwelling aquatic organisms. Field techniques, population analysis and dynamics in both lentic and lotic habitats.

Prerequisite(s): BIOL 2140 or equivalent, and a minimum of 7 hours advanced or graduate ecology.

BIOL 6080 - Current Advances in Pharmacology

3 hours

Covers the latest advances in pharmacology on a rotating basis, with emphasis on neuropharmacology, autonomic pharmacology and biochemical/molecular pharmacology.

Prerequisite(s): None.

May be repeated up to a total of three times to cover all aspects.

BIOL 6150 - Communication in Scientific Teaching and Research

3 hours

Seminar and workshop that cover lecture course techniques, laboratory preparation and teaching, seminar techniques, research presentations at scientific meetings, research publications, research proposals, scientific illustration, photography, departmental and university services for teaching and research, and job-seeking techniques in academe, government and industry.

Prerequisite(s): None.

BIOL 6200 - Bioinstrumentation and Analytical Techniques

4 hours (3;0;1)

Current research instrumentation and techniques in biological sciences.

Prerequisite(s): Consent of department.

BIOL 6240 - Multivariate Biostatistics

2 hours

Application of techniques, e.g., multiple regression, discriminate, factor and cluster analyses, to explore multivariable biological and environmental data in a seminar setting. Emphasis is placed on concepts and applications rather than theory and development.

Prerequisite(s): BIOL 6620 or graduate-level statistics and familiarity with either SAS or SSPS statistical software.

BIOL 6320 - Remote Sensing

4 hours (3;3)

Theoretical bases and practical aspects of digital remote sensing. Remote sensing technology is reviewed and data analysis techniques are presented. Approaches to the development of a remote sensing project are given. Hands-on experience is provided in the laboratory.

Prerequisite(s): GEOG 5170 is recommended.

BIOL 6341 - Advanced Environmental Impact Assessment

3 hours

Advanced topics in preparing environmental impact assessments and statements by examining deficiencies and inadequacies of environmental assessments and impact statements (i.e., was the analysis adequate), as defined by U.S. District, Appeals and Supreme Court decisions.

Prerequisite(s): BIOL 5100 or equivalent.

BIOL 6360 - Environmental Engineering

4 hours (3;3)

Water, land and air pollution control technologies are presented. Engineering approaches to pollution problems are demonstrated by considering technical feasibility and economic constraints. Laboratory exercises provide instruction for quantitative analysis of water and waste water; field trips to various pollution-control facilities.

Prerequisite(s): CHEM 1410, CHEM 1430, CHEM 1420, CHEM 1440.

BIOL 6390 - Techniques in Environmental Analysis

4 hours (3;3)

Theory and application of advanced analytical chemistry techniques for metals and organics in environmental and biological samples. Introduces methods for trace metals analysis and identification, and organics separation and identification techniques. Laboratory teaches state-of-the-art spectroscopic and chromatographic techniques.

Prerequisite(s): BIOL 5120 or consent of department.

BIOL 6400 - Ecological Risk Assessment

3 hours

Detailed treatment of aquatic and terrestrial methods and procedures used to assess the ecological hazard of chemicals in the environment. Emphasizes quantitative methods in testing site assessment, monitoring procedures, regulatory requirements and field and laboratory techniques useful to assess damage to aquatic, terrestrial and avian resources.

Prerequisite(s): Ecology, statistics, general chemistry (8 hours), or consent of instructor.

BIOL 6460 - Cellular Neuroscience

3 hours

Detailed examination of the nervous system, specifically neuroanatomy, neurophysiology, neurochemistry and sensory transduction.

Prerequisite(s): Consent of department.

BIOL 6480 - Systems Neuroscience

3 hours

Detailed examination of the major brain functions, including sensation, perception, movement, emotions, language, thought and memory.

Prerequisite(s): BIOL 6460 or equivalent, or consent of department.

BIOL 6500 - Brain Development and Plasticity

3 hours

Development of the nervous system from early embryo through adulthood; neurogenesis, cell migration, differentiation, synaptogenesis; similarities among mechanisms of ontogeny, learning and regeneration; emphasis on experimental approaches.

Prerequisite(s): BIOL 4750 or BIOL 6480 or equivalent is recommended.

BIOL 6540 - Neurochemistry

3 hours

Chemistry of the nervous system and behavior; pharmacology, anatomy and physiology of neurotransmitter systems; current techniques in neurochemistry and neuropharmacology.

Prerequisite(s): BIOL 4750 or BIOL 6460 or equivalent, and one term/semester of undergraduate biochemistry are recommended.

BIOL 6600 - Advanced Molecular Biology

3 hours

Genetic structure and regulation of gene expression in prokaryotic and eukaryotic organisms; mechanisms of gene action, gene/enzyme relationships and metabolic control; biochemical manipulation and characterization of genetic macro-molecules.

Prerequisite(s): BIOL 4570 or BIOL 5340 or equivalent.

Same as BIOC 6600.

BIOL 6620 - Advanced Cell Biology

3 hours

Structure and function of animal and plant cells with emphasis on cell membranes, cytoplasmic organelles and the nucleus; readings in current literature.

Prerequisite(s): Biochemistry, BIOL 3510/BIOL 3520 or equivalent, or consent of department.

Same as BIOC 6620.

BIOL 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.

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.

BIOL 6810 - Advanced Topics in Computational Life Science

3 hours

Current research topics related to computational life sciences such as bioinformatics, computational epidemiology and population models.

Prerequisite(s): None.

Same as CSCE 6810.

May be repeated for credit as topics vary.

BIOL 6900 - Special Problems

1–3 hours

Independent study or laboratory research for doctoral students. Problem must be approved by major professor.

Prerequisite(s): None.

No more than 6 hours may be counted toward a degree.

BIOL 6910 - Special Problems

1–3 hours

Independent study or laboratory research for doctoral students. Problem must be approved by major professor.

Prerequisite(s): None.

No more than 6 hours may be counted toward a degree.

BIOL 6940 - Individual Research

1–12 hours

Doctoral research of independent nature.

Prerequisite(s): None.

Number of hours counted toward the PhD determined by major professor and graduate advisory committee. Pass/no pass only.

BIOL 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours of credit required. No credit assigned until dissertation has been completed and filed with the graduate 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.

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.

Prerequisite(s): Graduate standing.

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.

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.

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.

Prerequisite(s): CSCE 5215 or CSCE 5216 or BMEN 5312 or BMEN 5315 .

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.

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.

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.

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.

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.

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.

Prerequisite(s): Graduate classification

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.

Prerequisite(s): Graduate classification

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.

Prerequisite(s): Graduate classification

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.

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.

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.

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.

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.

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.

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.

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.

Prerequisite(s): None.

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.

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.

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.

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.

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.

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.

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.

Prerequisite(s): Graduate standing.

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.

Prerequisite(s): None.

May be repeated for credit.

Business, Interdepartmental

BUSI 5190 - Administrative Strategy

3 hours

Capstone course providing the integration of functional areas of business administration. Requires students to determine policy at the general- or top-management level. Students address strategic organizational problems and the optimization of the total enterprise. Includes the use of lectures, case analysis and special topics.

Prerequisite(s): None.

Must be taken in the student's last term/semester of course work. Restricted to College of Business majors.

BUSI 5410 - Creative Thinking and the Business Idea

3 hours

Introduces the professional MBA to students with the major themes developed for the program. The course discusses the essential of entrepreneurship, risk taking and market opportunity. Students are expected to develop a major, discussing the market opportunities for a business product or service.

Prerequisite(s): None.

Corequisite(s): FINA 5170

BUSI 5420 - Assessing the Business Opportunity

3 hours

Investigates what a business professional needs to conduct a thorough industry, market and competitor analysis and to determine the degree of match between the opportunity and the firm. Topics developed are mission and vision, understanding corporate strategy and structure, market segments and demand factors, etc.

Prerequisite(s): BUSI 5410.

Corequisite(s): ACCT 5130

BUSI 5430 - Designing, Creating and Managing the Delivery Systems

3 hours

Focuses on the essentials of designing, creating and managing the business firm's delivery system. Topics include designing value into products and services, creating and managing distribution channels, quality management ideas, process planning and facility layout.

Prerequisite(s): BUSI 5420.

Corequisite(s): BCIS 5120

BUSI 5440 - Growing Business in Changing Environments

3 hours

Studies the essentials of managing the business firm within evolving environments. Concepts required for monitoring and control, along with tools for decision making. Sets the foundation for other topics such as organizational structures, redesign, threats and opportunities, and adjusting delivery and communications systems to dynamic environments.

Prerequisite(s): BUSI 5430.

Corequisite(s): DSCI 5180

BUSI 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

BUSI 5920 - Problems in Lieu of Thesis

3 hours

Prerequisite(s): None.

BUSI 5930 - Problems in Lieu of Thesis

3 hours

Prerequisite(s): None.

BUSI 6100 - Seminar in University Teaching for Business Administration

3 hours

Topics in teaching methodologies. Focus on those topics that provide doctoral students with practical teaching tips to help them become more effective teachers. Different learning styles are addressed and frameworks, theories and teaching models are presented that help doctoral students continually improve their teaching throughout their career.

Prerequisite(s): None.

BUSI 6220 - Applied Regression Analysis

3 hours

Applications of multivariate regression analysis, canonical correlation analysis and nonparametric statistical procedures to issues in business research involving multivariate data. Topics include building, evaluating and validating a regression model; analyzing models using hierarchical regression, contrast coding, partial correlations and path analysis; and comparing parametric and corresponding nonparametric tests.

Prerequisite(s): DSCI 5180 or equivalent and BUSI 6450 (may be taken concurrently).

BUSI 6240 - Applied Multivariate Statistics

3 hours

Applications of multivariate statistical procedures involving data reduction techniques and analyzing multidimensional relationships in business research. Topics include multivariate analysis of variance, discriminant analysis, logistic regression, exploratory factor analysis, cluster analysis, multidimensional scaling and conjoint analysis.

Prerequisite(s): BUSI 6220.

BUSI 6280 - Applications in Causal and Covariance Structure Modeling

3 hours

Application of CSM techniques to the analysis of behavioral data in business research. "Hands-on" practice using LISREL to examine measurement and structural models containing directly observed and latent variables. Provides a solid working knowledge of how to conceptualize measurement and structural models, the standard LISREL and SIMPLIS syntax for estimating these models, and proper interpretation of LISREL output. LISREL assumptions, limitations, tricks and traps are explored. Specific topics include reviews of causality and path analysis, covariance algebra, creating path diagrams and structural equations, LISREL notation and syntax, considerations in model identification, estimation, evaluation and interpretation. Specific application areas include confirmatory factor analysis and its extensions, causal models with directly observed and latent variables. Course also takes a critical look at the analysis of experimental data, modeling quadratic and interaction terms, analysis of ordinal and other non-normal variables.

Prerequisite(s): BUSI 6220, BUSI 6450. BUSI 6240 (may be taken concurrently). Students must have a thorough knowledge of multiple regression, factor analysis, ANOVA and ANCOVA. Students are also expected to have a solid grasp of the fundamentals of research design, including how to assess the internal and external validity of research designs, as well as how to assess the validity and reliability of multi-item behavioral measures. Exposure to matrix algebra is encouraged.

BUSI 6450 - Business Research Methods

3 hours

Designed to introduce doctoral students to the methods and measurements of business research, including scientific method, research design and measurement. Focus on topics that provide doctoral students with a better understanding of theoretical frameworks used in research. Form and structure of explanations, laws and theories used in research are examined and discussed.

Prerequisite(s): DSCI 5180 or equivalent.

BUSI 6480 - Advanced Issues in Research Design

3 hours

Experimental and quasi-experimental approaches to solving problems using the scientific method. Observation, generalization, explanation and prediction using experimentation and statistical inference. Statistical principles in experimental design including ANOVA and MANOVA techniques. After completing the course, students are prepared for conducting experiments.

Prerequisite(s): BUSI 6450 or equivalent.

BUSI 6900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

Business Computer Information Systems

BCIS 5100 - E-Commerce Systems Technologies

3 hours

Tools, skills, and understanding of the key technologies used in e-commerce, from basic systems design and networking to web site content-management technologies.

Prerequisite(s): None.

BCIS 5105 - E-Business Site Construction

1.5 hours

Introduction to the technologies of electronic business web site design. Topics include the principles of web design, use of animation and sound, and the creation of database-driven sites.

Prerequisite(s): BCIS 5100 or consent of department.

BCIS 5110 - 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.

Prerequisite(s): None.

BCIS 5120 - Information Systems Development

3 hours

Foundations of business information systems analysis and design. Concentration on contemporary design methodologies and computer-aided software engineering techniques. Topics include strategic information systems planning, requirements analysis, user interface design, data design, process design, system testing, ethics and system audit ability, control and security.

Prerequisite(s): None.

BCIS 5130 - Fundamentals of Presentation Design

3 hours

Focuses on the concepts, design and delivery of business presentations in today's challenging business environments. Develops techniques for defining target audiences and meeting their demands, especially senior executive demands. Address issues of written, oral and electronic presentation to these target audiences. Applies the elements and principles of aesthetic design, as well as basics of color theory and its application, to presentations. Requires students to develop an appreciation for both functional and aesthetic design.

Prerequisite(s): None.

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): Consent of department.

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.

Prerequisite(s): None.

BCIS 5420 - Foundations of Database Management Systems

3 hours

Introduction to database and database management systems technology within the framework of a business environment. Topics include the study of analysis, design, development and implementation of database-oriented file organizations in business applications.

Prerequisite(s): Consent of department.

BCIS 5510 - Information Technology Resource Management

3 hours

Investigates the major concepts and techniques using information technology to meet the needs of an organization. Includes skills management, hardware and software portfolio management, outsourcing partnering, return on investment of IT projects, and flexibility in dealing with environmental change.

Prerequisite(s): BCIS 5120 or consent of department.

BCIS 5520 - Information Technology Service Management

3 hours

Provides a standards-based framework to structure IT-related activities and approaches for supporting and delivering IT services; to enhance the interactions of IT technical personnel with business customers and users; and to increase the quality, reliability and flexibility of IT services. Investigates the relationships of ITSM processes (e.g., ITIL, COBIT, COSO) with other business process improvement approaches (e.g., TQM, Six Sigma, Business Process Management, CMMI, SOX), frameworks and methodologies.

Prerequisite(s): BCIS 5120 or consent of department.

BCIS 5600 - Visual Information Technologies

3 hours

Role of visual information systems in organizations. Alternative taxonomies of information systems, in particular, modes of processing. Human-machine information and data access systems.

Prerequisite(s): BCIS 5110 or equivalent, or consent of department.

BCIS 5610 - 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.
Prerequisite(s): None.

BCIS 5620 - Networking and Telecommunications

3 hours

Examines strategic impact on the business organization of the convergence of telecommunications and computer topics. Includes the design and organizational restructuring issues associated with new technologies in telecommunications.

Prerequisite(s): BCIS 5120 or consent of department.

BCIS 5630 - Information Technology Security

3 hours

Examines technical and managerial issues associated with the design, development and deployment of security of client/server and other computer systems. Topics include security and privacy issues associated with architectures, platform connectivity and networks.

Prerequisite(s): None.

BCIS 5640 - Object-Oriented Systems

3 hours

Examines a variety of managerial issues associated with developing and implementing object-oriented system applications within business.

Prerequisite(s): BCIS 5120 and BCIS 5420, or consent of department.

BCIS 5650 - Emerging Information Technologies

3 hours

Examines various managerial and technical issues associated with the introduction of new information technologies within the firm. Subjects include environmental scanning for new IT developments, assessment of new IT and legal/ethical issues.

Prerequisite(s): None.

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.

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.

BCIS 5680 - Web-Based Systems Development

3 hours

Provides tools, skills and an understanding of technology, business concepts and issues that surround the emergence of electronic commerce on the Internet. In addition to acquiring basic skills for navigating the Internet and creating a personal electronic presence of the World Wide Web, the student will develop an understanding of the current practices and opportunities in electronic publishing, electronic shopping, electronic distribution and electronic collaboration. The student will also explore several of the problem areas in electronic commerce such as security (authentication, privacy), encryption, safeguarding or intellectual property rights, acceptable use policies and legal liabilities.

Prerequisite(s): BCIS 5120 or consent of department.

BCIS 5690 - Topics in Information Technology

3 hours

Current issues dealing with the development and use of information technologies in business.

Prerequisite(s): Consent of department.

May be repeated for credit.

BCIS 5700 - Strategic Use of Information Technology

3 hours

Provides an overview and understanding of the issues involved in the strategic management of the information assets of organizations. Examines a broad range of issues and problems associated with the management of information technology (IT) and information systems (IS) and their alignment with the strategic goals of the organizations. Focuses on the managerial rather than the technical issues and views IS from the perspective of managers at all levels.

Prerequisite(s): Completion of Foundation and Technology Sequence course work and within 9 hours of graduation.

BCIS 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.

Prerequisite(s): None.

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.

BCIS 5800 - Cooperative Education Internship

1–3 hours

Supervised work in a job related to student's career objective.

Prerequisite(s): Student must meet employer's requirements and have consent of department chair or BCIS master's coordinator.

Pass/no pass only. Cannot be used as a support course.

BCIS 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

BCIS 5910 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

BCIS 6010 - Seminar in Business Administration

3 hours

Covers one or more special fields.

Prerequisite(s): None.

May be repeated for credit. Two or more sections may be taken concurrently.

BCIS 6650 - Seminar in General Systems Theory

3 hours

Study of computer information systems in the context of their interaction with the environment in which they operate, including the human decision maker and how the information system is supported or inhibited by the orientation and design of the environment in which it operates.

Prerequisite(s): None.

BCIS 6660 - Comparative Information Systems Theory

3 hours

Comparative study of present theories with particular attention to the role of computer-based information systems in the organizational policy of business, government and other institutions.

Prerequisite(s): Consent of department.

May be repeated for credit.

BCIS 6670 - Topics in Information Systems

3 hours

Topics of historical, current and future relevance in the design, development, installation and management of computer-based information systems are examined using readings, case studies and lectures.

Prerequisite(s): Consent of department.

May be repeated for credit.

BCIS 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

BCIS 6910 - Special Problems

1–12 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

BCIS 6940 - Individual Research

1–12 hours

Individual research for the doctoral candidate.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

BCIS 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate 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 CoB Graduate Programs Office prior to registration.

May be repeated for credit.

Business Law

BLAW 5050 - Legal, Regulatory and Ethical Environment of Business

1.5 hours

Introduction to the legal environment of business, with particular emphasis on managerial decision-making. Includes a study of the litigation process and constitutional law; selected areas of private and public law, including government regulation; international dimensions of the legal environment of business, business ethics and the social responsibility of business organizations. Business context is emphasized with a focus on individual and managerial decision-making in response to legal and ethical issues.

Prerequisite(s): None.

BLAW 5400 - Law for Accountants and Managers

3 hours

Study of and practice in the technique of analyzing law problems and cases affecting accountants and managers. Topics include legal responsibility, business organizations, contracts, debtor-creditor relations, government regulation, uniform commercial code and property rights.

Prerequisite(s): None.

BLAW 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.

BLAW 5600 - Current Topics in Law

3 hours

Designed to provide information on the legal environment of specified functional areas as required by need of functional areas and/or changes in the law.

Prerequisite(s): None.

May be repeated for credit as topics vary.

BLAW 5610 - Legal Issues in Electronic Commerce

3 hours

Part of the electronic commerce track in the MBA program. Examination of the emerging law, ethics and public policy applying to computer technology, the Internet, and electronic business and commerce.

Prerequisite(s): BLAW 5050, or equivalent with approval of instructor.

BLAW 5760 - Insurance Law

3 hours

Designed to lead the student into a study of fundamental legal doctrines and concepts applicable to the field of insurance. Includes contract law, parties to the contract, insurable interest, agency powers, waiver and estoppel, warranties, representations and concealments, the rights of the beneficiary and provisions controlling and limiting loss. Pertinent to the life-health and property-liability insurance areas.

Prerequisite(s): None.

BLAW 5770 - Advanced Real Estate Law and Contracts

3 hours

In-depth study of legal principles governing real estate transactions with an emphasis on promulgated contracts. Topics may include contract law, estates in land, types of ownership, deeds, mortgages, title insurance, agency and homestead.

Prerequisite(s): None.

BLAW 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

Chamber Music

MUCM 5510 - String Chamber Music

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

MUCM 5520 - Woodwind Chamber Music

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

MUCM 5530 - Brass Chamber Music

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

MUCM 5540 - Percussion Chamber Music

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

MUCM 5550 - Jazz Chamber Music

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

Chemistry

CHEM 5010 - Introduction to Graduate Teaching and Research

2 hours

Topics include university policies, safety in the laboratory, first aid techniques, teaching techniques, audio-visual facilities and operation, use of the university libraries, university/departmental computational facilities, PC facilities and use, and maintaining a research journal.

Prerequisite(s): Graduate standing in the chemistry department.

Required for all full-time first-year graduate students.

CHEM 5200 - Physical Chemistry

3 hours

Survey of selected topics in physical chemistry, including thermodynamics, mechanics, statistical mechanics, heterogeneous and homogeneous equilibria, and chemical kinetics.

Prerequisite(s): CHEM 3520 or consent of department.

CHEM 5210 - Advanced Physical Chemistry

3 hours

Basic concepts of quantum mechanics are emphasized utilizing several models to aid in the description, such as the square well model, the rigid rotator, the hydrogen atom and the hydrogen molecule ion. The applications of quantum mechanics to chemical systems are considered in terms of resonance, wave mechanics, perturbation and variation methods.

Prerequisite(s): Pass exemption examination in physical chemistry, or CHEM 5200.

CHEM 5380 - Organic Chemistry

3 hours

Survey of organic chemistry involving a systematic study of classes of reactions with an integration of fact and theory.

Prerequisite(s): CHEM 2380 or consent of department.

CHEM 5390 - Selected Topics in Analytical Chemistry

3 hours

Topics of current interest, which vary from year to year.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

CHEM 5450 - Advanced Techniques in Analytical Chemistry

1–3 hours

Methods and instrumentation currently used in the analysis of materials. Presented in modular units of approximately three to four weeks duration. Typical subjects include fundamentals of liquid and gas-liquid chromatography, atomic absorption spectroscopy, polarography and related electroanalytical methods and X-ray fluorescence spectroscopy.

Prerequisite(s): None.

Credit: 1 semester hour per module. May be repeated for credit as topics vary. Laboratory fee when laboratory involved.

CHEM 5460 - Surveys of Modern Analytical Chemistry

3 hours

Survey of modern analytical methods with emphasis on instrumental techniques and data handling, including separation methods, electrochemical methods and spectroscopy.

Prerequisite(s): Consent of department.

CHEM 5500 - Physical Organic Chemistry

3 hours

Mechanisms of organic reactions and the effect of reactant structures on reactivity.

Prerequisite(s): Pass exemption examination in organic chemistry, or CHEM 5380.

CHEM 5530 - Materials Chemistry

3 hours

Application of quantum chemical principles to understanding the general behavior of materials. Course will include semiconductors, metals, catalysts and "nano-designed" materials (e.g., quantum wells).

Prerequisite(s): CHEM 3520 or equivalent, or consent of department.

CHEM 5560 - Inorganic Chemistry

3 hours

Survey of inorganic chemistry involving a systematic study of atomic structure, structure and bonding in inorganic and organometallic compounds, and representative inorganic reactions.

Prerequisite(s): Consent of department.

CHEM 5570 - Advanced Analytical Chemistry

3 hours

Advanced treatment of analytical chemistry, including the following topics: advanced separation methods, analytical applications of electrochemistry and spectroscopy, experimental design, sampling and data analysis.

Prerequisite(s): Pass exemption examination in analytical chemistry, or CHEM 5460.

CHEM 5610 - Selected Topics in Physical Chemistry

3 hours

Topics of current interest, which vary from year to year.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

CHEM 5620 - Selected Topics in Inorganic Chemistry

3 hours

Topics of current interest, which vary from year to year. Topics include ligand field theory, physical methods in inorganic chemistry, group theory and molecular symmetry, and recent advances in transition and non-transition metal chemistry.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

CHEM 5640 - Selected Topics in Organic Chemistry

3 hours

Topics of current interest, which vary from year to year.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

CHEM 5650 - Kinetics of Chemical Reaction

3 hours

Reactions and reaction rates; determination of rate laws for simple and complex reactions; deduction of reaction mechanisms; reaction energetics; chain reactions; theories of elementary reaction rates; reactions at extreme rates; extra-kinetic probes of mechanism.

Prerequisite(s): Consent of department.

CHEM 5660 - Computational Chemistry and Biochemistry

3 hours (2;3)

Introductory course covering the latest techniques for the study of reactions of interest to chemists and biologists via the use of molecular modeling and quantum mechanical simulations.

Prerequisite(s): Consent of department.

CHEM 5700 - Thermodynamics

3 hours

Reversible and irreversible thermodynamics of gases, liquids, solids and solutions; free energy relationships of ideal and non-ideal solutions; introduction to statistical calculation of thermodynamic properties.

Prerequisite(s): Consent of department.

CHEM 5710 - Advanced Inorganic Chemistry

3 hours

Advanced study of the interrelation of structure, bonding and reactivity of inorganic and organometallic compounds; basic applications of molecular symmetry and group theory to chemical problems.

Prerequisite(s): Pass exemption examination in inorganic chemistry, or CHEM 5560.

CHEM 5800 - Procedures and Materials for Science Instruction

3 hours (2;4)

Problems, techniques and procedures for classroom and laboratory experiences based on current science education research. Recommended for students who desire secondary teacher certification in a science field. Field experience in the public schools is a required component.

Prerequisite(s): Completion of undergraduate science courses required for certification and consent of department.

CHEM 5810 - Selected Topics in Chemistry Education

3 hours

Topics of current interest that vary from year to year.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

CHEM 5820 - Studies in Chemistry Education: Pedagogical Materials and Curriculum Development

3 hours (2;1)

Examines national trends in science education curriculum, explores issues associated with materials development and testing as it applies to chemistry curriculum, and engages students in implementing the protocols used within the discipline focusing on chemical demonstration activities.

Prerequisite(s): None.

CHEM 5840 - Chemistry Behind the Elements

3 hours

The fundamentals of the universe are based on principles of periodicity as revealed in the descriptive chemistry of the elements. Among the areas covered are the characteristics of the families of elements, when and where each element was discovered and by whom the discoveries were made. Also includes the impact these discoveries have had on society and technological advances. Pertinent industrial applications of the elements and materials derived from them are presented.

Prerequisite(s): None.

CHEM 5880 - Learning Theories in Chemistry Education

3 hours

Survey of chemistry education and preparation for teaching and learning as they have developed, along with pertinent research findings and design from the current literature.

Prerequisite(s): None.

CHEM 5900 - Special Problems

1–3 hours

For students capable of developing a problem independently through conferences and activities directed by the instructor. Problem chosen by the student with the consent of the instructor.

Prerequisite(s): None.

CHEM 5910 - Special Problems

1–3 hours

For students capable of developing a problem independently through conferences and activities directed by the instructor. Problem chosen by the student with the consent of the instructor.

Prerequisite(s): None.

CHEM 5920 - Research Problems in Lieu of Thesis

3 hours

Introduction to research; may consist of an experimental, theoretical or review topic. A paper conforming to recommendations outlined in the "Handbook for Authors of Papers in the Journals of the American Chemical Society" must be submitted for credit in each course.

Prerequisite(s): None.

CHEM 5930 - Research Problems in Lieu of Thesis

3 hours

Introduction to research; may consist of an experimental, theoretical or review topic. A paper conforming to recommendations outlined in the "Handbook for Authors of Papers in the Journals of the American Chemical Society" must be submitted for credit in each course.

Prerequisite(s): None.

CHEM 5940 - Seminar in Current Chemistry

1 hour

Colloquia covering current topics in chemistry.

Prerequisite(s): Senior standing.

Required of all full-time graduate students in each term/semester of graduate residence. May be repeated for credit. Pass/no pass only.

CHEM 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

CHEM 5960 - Science Institute

1–6 hours

Courses for students accepted by the university for enrollment in special institute courses.

Prerequisite(s): None.

May be repeated for credit, not to exceed a total of 6 hours in each course.

CHEM 6010 - Seminar for Doctoral Candidates

3 hours

Demonstration of competence in a specific area of chemistry (analytical, organic, physical, inorganic) as evidenced by criteria established by the faculty of each discipline.

Prerequisite(s): None.

May be repeated for credit. Six credit hours required.

CHEM 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.

Prerequisite(s): BIOC 4540 or equivalent.

CHEM 6540 requires algebraic and trigonometric calculations, and requires the background to perform such.

CHEM 6900 - Special Problems

1–3 hours

For doctoral students capable of developing a problem independently through conferences and activities directed by the instructor. Problem selected by the student with the consent of the major professor.

Prerequisite(s): None.

CHEM 6910 - Special Problems

1–3 hours

For doctoral students capable of developing a problem independently through conferences and activities directed by the instructor. Problem selected by the student with the consent of the major professor.

Prerequisite(s): None.

CHEM 6940 - Individual Research

1–12 hours

Doctoral research of independent nature.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

CHEM 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 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): None.

May be repeated for credit.

CHEM 6990 - Individual Research

1–3 hours

For postdoctoral fellows to further training and research experience in developing and solving research problems independently.

Prerequisite(s): Consent of department.

May be repeated for credit. Pass/no pass only.

CHEM 6991 - Individual Research

1–3 hours

For postdoctoral fellows to further training and research experience in developing and solving research problems independently.

Prerequisite(s): Consent of department.

May be repeated for credit. Pass/no pass only.

Communication Studies

COMM 5080 - Introduction to Graduate Study and Research in Communication Studies

3 hours

Broad perspective on communication studies content areas.

Prerequisite(s): None.

COMM 5085 - Pedagogy and Communication

3 hours

Study of pedagogy and communication. Examines philosophical, theoretical and practical issues faced by university instructors.

Prerequisite(s): None.

COMM 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

COMM 5180 - Qualitative Research Methods in Communication

3 hours

Qualitative research methodologies for communication studies research.

Prerequisite(s): None.

COMM 5185 - Quantitative Research Methods in Communication

3 hours

Experimental and quantitative techniques usable in research in communication.

Prerequisite(s): None.

COMM 5220 - Organizational Communication

3 hours

Study of the transmission of information and ideas within an organization with emphasis on the problems encountered in the business world.

Prerequisite(s): None.

COMM 5221 - Crisis and Disaster Communication

3 hours

Theoretical and practical examination of communication during crises and/or disasters. The role of communication in crisis/disaster planning, real-time crisis response, and post-crisis recovery and sensemaking.

Prerequisite(s): None.

COMM 5223 - Communication and Aging

3 hours

Examination of the role of communication in the aging process. Theories related to communication and aging are explored in a variety of contexts including intergenerational interactions, interpersonal relationships, family relationships, health care interactions, the workplace, mass media, political communication and cultural contexts.

Prerequisite(s): None.

COMM 5225 - Interpersonal Communication

3 hours

Contemporary research and theory in the study of communication patterns found at various stages of normal interpersonal interactions.

Prerequisite(s): None.

COMM 5226 - Seminar in Health Communication

3 hours

Introduction of communication theories and approaches related to health care in interpersonal, organizational and mass communication settings.

Prerequisite(s): None.

COMM 5227 - Seminar in Intercultural Communication

3 hours

Provides an opportunity to explore existing and emerging issues, theories and practices in intercultural communication.

Prerequisite(s): None.

COMM 5240 - Rhetoric and Mediated Culture

3 hours

Rhetorical consequences of mediated discourse on American culture. May include critical and cultural approaches for theorizing the rhetorical creation and maintenance of political identity, social movements, campaign or war rhetoric, theories of mediated persuasion and political influence, ideological and feminist criticism of media, the rhetorical aspects of popular culture, and theories of aesthetic rhetorics.

Prerequisite(s): None.

COMM 5260 - Seminar in Adaptation and Staging

3 hours

Historical and contemporary theoretical approaches to the adaptation and staging of texts for performance.

Prerequisite(s): None.

COMM 5265 - Performance Methods

3 hours

Survey of 20th- and 21st-century performance methods. Examination of performance methods as critical discourses and how they impact teaching, performance and the means of writing about performance.

Prerequisite(s): None.

COMM 5325 - Communication Theory

3 hours

Survey of scientific and humanistic perspectives on the communication process and social contexts in which it occurs.

Prerequisite(s): None.

COMM 5340 - Rhetorical Methods

3 hours

Use of critical and rhetorical theories in the investigation and evaluation of rhetorical acts and artifacts.

Prerequisite(s): None.

COMM 5345 - Rhetorical Theory

3 hours

Examination of significant rhetorical theories and theorists.

Prerequisite(s): None.

COMM 5365 - Performance Theory

3 hours

Historical and contemporary theoretical approaches to performance studies, including theories from related disciplines and their impact on theory and practice in performance studies.

Prerequisite(s): None.

COMM 5420 - Seminar in Computer-Mediated Communication

3 hours

Examination of communication in technologically mediated environments through principles derived from cognitive and social psychology. Emphasis on theory and research in computer-mediated communication with special emphasis on CMC as an area leading to original research.

Prerequisite(s): None.

COMM 5440 - Public Address Studies

3 hours

Research and theory in the critical interpretation and assessment of public discourse.

Prerequisite(s): None.

COMM 5445 - Feminist Criticism

3 hours

Examination of research and theories of feminist criticism in communication studies focusing on themes, traditions and touchstones of gender communication from a critical perspective.

Prerequisite(s): None.

COMM 5460 - Narrative Theory

3 hours

Examination of theories of narrative and narrative structure and their significance. The study of narrative and nonnarrative phenomena, including fiction, drama, film and politics.

Prerequisite(s): None.

COMM 5480 - Practicum

3 hours

Training in the teaching of some aspect of communication. Under the supervision of a faculty member, the student prepares and presents instructional units, conducts class discussions and handles administrative matters peculiar to the type of course involved.

Prerequisite(s): None.

No more than 3 hours may apply toward master's degree. Duties performed under teaching fellowships or graduate assistantships do not earn credit in this course.

COMM 5481 - Graduate Internship

3 hours

Supervised work in a job related to the student's major, professional field of study or career objective.

Prerequisite(s): 9 graduate hours in communication; two letters of recommendation from professors in department; and consent of internship director.

COMM 5485 - Topics in Gender and Communication

3 hours

Examination of research and theory in gender and communication, investigating how communication structures gender and how gender affects communication.

Prerequisite(s): None.

May be repeated once for credit as topic varies; course may be taken for 3 hours credit as Critical/Cultural Approaches to Gender and for 3 hours credit as Social Scientific Approaches to Gender.

COMM 5540 - Freedom of Expression

3 hours

Theories, statutes and cases involving the First Amendment guarantee of freedom of speech.

Prerequisite(s): None.

COMM 5545 - Race and Public Culture

3 hours

Studies the functionality of race in public culture. Introduction to core theoretical concepts related to critical race studies. An examination of case studies related to race, racialization and racism in public discourse in the United States.

Prerequisite(s): None.

COMM 5560 - 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.

Prerequisite(s): None.

COMM 5625 - Communication Consulting

3 hours

Examination of organization communication consulting and of communication theorists and practitioners. Opportunities to develop and/or refine training and facilitating skills and unique models of communication consulting.

Prerequisite(s): None.

COMM 5640 - Classical Rhetoric

3 hours

Study of classical rhetorical texts, authors and concepts. Emphasis on philosophical, theoretical and pedagogical principles as the foundation for Western thought and education.

Prerequisite(s): None.

COMM 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.

Prerequisite(s): None.

COMM 5740 - Visual Rhetoric

3 hours

Study of the effect and effectiveness of images in a number of contexts. An introduction to studies on visual culture, which includes topics such as iconography, memory studies, photojournalism and democracy, desire and the image, archiving, body politics, and spectatorship and the politics of viewing.

Prerequisite(s): None.

COMM 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.

Prerequisite(s): None.

COMM 5820 - Seminar in Communication Processes

3 hours

Contemporary research and theory in communication processes. Rotating topics.

Prerequisite(s): None.

May be repeated for credit as topics vary.

COMM 5840 - Seminar in Rhetorical Studies

3 hours

Contemporary research and theory in oral rhetorical studies. Rotating topics.

Prerequisite(s): None.

May be repeated for credit as topics vary.

COMM 5860 - Seminar in Performance Studies

3 hours

Contemporary research and theory in performance studies. Rotating topics.

Prerequisite(s): None.

May be repeated for credit as topics vary.

COMM 5880 - Seminar in Communication Studies and Research

3 hours

Rotating topics.

Prerequisite(s): None.

May be repeated for credit as topics vary.

COMM 5900 - Special Problems

1–3 hours

For students capable of developing a problem independently through conferences and activities directed by the instructor. Problem chosen by the student with the consent of the department director.

Prerequisite(s): None.

COMM 5910 - Special Problems

1–3 hours

For students capable of developing a problem independently through conferences and activities directed by the instructor. Problem chosen by the student with the consent of the department director.

Prerequisite(s): None.

COMM 5920 - Research Problems in Lieu of a Thesis

3 hours

Prerequisite(s): None.

COMM 5930 - Research Problems in Lieu of a Thesis

3 hours

Prerequisite(s): None.

COMM 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

Computer Science and Engineering

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.

Prerequisite(s): None.

CSCE 5100 - Theory of Computation

3 hours

Computation by abstract devices, time complexity, inherent complexity of problems, complexity hierarchies, reductions, nondeterminism and NP-completeness, approximation and intractable problems.

Prerequisite(s): None.

CSCE 5150 - Analysis of Computer Algorithms

3 hours

Study of efficient algorithms for various computational problems. Topics include advanced techniques of algorithm design: divide-and-conquer, the greedy method, dynamic programming, search and traversal, back-tracking and branch-and-bound. Other topics include NP-Completeness theory, including approximation algorithms and lower bound theory, and probabilistic algorithms.

Prerequisite(s): None.

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.

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.

Prerequisite(s): None.

CSCE 5200 - Information Retrieval and Web Search

3 hours

Covers traditional material and recent advances in information retrieval, study of indexing, processing and querying textual data, basic retrieval models, algorithms and information retrieval system implementations. Covers advanced topics in intelligent information retrieval, including natural language processing techniques and smart web agents.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CSCE 5213 - Modeling and Simulation

3 hours

Modeling of business and scientific discrete-event processes. Directed graphs. Critical path analysis. Queuing theory. Markov processes. Stochastic models. Introductions to systems simulation and industrial dynamics. Programming languages for simulation.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CSCE 5216 - Pattern Recognition

3 hours

Study of the fundamentals of pattern recognition techniques including Bayesian decision and estimation, non-parametric methods, multi-class classifiers and feature selection methods.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CSCE 5220 - Computer Graphics

3 hours

Basic principles for the design, use and understanding of graphics systems. Design and implementation of graphics software packages, applications and algorithms for creating and manipulating graphics displays.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CSCE 5225 - Digital Image Processing

3 hours

Study of the fundamentals of digital image processing techniques, including image formation, filtering and image enhancement, restoration, region and edge segmentation, and image coding.

Prerequisite(s): None.

CSCE 5230 - Methods of Numerical Computations

3 hours

Introduction to numerical methods and mathematical software for scientific computation. Floating-point number systems, machine precision, cancellation error, conditioning and stability. Linear systems, Gaussian elimination and matrix decomposition. Polynomial and spline interpolation. Numerical integration. Ordinary differential equations. Non-linear equations.

Prerequisite(s): None.

CSCE 5250 - Introduction to Game Programming

3 hours

2D game programming techniques, including real-time, event-driven and multimedia programming. Graphics, sound and input programming.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

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.

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.

CSCE 5270 - Computer-Human Interfaces

3 hours

Emphasizes human performance in using computer and information systems. Topics for software psychology include programming languages, operating systems control languages, database query facilities, computer-assisted dialogues, personal computing systems, editors, word processing and terminal usage by non-skilled users.

Prerequisite(s): None.

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.

CSCE 5290 - Natural Language Processing

3 hours

Introduction to natural language processing; modern theories of syntax; context-free parsing; transformational syntax and parsing; augmented transition networks; and survey of natural language processing systems.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CSCE 5370 - Distributed and Parallel Database Systems

3 hours

Consists of two parts: distributed database systems and parallel database systems. Provides fundamental and advanced concepts and techniques of these systems which have become important issues not only in academia, but also in industries for the study and development of large scale database systems. Prepares students for research in the area of database systems. In addition to lectures which provide a broad base for understanding strategic concepts and technologies, each student performs a study on specific topics of his or her choice.

Prerequisite(s): None.

CSCE 5380 - Data Mining

3 hours

Introduction to data mining which includes main data mining tasks, e.g. classification, clustering, association rules, and outlier detection, and some of the latest developments, e.g. mining spatial data and web data.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CSCE 5420 - Software Development

3 hours

Systems analysis, software requirements analysis and definition, specification techniques, software design methodologies, performance measurement, validation and verification, and quality assurance techniques.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CSCE 5440 - Real-Time Software Development

3 hours

Specification of real-time system requirements, timing, synchronization and fault-tolerance issues, construction and validation of real-time software. Mathematical formalisms, design and analysis using real-time UML are also emphasized.

Prerequisite(s): None.

CSCE 5450 - Programming Languages

3 hours

Notations for description of language syntax and semantics. Properties of algorithmic languages: scope of variables, binding time, subroutines and co-routines. Data abstraction, exception handling and concurrent programming. Dialects and standardization.

Prerequisite(s): None.

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.

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.

CSCE 5510 - Wireless Communications

3 hours

Fundamentals of wireless communications. Topics covered include radio propagation channel characteristics and models, modulation, coding and receiver signal processing techniques in fading channels, multiple access techniques for wireless systems, fundamentals of wireless networks, and major cellular and wireless LAN standards.

Prerequisite(s): None.

CSCE 5520 - Wireless Networks and Protocols

3 hours

Architecture and elements of a wireless network. Use and process of mobility management. Signaling schemes used in wireless networks, network signaling, protocols and standards (GSM, IS-95, WAP, MobileIP, GPRS, UMTS and CDMA2000). Analysis of the operation and performance of wireless protocols.

Prerequisite(s): None.

CSCE 5530 - Computer Network Design

3 hours

Fundamental concepts, requirements and design tradeoffs, particularly as related to scheduling, congestion control, routing and traffic management. Wireless access, mobility (including WLAN), VoIP and applications. Firewalls, NATs, VPN, high availability and optical rings.

Prerequisite(s): None.

CSCE 5540 - Introduction to Sensor Networks

3 hours

Fundamentals of wireless sensor networks. Topics include: design implications of energy (hardware and software), and otherwise resource-constrained nodes; network self-configuration; services such as routing under network dynamics, localization, time-synchronization and calibration; distributed data management, in-network aggregation and collaborative signal processing, programming tools and language support.

Prerequisite(s): None.

CSCE 5550 - Introduction to Computer Security

3 hours

Theory and practice of computer security, stressing security models and assurance. Security goals, threats and vulnerabilities. Cryptography, program security and operating system security issues. Basic network security. Planning, policies and risk analysis.

Prerequisite(s): None.

CSCE 5555 - Computer Forensics

3 hours

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.

Prerequisite(s): None.

CSCE 5560 - Secure Electronic Commerce

3 hours

Electronic commerce technology, models and issues, with emphasis on security issues. Supporting technology such as cryptography, digital signatures, certificates and public key infrastructure (PKI). Security-conscious programming for web-based applications. Exposure to interaction between technical issues and business, legal and ethical issues. Includes a research project.

Prerequisite(s): None.

CSCE 5565 - Secure Software Systems

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.

CSCE 5580 - Computer Networks

3 hours

Study of problems and limitations associated with interconnecting computers by communication networks. ISO reference model, architecture of circuits, message and packet switching networks, network topology, routing, flow control, capacity assignment, protocols, coding and multiplexing.

Prerequisite(s): CSCE 5610.

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.

Prerequisite(s): None.

CSCE 5610 - Computer System Architecture

3 hours

Macro structure and instruction set of computer systems. Survey of characteristic architectures of central processors and systems. Topics selected from mini-, micro-, large-scale and highly parallel computers. I/O control; associative memories; characteristics of storage devices; paging; multiprocessors; terminals. Design of the computer utility and other communications-oriented systems.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CSCE 5620 - Real-Time Operating Systems

3 hours

Basic real-time operating systems concepts and services, including interrupt processing, process and thread models, real-time software architectures and development environments. Detailed study of the design and implementation of real-time applications using real-time operating systems. Focus on commercial real-time operating systems/development environments, including vxWorks, RTOS, MicroC/OS-II and pOSEK/pOSEKSystem.

Prerequisite(s): None.

CSCE 5640 - Operating System Design

3 hours

Advanced topics such as operating system design, job control languages, problems of multiprogramming and multiprocessing, computer networks, interaction, overlays, paging and accounting for resource usage (customer billing and hardware monitoring). System architecture. Interactive computers: time sharing, real-time and process control.

Prerequisite(s): None.

CSCE 5650 - Compiler Design

3 hours

Formal language specification, lexical analysis, parsing, code generation, error recovery techniques and optimization. Detailed study of two or three compilers.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CSCE 5680 - Distributed Systems

3 hours

Introduces the main principles underlying distributed systems: processes, communication, naming, synchronization, consistency, fault tolerance and security.

Prerequisite(s): None.

CSCE 5730 - Digital CMOS VLSI Design

3 hours

Introduction to VLSI design using CAD tools, CMOS logic, switch level modeling, circuit characterization, logic design in CMOS, systems design methods, test subsystem design, design examples, student design project. Design project to be fabricated and tested in a follow-up course.

Prerequisite(s): None.

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 nano-electronic based energy-efficient design, high performance design, reliable system design, secure system design targeted for Internet of Things (IoT) and smart city components.

Prerequisite(s): None.

May be repeated for credit as topics vary for a maximum of 6 hours.

CSCE 5760 - Design for Fault Tolerance

3 hours

Introduction to the hardware and software methodologies for specifying, modeling and designing fault-tolerant systems supported by case studies of real systems. The material presents a broad spectrum of hardware and software error detection and recovery techniques that can be used to build reliable networked systems. The lectures discuss how the hardware and software interplay, what techniques can be provided in COTS hardware, what can be embedded into operating system and network communication layers, and what can be provided via distributed software layer and in the application itself.

Prerequisite(s): CSCE 5730.

CSCE 5810 - Biocomputing

3 hours

Introduction to computational problems inspired by the life sciences and overview of available tools. Methods to compute sequence alignments, regulatory motifs, phylogenetic trees and restriction maps.

Prerequisite(s): None.

Same as BIOL 5810. Meets with CSCE 4810.

CSCE 5820 - Computational Epidemiology

3 hours

Application of computational methods to problems in the field of public health. Design and implementation of disease outbreak models.

Prerequisite(s): None.

Same as BIOL 5820. Same as GEOG 5960. Meets with CSCE 4820.

CSCE 5900 - Special Problems

1–3 hours

Independent study and research of a specific problem in a field of computer science and engineering or its application. A report is required defining the problem and developing a solution. The work may be supervised by any member of the graduate faculty.

Prerequisite(s): 8 hours of computer science and engineering with grades of A or B; prior approval of written plan by the faculty supervisor and by the computer science and engineering department chair.

May be repeated for credit.

CSCE 5932 - Internship

1 hour

Supervised work in a job that meets specific educational and career objectives of the student. Requires submission of a final report summarizing industrial experience gained through the internship.

Prerequisite(s): Consent of department.

CSCE 5933 - Topics in Computer Science and Engineering

3 hours

Advanced study of languages, files and processing techniques with applications selected from reservations systems, inventory systems and other administrative applications, process control, computer-assisted instruction, information storage and retrieval, artificial intelligence, heuristic programming and so forth, depending on class interest.

Prerequisite(s): 6 hours advanced courses in computer programming.

May be repeated for credit with consent of instructor.

CSCE 5934 - Directed Study

1–4 hours

Study of topics in computer science and engineering by individuals or small groups. A student taking CSCE 4890 or CSCE 5934 may work with other students taking these courses on the same topic if the faculty supervisor agrees. The student is to prepare a plan for study of a topic and a plan for evaluation of study achievements. Prior approval by the computer science and engineering department chair and a graduate faculty member who agrees to supervise the work is required for the plan.

Prerequisite(s): 6 hours of computer science and engineering with a grade of A or B.

Open to students with graduate standing who are capable of developing problems independently. May be repeated for credit.

CSCE 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

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.

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.

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, CSCE 5216 or CSCE 5225, or equivalent.

May be repeated for credit as topics vary for a maximum of 6 hours.

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.

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.

Prerequisite(s): CSCE 5000-level course as appropriate for topic and consent of instructor.

May be repeated for credit as topics 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.

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.

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.

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.

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.

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.

CSCE 6590 - Advanced Topics in Wireless Communications and Networks

3 hours

Research issues in the design of next generation wireless networks: cellular systems, medium access techniques, signaling, mobility management, control and management for mobile networks, wireless data networks, Internet mobility, quality-of-service for multimedia applications, caching for wireless web access, and ad hoc networks.

Prerequisite(s): CSCE 5510 or CSCE 5520.

May be repeated for credit.

CSCE 6610 - Advanced 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.

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.

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.

Prerequisite(s): CSCE 5640 or consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

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.

CSCE 6731 - Advanced Topics in VLSI Systems

3 hours

Design, simulation, synthesis and optimization of nanoscale CMOS and nano-electric 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 Nano-electronics."

Prerequisite(s): CSCE 5730 or consent of instructor.

May be repeated for credit as topics 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.

Prerequisite(s): None.

Same as BIOL 6810.

May be repeated for credit as topics vary.

CSCE 6900 - Special Problems

1–3 hours

Independent study and research of a specific problem in a field of computer science and engineering. A report defining the problem and developing a solution is required. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): PhD status.

May be repeated for credit with consent of department.

CSCE 6933 - Advanced Topics in Computer Science and Engineering

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.

CSCE 6940 - Individual Research

1–6 hours

To be scheduled by the doctoral candidate engaged in research.

Prerequisite(s): None.

May be repeated for credit.

CSCE 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Counseling

COUN 5000 - Filial/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.

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.

Prerequisite(s): COUN 5690; must be taken concurrently with COUN 5720/COUN 5721.

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.

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.

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.

COUN 5400 - Planning and Organizing Comprehensive Career Programs

3 hours

Study of the purposes and functions of a comprehensive career development program; components of a comprehensive career program; techniques for providing comprehensive career programs to junior high, middle school, secondary and adult students.

Prerequisite(s): None.

COUN 5410 - History and Current Trends in Comprehensive Career Counseling Programs

3 hours

Overview of the history of career counseling. Special attention will be focused upon current trends in the field of comprehensive career counseling.

Prerequisite(s): COUN 5680, COUN 5710.

COUN 5420 - Vocational Student Identification, Placement and Follow-up

3 hours

Focus on the process of identification and assessment of learner's interests and aptitudes; various instruments, methods and techniques used in assessment are examined. Particular emphasis is given to special needs learners, including at-risk youth and other targeting populations.

Prerequisite(s): None.

COUN 5460 - Program Development, Leadership and Ethics in School Counseling

3 hours

Introduction to the school counseling profession. Covers ethical standards, leadership and advocacy strategies, and development and management of the comprehensive developmental guidance program.

Prerequisite(s): COUN 5680 and COUN 5710, or consent of department. COUN 5680 and COUN 5710 may be taken concurrently.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

COUN 5470 - Career Development and Information Resources

3 hours

Survey of career development and counseling with emphasis on the occupational, career and educational information service.

Prerequisite(s): None.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

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.

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.

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.

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.

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.

COUN 5550 - Biofeedback and Relaxation Therapy

3 hours

Introduction to the use of biofeedback technology for the control of psychophysiological functions. Covers basic principles of psychophysiological self-regulation and mind-body interaction, basic biofeedback systems and instrumentation, treatment applications, professional conduct and personal experience using biofeedback.

Prerequisite(s): COUN 5680 and COUN 5710, or consent of instructor.

COUN 5560 - Practicum in Biofeedback

3 hours

Experiential training and practice utilizing biofeedback interventions and instrumentation in counseling. Requires personal experience in using therapeutic biofeedback methods for self and others.

Prerequisite(s): COUN 5550 or consent of instructor.

COUN 5561 - Advanced Practicum in Biofeedback

3 hours

Experiential training and practice utilizing biofeedback and neurofeedback interventions and instrumentation in counseling settings. Requires personal experience in using therapeutic biofeedback and neurofeedback methods for self and others.

Prerequisite(s): COUN 5550, COUN 5560 or consent of instructor.

Offered once per year.

COUN 5570 - Teachers as Human Relations Facilitators

3 hours

Emphasis on methodological approaches and activities designed to develop the ability to facilitate interpersonal relations in the classroom.

Prerequisite(s): None.

COUN 5580 - Family Counseling

3 hours

Application of family systems theory to the study of family dynamics, family development and the resolution of family conflicts.

Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

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.

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.

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.

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.

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.

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.

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.

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.

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.

COUN 5680 - Essential Skills in Counseling

3 hours

Study of selected basic techniques of counseling.
Prerequisite(s): None.
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.

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 5780; COUN 5720 and COUN 5721. COUN 5740 may be taken concurrently. Exceptions are on a case-by-case basis.
With the exception of COUN 5700, students may take an elective concurrently.
Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

COUN 5700 - Introduction to Play Therapy

3 hours

Enhancing the counseling relationship with children by utilizing play media to facilitate expression, self-understanding, and personal growth and development. Observation of and supervised experience in play therapy with children are an integral part of the course.

Prerequisite(s): EPSY 5123 or COUN 5670, COUN 5680 and COUN 5710, or consent of instructor.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

COUN 5710 - Counseling Theories

3 hours

Required upon first resident registration in program for master's degree. The course focuses on professional orientation, selected theories of counseling as they apply to normal and abnormal behavior and self-awareness through individual and group counseling. Degree plans are developed.
Prerequisite(s): None.
Course should be taken concurrently with COUN 5680.
Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

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.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

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.

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.

COUN 5750 - Professional Orientation, Ethics and College Student Development Theories

3 hours

History and philosophy of professional counseling and ethical, legal, professional and emerging issues specific to student affairs and college counseling. Study of student development theory as it relates to students in higher education and student affairs practice.

Prerequisite(s): COUN 5680 and COUN 5710 or consent of department. COUN 5680 and COUN 5710 may be taken concurrently.

COUN 5760 - Appraisal in Child and Adolescent Counseling

3 hours

Study of appraisal concepts and various instruments, procedures, methods and techniques used to assess learning and behavioral patterns of children.

Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

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.

COUN 5780 - The Student in Higher Education

3 hours

Focus on the nature and needs of the college student including older adolescent, young adults and returning adults. Reviews of demographic data about diversity of college populations, the changing relationship of students to colleges, the nature of student communities and the diverse patterns of structure and function by which colleges individualize education and provide for student affairs practice.

Prerequisite(s): COUN 5680 or consent of department.

COUN 5790 - Counseling Culturally Diverse Clients

3 hours

Development of counseling skills and strategies based upon the special needs and characteristics of culturally and ethnically diverse clients.

Prerequisite(s): COUN 5680 and COUN 5710, or consent of department.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

COUN 5795 - Race and Ethnicity in Education

3 hours

Examination of the basic constructs of race and ethnicity and analysis of how these constructs impact social, cultural, historical and educational environments.

Prerequisite(s): None.

COUN 5800 - Studies in Education

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops that concern themselves with specified topics, repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

COUN 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and department chair.

Prerequisite(s): None.

COUN 5910 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and department chair.

Prerequisite(s): None.

COUN 5930 - Research Problems in Lieu of Thesis

3 hours

Research dealing with significant problems in the field of counseling.

Prerequisite(s): None.

COUN 6033 - Advanced Teaching Internship in Counselor Education

3 hours

Internship experience designed to give doctoral students the opportunity to gain advanced professional experiences specific to students' career goals. Students gain experience teaching a counseling class under the direct supervision of counseling program faculty.

Prerequisite(s): COUN 6021, COUN 6651, COUN 6652.

COUN 6060 - Personal Growth Laboratory

3 hours

Small group counseling experience designed to facilitate members' realistic assessment of strengths and weaknesses in the emotional, intellectual and physical dimensions. Goal setting and creation of workable courses of action are encouraged.

Prerequisite(s): COUN 5740. Consent of instructor.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

COUN 6070 - Practicum in Group Counseling

3 hours

Intensive exploration of the dynamics of interpersonal relationships through supervised experience as the facilitator of counseling groups. Students will examine in depth their approach to group leadership in weekly seminar sessions.

Prerequisite(s): COUN 5690, COUN 5740. Consent of instructor.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

COUN 6080 - Seminar in Group Procedures and Group Counseling

3 hours

Critical analysis of group counseling and various group approaches, such as interpersonal process and other modalities applicable to working with groups. The seminar group explores the underlying theory of various approaches, participates as a group in the experience and then critiques the experience.

Prerequisite(s): COUN 5740. Consent of instructor.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

COUN 6090 - Counselor Supervision

3 hours

Critique of the literature in counselor supervision with discussion and didactic emphasis on the role of the counselor supervisor in the dynamics of supervisory relationships. Laboratory supervising master's-level students in a clinical counseling course.

Prerequisite(s): COUN 6220, COUN 6651, COUN 6680.

Corequisite(s): Taken concurrently with COUN 6230.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

COUN 6110 - Seminar in Career Development

3 hours

Analysis of the major theories of career development; relationship to major counseling movements, the psychology of career development and human resource development in business and industry are emphasized.

Prerequisite(s): COUN 5470 or consent of instructor.

COUN 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.

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.

COUN 6130 - Research in Counseling

3 hours

Survey and analysis of existing research and research methodology in counseling. A review of the literature in selected areas is required. Major research reports are evaluated for methodological strengths and weaknesses.

Prerequisite(s): EPSY 6010, EPSY 6020 and all doctoral core classes except COUN 6260. Strongly encouraged to have completed at least one other research tool course.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

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.

COUN 6150 - Advanced Crisis Counseling

1 hour

Study of advanced practice related to crisis, disaster and trauma-causing events and of implications for counselor preparation and supervision.

Prerequisite(s): Admission to doctoral program in counseling or consent of instructor. See Counseling Doctoral Program Handbook for sequencing requirements.

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.

Prerequisite(s): COUN 5700, COUN 6220, EPSY 6010 or EPSY 6020.

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.

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.

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.

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.

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.

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.

COUN 6651 - Advanced Theories of Counseling

3 hours

In-depth study of the major theories of counseling, including the philosophical and psychological assumptions that underlie them.

Prerequisite(s): None.

Counseling Program Policy requires that students earn grades of A or B on all degree-plan courses.

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.

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.

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.

COUN 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included. Problems must be approved in advance by instructor and department chair.

Prerequisite(s): None.

COUN 6910 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included. Problems must be approved in advance by instructor and department chair.

Prerequisite(s): None.

COUN 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 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): None.

May be repeated for credit.

Criminal Justice

CJUS 5000 - Criminal Justice Policy

3 hours

Methods of policy formulation, implementation and analysis in the criminal justice setting. Selected topics developed for practical research and evaluation.

Prerequisite(s): None.

CJUS 5050 - Criminals and Substance Abuse

3 hours

Investigation, analysis and discussion of the relationships between substance abuse and criminal and juvenile offenders.

Prerequisite(s): None.

CJUS 5100 - Information Warfare, Security and Risk Analysis

3 hours

In-depth examination of information warfare, the management of information security and the analysis of risk within organizational contexts.

Prerequisite(s): None.

CJUS 5120 - Cybercrime and Digital Forensics

3 hours

Examination of crimes using computers and the Internet as their primary medium, with practical analyses of evidence of these crimes.

Prerequisite(s): None.

CJUS 5130 - Information Policy, Law and Justice

3 hours

Critical consideration of some of the public policy, legal and societal justice implications of new information technology such as the Internet.

Prerequisite(s): None.

CJUS 5200 - Legal Aspects of the Criminal Justice System

3 hours

Examination of the legal process and procedures of the criminal justice system, including investigation, arrest, prosecution and sentencing.

Prerequisite(s): None.

CJUS 5250 - Administrative Law and Justice

3 hours

Discussion of the legal principles and doctrines applicable to the state and federal criminal justice agencies, including information policy, ethical and liability issues.

Prerequisite(s): None.

CJUS 5270 - Criminal Evidence

3 hours

Examines the problems of proof in the criminal justice process, including the admission and exclusion of evidence, the examination of witnesses, substitutes for evidence and procedural considerations. Both the theory and application of the evidentiary principles will be explored.

Prerequisite(s): None.

CJUS 5350 - Seminar in Contemporary Policing

3 hours

Survey of classical and recent literature in policing. Studies of the trends, issues and reform movements currently prominent in the field of policing.

Prerequisite(s): None.

CJUS 5450 - Punishment, Discipline and Social Policy

3 hours

Theoretical and practical bases of correctional goals and strategies focusing on offenders, the justice system and the public. The impact of various policies on the justice process and society is stressed.

Prerequisite(s): None.

CJUS 5460 - Correctional 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.

Prerequisite(s): None.

CJUS 5470 - Seminar on Juvenile Delinquency

3 hours

Problems of definition and measurement, etiological theories, processing of delinquents, and treatment and prevention.

Prerequisite(s): None.

CJUS 5500 - Seminar in Criminal Justice Administration

3 hours

Critical application of selected analytical tools in administering justice agencies; studies of the application of human and financial resources, productivity, measurement and enhancement, and organization design, culture and change in the context of criminal justice agencies.

Prerequisite(s): None.

CJUS 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.

Prerequisite(s): None.

CJUS 5600 - Advanced Criminological Theory

3 hours

Examination of the major theoretical explanations of criminality, the distribution of crime and the behavior of justice agencies.

Prerequisite(s): None.

CJUS 5620 - Seminar in Victimology

3 hours

Role of the victim in various types of crime, predators and treatment of trauma, and the treatment of victims by criminal justice agencies. Political impact of the victims' movement on the justice systems and the distribution of victims across demographic and behavioral groups.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CJUS 5700 - Evaluation and Research Methodologies

3 hours

Quantitative and qualitative methods of gathering and analyzing data on crime and the justice system, with special attention devoted to evaluation methods.

Prerequisite(s): None.

CJUS 5750 - Criminal Justice Statistics

3 hours

Explores the theory, practice and application of statistical analysis to the field of criminology and criminal justice. The student learns how to conduct independent statistical testing, understand the applications of statistics to research methods and the use of statistics in criminal justice. Prepares the student to conduct independent statistical analysis for criminal justice agencies or research purposes and to be able to use computer programs in statistical analysis and research.

Prerequisite(s): None.

CJUS 5800 - Topics in Criminal Justice

3 hours

Content varies as course covers specific issues of current interest and concern in criminal justice and criminology.

Prerequisite(s): None.

May be repeated for credit as topics vary.

CJUS 5850 - Directed Studies

3 hours

Individual research and writing on selected topics under faculty supervision.

Prerequisite(s): None.

CJUS 5900 - Special Problems

1–6 hours

Prerequisite(s): Consent of instructor.

CJUS 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): CJUS 5750.

May be repeated for credit.

Dance

DANC 5110 - Critical Analysis of Professional Literature

3 hours

Analysis and philosophical criticism of the literature in the student's major area and other related fields. Extensive reading assignments and discussion of published and unpublished research.

Prerequisite(s): None.

DANC 5200 - Improvisation as a Basis for Choreography

3 hours

Non-technical course dealing with advanced improvisational problems relating to gesture, body exploration, spatial and rhythmic exploration, group interaction and communication of time, space and motion.

Prerequisite(s): None.

DANC 5210 - Principles of Dance Theatre

3 hours (3;2)

Theoretical and creative aspects of choreography. Concepts relating to the development of creativity and artistic integrity in dance. The dual emphasis concerns large-group works and experimental forms.

Prerequisite(s): DANC 1400, DANC 2400 or DANC 3400.

Lecture and movement 3 hours per week plus a minimum of 60 clock hours in a movement laboratory.

DANC 5250 - Philosophy and Criticism of Dance

3 hours

In-depth examination and critical analysis of philosophical approaches and resultant aesthetics of performance and choreography through observation of dance performances and study of aesthetic theories and criticism.

Prerequisite(s): None.

DANC 5300 - Kinesiology and Biomechanics of Dance Injuries

3 hours

Factors of stress, force, motion, equilibrium and leverage affecting incidence and cause of injuries noted in dancers. Prevention, immediate care and rehabilitation of common injuries seen in the studio.

Prerequisite(s): Concurrent enrollment in DANC 1400, DANC 1410, DANC 2400 or DANC 2410.

Lecture and movement 3 hours weekly plus a minimum of 60 clock hours in a movement laboratory.

DANC 5400 - Survey of Performing Arts Management

3 hours

Survey course designed to point out the needs, values and roles of the managerial position in a performing arts organization, with special reference to the administration of professional dance.

Prerequisite(s): None.

DANC 5800 - Studies in Dance

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by regular offerings. Short courses and workshops on specific topics, on a limited-offering basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

DANC 5900 - Special Problems

1–3 hours

Problems must be approved by department chair.

Prerequisite(s): None.

DANC 5910 - Special Problems

1–3 hours

Problems must be approved by department chair.

Prerequisite(s): None.

Decision Sciences

DSCI 5180 - Introduction to the Business Decision Process

3 hours

Emphasis on model assumptions, applying the correct statistical model and interpreting the results. Topics include simple regression, multiple regression (e.g., qualitative variable coding, model building) and experimental design (e.g., completely randomized design, randomized block design, multi-factor designs).

Prerequisite(s): None.

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.

Prerequisite(s): None.

DSCI 5220 - Survey Analytics

3 hours

Introduction to sampling theory and applications. Attention is focused on major survey sampling techniques, including cluster, ratio, stratified and simple random sampling. Principal concepts and methods of acceptance sampling that are useful in quality control are presented, including operating characteristic curves, and single, double and sequential sampling plans for attributes and variables.

Prerequisite(s): DSCI 5180 or consent of department.

DSCI 5230 - Non-Parametric Statistics for Business Research

3 hours

Analysis of business research data that is categorical or ordinal (ranked or scaled) and is therefore not suitable for computations such as means and standard deviations. Topics include measurements of consumer preferences, market segmentation, labor or job grades, racial and sex classifications, and exempt characteristics and performance ratings. Single and multiple sample techniques are discussed.

Prerequisite(s): None.

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): None.

DSCI 5250 - Statistical Techniques in Simulation

3 hours

Examination of construction and use of simulation models in business. Random number and process generators, construction of simulation models, introduction to special purpose simulation languages and research project.

Prerequisite(s): None.

DSCI 5260 - Business Process Analytics

3 hours

Utilization of problem-solving techniques applied to the functional areas of business under risk and uncertainty. Business process analysis concepts, methodologies and tools are utilized in solving real problems in the business, government and academic settings. The foundations for this are business process analysis employing business process software, six sigma analysis and state-of-the-art statistical software. Students will develop and present solutions to the problems chosen for analysis. Emphasis is placed on problem structuring, creating solutions and presentations of solutions.

Prerequisite(s): DSCI 5240 or consent of department.

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.

DSCI 5320 - Quality Control

3 hours

Broad coverage of managerial and statistical aspects of quality control, including quality assurance and quality management. Topic coverage includes problem-solving tools, process capability assessment, control charts for variables, control charts for attributes and advanced control chart methods.

Prerequisite(s): None.

DSCI 5330 - Enterprise Applications of Business Intelligence

3 hours

Current issues in the utilization of business intelligence (BI) in business, government, academia and innovation. Topics include the concepts, methodologies and tools to efficiently and effectively implement business intelligence endeavors. Emphasis is placed on current direction of BI as it is relevant to projects underway in business, government and academia across all levels of their value chains. A semester project in the area of BI relevant to a functional area of business is an important component of this course.

Prerequisite(s): None.

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): None.

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): Consent of department.

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.

Prerequisite(s): None.

DSCI 5690 - Topics in Decision Sciences

3 hours

Current issues dealing with the development and use of decision science models in business.

Prerequisite(s): DSCI 5180 or consent of department.

May be repeated for credit as topics vary.

DSCI 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.
Pass/no pass only.

Cannot be used as a support course.

DSCI 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

DSCI 5910 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

Design

ADES 5410 - Foundations and Frameworks of Interaction Design

3 hours

Provides first-semester, first-year MA with a major in design and concentration in interaction design candidates 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 and concentration in interaction design, or consent of instructor.

May be repeated for credit for a maximum of 6 hours.

ADES 5420 - Human-Centered Interaction Design 1

3 hours

First of two, three-semester-credit-hour offerings that challenge first-year MA candidates in the interaction design program to explore how meaning is conveyed and interpreted through formal systems across interactive technology platforms as specific groups of users operate given products.

Prerequisite(s): Admission to the MA with a major in design and concentration in interaction design, or consent of instructor.

May be repeated for credit for a maximum of 6 hours.

ADES 5430 - Human-Centered Interaction Design 2

3 hours

Second of two, three-semester-credit-hour offerings that challenge first-year MA candidates in the interaction design program to explore how meaning is conveyed and interpreted through formal systems across interactive technology platforms as specific groups of users operate given products. Teaches students to 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 with a major in design and concentration in interaction design, or consent of instructor.

May be repeated for credit for a maximum of 6 hours.

ADES 5440 - Interaction Design Makerlab 1

3 hours

Designed to facilitate a series of learning experiences tailored to meeting the needs of students working individually rather than in groups or teams. Individual students are challenged to 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 on behalf of an assigned client, organization or institution. No two student's projects will evolve according to the same sets of parameters. Required precursor to the culminational, studiolab-based course in this curriculum, ADES 5460.

Prerequisite(s): Admission to the MA with a major in design and concentration in interaction design, or consent of instructor.

May be repeated for credit for a maximum of 6 hours.

ADES 5450 - Data and Information Visualization and Design

3 hours

Students learn to 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. Students use the knowledge they build from these learning experiences to guide and support decision-making and frame thinking that involves the iterative development of user-centered, interactive, information delivery-cum-interpretation experiences on behalf of specific audiences in particular scenarios of use. The visually communicative depictions of sequential and time-based data they learn to create also help these specific audiences make effective comparisons between and derive contextualized understandings from key concepts and patterns that this data reveals.

Prerequisite(s): Admission to the MA with a major in design and concentration in interaction design, or consent of instructor.

May be repeated for credit for a maximum of 6 hours.

ADES 5460 - Interaction Design Inception-to-Pitch Capstone Project

6 hours

Designed to 1) facilitate a series of learning experiences that requires groups of two to four of its students to work together in interdisciplinary teams in collaboration with either an industry partner, a community organization partner, or, in many cases, both to 2) design and implement a human-centered interaction on behalf of a specific group or set or groups who are being adversely affected or

inhibited by a particular set of social, economic, public policy, environmental or technological conditions. Each student team is challenged to develop and design an interactive system over the course of the semester that positively affects the behavior of their specified group or set of groups as they interact with particular products, environments, sets of protocols or procedures or systems within communities. No two student teams' projects will evolve according to the same sets of parameters.

Prerequisite(s): Admission to the MA with a major 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.

ADES 5510 - Processes and Methodology for Innovation

3 hours

Students explore and utilize a variety of processes and visual techniques that inform and guide ideation as a means to create a common language that allows them to communicate effectively across disciplinary backgrounds. The knowledge they gain from these experiences allows them to develop and actualize the kinds of visual solutions necessary for future programmatic and career-based success.

Prerequisite(s): Admission to the MA/MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5515 - Using Critical Methods to Guide Critical Writing in Design

3 hours

Introduces the five methodologies for engaging in intellectually rigorous, eclectically informed approaches to thinking and writing critically about how and why particular designed artifacts, systems, experiences, and processes create change among select populations. Class discussions, as well as historical and analytical research, inform specific writing assignments. Includes knowledge and skills acquisition to better understand and proactively affect how design thinking catalyzes social, environmental, economic, political, and technological change. Students choose to analyze and evaluate topics under the broadcast definitions of design and designing. Students formulate and explore eclectically guided arguments about how and why design is manufactured and disseminated for humans and meets human needs and desires.

Prerequisite(s): None.

ADES 5520 - Methods Employed by Design Researchers

3 hours

Students are immersed in learning experiences that challenge them to develop and then expand knowledge about how design research processes and methods can be utilized to connect design theory effectively with practice as a means to advance their ability to make sound critical judgments and formulate effective and appropriate strategies.

Prerequisite(s): None.

ADES 5521 - Applied Design Research Projects: 1

3 hours

Students apply research methods and theory acquired in ADES 5520 and ADES 5530 to individual and collaborative research projects and/or ongoing research for select DRC research initiatives. Student immersion in these research projects and/or streams provides them with the opportunity to apply previously learned knowledge in concrete ways, and demonstrate and hone their skills as design researchers.

Prerequisite(s): None.

ADES 5522 - Brand and Brand Experience

3 hours

Seminar-based course. Nature of brands and brand experiences are analyzed through a variety of economic, social and cultural lenses. Students are expected to comprehend and articulate, in writing and oral presentations, knowledge they gain regarding the essential nature of brands as they influence and are influenced by business and marketing trends, globalization, modern social psychology and cultural dynamics.

Prerequisite(s): Admission to the MA/MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5523 - Applied Design Research Projects: 2

3 hours

Students continue individually and/or collaboratively on one or more research projects and/or ongoing research streams secured by select CVAD faculty in association with the Design Research Center (DRC). Students successfully fuse commonly understood, design-led research theory and methods as part of their ongoing research for and work on select DRC research initiatives. Students apply knowledge in concrete ways to demonstrate and hone their skills as design researchers and to further ongoing DRC research.

Prerequisite(s): None.

ADES 5524 - Design and Its Social Ramifications

3 hours

Seminar-based course. Design process, its artifacts and their agency are examined from a broad array of socio-cultural perspectives.

Prerequisite(s): Admission to the MA/MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5525 - Applied Design Research Projects: 3

3 hours

Students continue individually and/or collaboratively on one or more research projects and/or ongoing research streams secured by select CVAD faculty in association with the Design Research Center (DRC). Students successfully fuse commonly understood, design-led research theory and methods as part of their ongoing research for and work on select DRC research initiatives.

Prerequisite(s): None.

ADES 5526 - Collaborative, Project-Based Design Research

3 hours

Collaborative, interdisciplinary teams apply the processes and methodologies introduced in ADES 5520 and ADES 5530 to identify, reframe (when necessary), develop and pose possible solutions for problems suitable for further theoretical and applied exploration. These problems are typically considered to be outside the domain of contemporary design practice, and their resolutions may result in new ways of doing, thinking or making, rather than in the production of artifacts.

Prerequisite(s): None.

ADES 5530 - Theories Employed by Design Researchers

3 hours

Immersive introduction to a diverse set of means to broaden understanding and to explain how and why design research can be formulated to foster and facilitate design processes that yield socially, economically and culturally relevant, innovative and sustainable outcomes. Design research presented is informed by a conceptual paradigm that is epistemologically broad in scope and as such capable of affecting the development of several types of theoretical models that are both practically applicable and that can effectively guide rigorous analytical processes. Introduces the developmental history of design research as a systematically rigorous, academically sound foundation upon which the continued revolution of design as a vital scholarly endeavor depends.

Prerequisite(s): None.

Corequisite(s): ADES 5520.

ADES 5532 - Design Pedagogy: Analysis and Processes

3 hours

Major emphasis on helping each student formulate a rationale/philosophy about the role of design/designers in the 21st century and his or her own role as a design educator; analysis/evaluation of effective undergraduate teaching methodologies for communication design education.

Prerequisite(s): Admission to the MFA in design with a concentration in innovation studies, or consent of instructor.

ADES 5534 - Design Education: Strategies and Tactics

3 hours

Seminar-based course examines the role of a design faculty member working within a collegial environment in the complete development of curricula for a new or revised program area.

Prerequisite(s): None.

ADES 5536 - The Role of Higher Education in Design and Society

3 hours

Seminar-based course examines the role of a design faculty member in the larger university setting, including but not limited to school/college structures, committee work—both in the college and at the university level—budgeting, advising, scheduling courses, expectations for a designer/faculty member in a college and university environment.

Prerequisite(s): None.

ADES 5538 - Guided Teaching Internship

3 hours

Each student is assigned to a professor in an undergraduate course. The student is expected to participate in the undergraduate course through assignment writing, presentation, critique, grading, handout preparation, advising and observation.

Prerequisite(s): None.

ADES 5540 - Communication Design Studio

3 hours (0;6)

For students qualified to develop professional competence in special areas of studio work.

Prerequisite(s): None.

May be repeated for credit for a maximum of 12 hours.

ADES 5545 - Communication Design Lecture Topics

3 hours

Developing additional competence in special areas.

Prerequisite(s): Consent of instructor. Specific courses may require additional prerequisites.

May be repeated for credit for a maximum of 12 hours.

ADES 5546 - Practicum in Design Research, Part 1

3 hours

In a two semester–long project, interdisciplinary teams identify a single problem and solve various social, economic, cultural or market based issues that ultimately manifest themselves in a visual expression of one form or another. Emphasis is placed on conceptual problem solving, exploration of multiple hypotheses, and the development of innovative solutions.

Prerequisite(s): None.

ADES 5548 - Practicum in Design Research, Part 2

3 hours

Continuation and culmination of the problem developed in ADES 5546. Documentation and presentation of this project are required.

Prerequisite(s): None.

ADES 5580 - Parallels in Art, Culture and Fashion

3 hours

Concentrated overview of developments in 20th-century fashion and the relationships between movements in art, design and popular culture.

Prerequisite(s): None.

ADES 5590 - Fashion Design Studio

3 hours (0;6)

For students qualified to develop professional competence in special areas of studio work.

Prerequisite(s): Admission to the MFA with a major in design and a concentration in fashion design or consent of instructor. Specific course may require additional prerequisites.

May be repeated for credit as topics vary for a maximum of 12 hours.

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.

ADES 5605 - Interior Design Studio

3 hours

For students qualified to develop professional competence in special areas of studio work.

Prerequisite(s): 12 hours of art in the selected area and consent of college.

May be repeated for credit.

ADES 5630 - Interior Design: Space Planning IV

3 hours (0;6)

Design of public/non-residential spaces: concept development, code analysis, systems furniture, ergonomics, lighting and building systems with an emphasis on sustainable strategies appropriate to a tenant finish out scope of work. Preparation of design presentation materials, design development and contract documentation.

Prerequisite(s): None.

ADES 5632 - Interior Design: Space Planning V

3 hours (0;6)

Identification of specialized project types for investigation and application of advanced solutions and sustainable strategies.

Prerequisite(s): ADES 5630.

ADES 5635 - LEED Certification Systems and Accreditations

3 hours

Instruction in basic green building concepts and standards, especially as they relate to the green building rating systems of the Leadership in Energy and Environmental Design (LEED) program. Heavy focus on LEED Green Associate exam preparation.

Prerequisite(s): None.

ADES 5637 - Wellness, Health and Safety

3 hours

Research and implementation of the Well Standard through case studies and practical application within the context of student projects.

Prerequisite(s): None.

ADES 5640 - Environment and Systems

3 hours

Research and application of sustainable building systems strategies with a focus on solutions for extent structures.

Prerequisite(s): None.

ADES 5642 - Seminar in Design Sustainability

3 hours

Study in selected topics of the relationships between design and sustainable practices.

Prerequisite(s): None.

ADES 5644 - Practicum Project Preparation

6 hours

Project typology identification and project scope formulation for the application of sustainable strategies in the context of a practicum project.

Prerequisite(s): None.

ADES 5646 - Practicum in Interior Design Sustainability I

3 hours (0;6)

Interior design studio course; focuses on research components and development of a sustainability project through schematic design and design development.

Prerequisite(s): ADES 5520.

ADES 5648 - Practicum in Interior Design Sustainability II

3 hours (0;6)

Interior design studio course; advances student's proposed project in ADES 5646 through construction documentation and life cycle assessment for sustainability in interior environments.

Prerequisite(s): ADES 5646.

ADES 5730 - Research in Design

3 hours

Study of research techniques and their applications in the field of design; preparation of prospectus.

Prerequisite(s): None.

Early Childhood Education

EDEC 5013 - Research Strategies in Early Childhood Education

3 hours

Applications of research methods to the broad field of early childhood studies including education, public policy, community supports for young children and early childhood activism.

Prerequisite(s): None.

EDEC 5030 - Practicum, Field Experience or Internship

3, 6 or 9 hours each (0;0;3,6,9)

Supervised professional activities in development, family studies and early childhood education.

Prerequisite(s): None.

Registration is on an individual basis and student must have prior consent of professor.

EDEC 5470 - Constructions of Guidance in Early Childhood Classrooms

3 hours

Explorations of theories of guidance, classroom organization, and pedagogical consistency that can be used in learning environments for young children and the diverse perspectives that are represented by those theories. Emphasizes familiarity with children and their diverse life experiences throughout the early years (birth to 8 years of age) as a foundation for the construction of quality learning environments for those who are older (ages 5–8 years) in elementary school kindergarten through grade 3 classrooms. Fifteen (15) hours of observation are required.

Prerequisite(s): None.

EDEC 5513 - Advanced Studies in Early Childhood Education

3 hours

Advanced survey of theory/philosophy and research related to educating children. Integrative and comprehensive assessment of both classic and recent contributions in the field of early childhood education. Requires involvement in early childhood setting.

Prerequisite(s): None.

EDEC 5523 - Early Childhood Studies Seminar

3 hours

Graduate seminar and related readings and scholarly activity featuring special workshops and/or guest lectures by visiting researchers in early childhood studies.

Prerequisite(s): None.

EDEC 5613 - Curriculum Theory in Early Childhood 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, as well as knowledge diversity and the influence of public policy on curricular practices.

Prerequisite(s): None.

EDEC 5623 - Environments and Programs for Young Children

3 hours

Recommended for individuals entering the early childhood education profession. Emphasizes the direct application of diverse early childhood learning theories on classroom practices including behavioral, developmental, and reconceptualist/critical perspectives. Includes curricular decision making, instructional planning, and strategies for construction and implementation of learning environments for young children.

Prerequisite(s): None.

EDEC 5633 - Assessment in Early Childhood Education

3 hours

Examines the role of assessment in the process of program development, instruction and individual differences. Attention is given to observational strategies, record keeping, analysis of data, instructional planning and program evaluation.

Prerequisite(s): None.

EDEC 5643 - Leadership and Supervision of Programs

3 hours

Issues and problems in administration of programs for children, youth and families. Includes administrative leadership of programs and staff, effective staff development and supervision.

Prerequisite(s): None.

EDEC 5653 - Making the Literacy Connection: Language to Reading

3 hours

Study of the development of literacy in young children through oral language, listening comprehension, alphabetic knowledge, print awareness and reading. Addresses young children's communication, language diversity, age-appropriate characteristics and appropriate instructional techniques to support literacy and reading. Includes techniques for assessment and evaluation of early language development.

Prerequisite(s): None.

Same as EDRE 5653.

EDEC 5800 - Special Topics in Early Childhood Studies

1–3 hours

Organized classes designed to accommodate the needs of students and demands of program development not met by regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit as topics vary.

EDEC 5900 - Special Problems

1–3 hours

Open to graduate students capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and department chair.

Prerequisite(s): None.

EDEC 5910 - Special Problems

1–3 hours

Open to graduate students capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and department chair.

Prerequisite(s): None.

EDEC 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

EDEC 6030 - Practicum, Field Problem or Internship

3 hours

Mentored professional activities in early childhood studies.

Prerequisite(s): None.

Registration is based on approval of student's committee. May be taken once for credit.

EDEC 6511 - Continuing Integrative Seminar

1 hour

Integration of knowledge gained from courses, seminars and community experiences through interaction with practicing professionals to explore the political, economic and social forces that shape and influence early childhood education.

Prerequisite(s): None.

EDEC 6523 - History and Philosophy of Early Childhood Studies

3 hours

Examines the multiple philosophies and histories that have influenced the field of early childhood studies focusing on circumstances, societal conditions, and educational contexts in which they were manifested.

Prerequisite(s): None.

EDEC 6533 - Current Readings and Research in Early Childhood Studies

3 hours

Critical readings of historical and current research in early childhood studies. Contributes to students' roles as professionals in the field by involving students in determination of research application to practice. Students lead discussions on self-directed readings.

Prerequisite(s): None.

EDEC 6543 - Contemporary Critical Issues in Early Childhood Studies

3 hours

Examines contemporary critical issues influencing early childhood studies and public policy affecting young children. Issues include contemporary discourses, societal institutions, educational supports, and cultures/families/communities as well as societal and educational equity.

Prerequisite(s): None.

EDEC 6613 - Social Change and Leadership in Early Childhood Studies

3 hours

Assists early childhood professionals in developing leadership skills, vision and the ability to conceptualize and promote social change. The diverse roles of individuals, organizations, societal institutions, and communities are explored.

Prerequisite(s): None.

EDEC 6623 - Advocacy/Activism in Early Childhood Studies

3 hours

Critically examines the rationale, political agendas, evidence perspectives, and program and policy issues involved in early childhood initiatives and service systems. Readings and discussions focus on the ways that emerging policies and programs strengthen or inhibit supports for young children.

Prerequisite(s): None.

EDEC 6800 - Special Topics in Early Childhood Studies

3 hours

Organized classes designed to accommodate the needs of students and demands of program development not met by regular offerings. Condensed courses (meeting 3 hour credit requirements but offered with nontraditional meeting schedule) and workshops on specific topics are offered on a limited basis, to be repeated upon demand.

Prerequisite(s): None.

May be repeated for credit as topics vary.

EDEC 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

EDEC 6910 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

EDEC 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Economics

ECON 5000 - Economic Concepts

3 hours

Theory of the firm under different market structures; demand theory, the Keynesian model and the money system.

Prerequisite(s): None.

ECON 5020 - Seminar on Economic Data Acquisition and Analysis

3 hours

Collection and analysis of economic data. Application of statistical and economic analysis to wide array of data, including monetary, unemployment, GDP, industrial productivity and inflation.

Prerequisite(s): ECON 3550 and ECON 3560 or consent of department.

ECON 5030 - Microeconomic Analysis

3 hours

Theory of the firm relating to production and employment; consumer behavior and related concepts of microeconomic efficiency.

Prerequisite(s): ECON 1100 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).

ECON 5040 - Macroeconomic Analysis

3 hours

National income determination and measurement, macroeconomic stabilization policy and macroeconomic theory.

Prerequisite(s): ECON 1100-ECON 1110 or ECON 5000.

Usually offered fall and spring terms/semesters and 5W2 (summer session).

ECON 5050 - Seminar on Contemporary Economic Problems

3 hours

Investigation, analysis and discussion of significant problems in contemporary economics.

Prerequisite(s): Consent of department.

May be repeated for credit.

ECON 5070 - Comparative Economic Systems

3 hours

Examination of the theoretical foundations, structure and performance of various economies of the world. Theoretical coverage emphasizes decision making, price systems, planning, information and motivation, rather than an ideological approach. Topics of modern capitalism are covered, as well as the non-Western economies of the former Soviet Union, Eastern Europe and China. Individual readings and research required.

Prerequisite(s): ECON 1100-ECON 1110 or consent of department.

Students may not receive credit for both ECON 4100 and ECON 5070. Usually offered spring term/semester.

ECON 5090 - Seminar on the History of Economic Thought

3 hours

Development of economic thought since the Middle Ages.

Prerequisite(s): 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.

ECON 5100 - Seminar on Contemporary Economic Thought

3 hours

Development of economic thought since 1900.

Prerequisite(s): 6 semester hours of advanced economics.

ECON 5140 - Managerial Economics

3 hours

Integrates microeconomic theory with accounting, finance, marketing and production management. Incremental reasoning to decision making under uncertainty.

Prerequisite(s): ECON 3550 or ECON 5030.

Students may not receive credit for both ECON 4140 and ECON 5140. Usually offered spring term/semester.

ECON 5150 - Public Economics

3 hours

Analysis of theoretical foundations, structure and performance of public sector. Includes issues of public choice theory, market failures, taxing, spending, borrowing and subsidies. Individual readings and research required.

Prerequisite(s): ECON 3550.

Students may not receive credit for both ECON 4150 and ECON 5150. Usually offered fall and spring terms/semesters and 5W2 (summer session).

ECON 5160 - Empirical Public Economics

3 hours

Empirical and quantitative analysis of public sector economics. Emphasizes the application of theoretical models in economics to real-world resource allocation decisions, such as taxes and expenditures, at all levels of government using econometric estimation procedures.

Prerequisite(s): ECON 5640 or equivalent and ECON 5340 or ECON 5600.

ECON 5170 - Seminar in the Economics of Taxation and Tax Policy

3 hours

Topics in tax policy, such as comprehensive tax base, consumption taxes, VAT taxes, equity and efficiency issues, tax rules and how they influence investment and consumption decisions.

Prerequisite(s): Enrollment in MS accounting or consent of instructor.

Usually offered spring term/semester and 5W2 (summer session).

ECON 5180 - Economics of Health Care

3 hours

Application of economic theory and analysis to the financing and delivery of medical care. Emphasis on the use of economic concepts to understand public policy issues in medical care.

Prerequisite(s): None.

Students may not receive credit for both ECON 4180 and ECON 5180. Usually offered fall term/semester.

ECON 5210 - Seminar on Labor Area Economics

3 hours

Individual research in contemporary labor force problems; national and regional labor markets; remedial and curative labor policies.

Prerequisite(s): 6 hours of advanced economics or consent of department.

ECON 5250 - Advanced Labor Seminar

3 hours

Designed to meet the needs of students prepared to do advanced and specialized work in the field of contemporary labor problems, legislation and labor theory.

Prerequisite(s): 6 hours of advanced economics and consent of department chair.

Usually offered spring term/semester.

ECON 5270 - Seminar in Labor and Industrial Relations Problems

3 hours

Broad, interdisciplinary aspects of labor and industrial relations problems as currently emphasized by economic, social, political and business conditions. Wide variety of resource personnel from each of the academic disciplines, business, labor and government, and administrators who are experienced specialists in their areas.

Prerequisite(s): None.

ECON 5280 - Research Seminar in Labor and Industrial Relations Problems

3 hours

Research methodologies and problems in the areas of labor and industrial relations. Practical primary research is required of each student.

Prerequisite(s): Consent of department.

ECON 5330 - Advanced Macroeconomic Theory

3 hours

Rigorous theoretical and empirical analysis of a wide range of issues in macroeconomics, including economic growth, economic fluctuations, incomplete nominal adjustments, expectations formation, consumption, investment, unemployment, inflation, monetary policies, budget deficits and fiscal policies.

Prerequisite(s): ECON 3560 or ECON 5040; ECON 4870 or ECON 5640; and ECON 5600, or consent of department.

Usually offered fall semesters.

ECON 5340 - Advanced Microeconomic Theory

3 hours

Microeconomic theory and its applications. Emphasizes the logical structure of microeconomics and the formal specification of microeconomic problems. Special topics may include intertemporal choice, uncertainty and risk analysis; industrial organization and antitrust policy; advanced managerial economics; cost-benefit analysis.

Prerequisite(s): ECON 3550 or ECON 5030 and ECON 5600, or consent of department.

Usually offered spring term/semester.

ECON 5400 - Advanced Monetary Theory and Policy

3 hours

Classical and contemporary monetary theory; theoretical and policy problems in the area of money and credit; selected current topics in macroeconomics; applications to both the domestic and international economies.

Prerequisite(s): ECON 4020 or equivalent, or consent of department.

ECON 5420 - Open Economy Macroeconomics

3 hours

Rigorous theoretical and empirical examination of: macroeconomic policy options and their impact in the open economy; international monetary reforms and the impact of balance of payments adjustments under different monetary systems; role of international trade and foreign investment in economic growth.

Prerequisite(s): ECON 5330.

ECON 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.

ECON 5440 - Economics of Natural Resources and Environment

3 hours

Natural resource management and use: problems of renewable and non-renewable resources, including scarcity and market responses, role of property rights, externalities, benefit-cost analysis and energy policy with emphasis on Texas. Analysis of environmental problems and policy formulation.

Prerequisite(s): ECON 1100-ECON 1110 or consent of department.

Students may not receive credit for both ECON 4440 and ECON 5440. Usually offered fall term/semester.

ECON 5460 - Industrial Organization and Public Policy

3 hours

Emphasizes relationships between structure, conduct and performance of industries. Topics include concentration, barriers to entry, pricing, mergers, product differentiation, technical change, antitrust and regulation. Case studies of selected American industries illustrate the theory and public policy implications. Individual readings and research required.

Prerequisite(s): ECON 3550 or consent of department.

Students may not receive credit for both ECON 4460 and ECON 5460. Usually offered spring term/semester.

ECON 5550 - Law and Economics

3 hours

Advanced economic analysis of the mutual interaction between legal systems and economic activity. Topics include an introduction to legal systems and institutions, legal analysis, application of economic concepts to various legal doctrines, contracts, torts, criminal law, constitutional law, regulation and antitrust. Emphasis is placed on using economic theory to develop and test hypotheses regarding the effects of laws on incentives and economic behavior, the allocation of resources and the distribution of income.

Prerequisite(s): ECON 5000.

ECON 5560 - Economic Damages in Litigation

3 hours

Advanced course designed to study the growing role of economics in assessing damages in corporate litigation proceedings—typically termed forensic economics. Particular emphasis is given to case studies developed from recent industry activity in which students serve as the residing economic expert and are responsible for issuing an expert report setting forth their damages estimates and analyses.

Prerequisite(s): ECON 3550, ECON 3560, ECON 4630 or equivalent.

ECON 5600 - Mathematical Economics

3 hours

Mathematical approaches to economic theory: models of production, consumer choice, markets and pricing; simple macroeconomic models.

Prerequisite(s): ECON 3550 or ECON 5030 and MATH 1710 or consent of department.

ECON 5630 - Research Methods

3 hours

Research methodology for business and the social sciences. Topics include descriptive statistics, basic probability theory, discrete continuous probability distributions, hypothesis testing and introductory regression techniques. Emphasis is placed on economics applications.

Prerequisite(s): MATH 1100.

Usually offered fall and spring semesters.

ECON 5640 - Multivariate Regression Analysis

3 hours

Focuses on the basic statistical methods employed in linear regression analysis using examples most often encountered in economics, finance and accounting. Topics include: linear and intrinsically linear regression models; estimation under ideal and non-ideal conditions, linear hypothesis testing; multicollinearity, and models with dummy variables.

Prerequisite(s): MATH 1710 and ECON 5630 or consent of department.

Usually offered fall and spring terms/semesters.

ECON 5645 - Empirical Linear Modeling

3 hours

Develops the tools necessary to analyze, interpret, and develop empirical applications of econometric estimation procedures. Students explore an assortment of applied problems that are typically encountered in quantitative research with particular attention given to the examination of real world, economic and business-related phenomena. Particular attention is given to developing proficiency in the following areas: organizing and manipulating data, estimating linear regression models, interpreting econometric results and computer output, and working with computer software.

Prerequisite(s): ECON 5640.

ECON 5650 - Advanced Econometrics

3 hours

Focuses on the theoretical foundations of non-linear regression models often encountered in economics, finance, and accounting. Topics include the multivariate classical linear regression model; ideal conditions for estimation of the classic linear regression model; linear and non-linear hypothesis testing; the method of maximum likelihood estimation; the consequences of departures from ideal conditions; structural and reduced form equations and models with endogenous regressors; models with qualitative and limited dependent variables; and models with panel data.

Prerequisite(s): ECON 5600 and ECON 5640 or consent of department.

Usually offered spring term/semester.

ECON 5655 - Econometric Analysis of Panel Data

3 hours

Focuses on econometric methods for analyzing panel data in economics and business-related fields. Analysis of linear panel data models by fixed effects and random effects. Topics include advanced methods for single equation analysis and some nonlinear panel data models. Model assumptions, specification, estimation, interpretation and interference are emphasized.

Prerequisite(s): ECON 5640 or equivalent.

ECON 5660 - Time Series Econometrics and Forecasting

3 hours

Focuses on time series analysis and forecasting methodologies applied to problems typically encountered in economics, finance, and accounting. Topics include AR, MA and ARMA models; dynamic time series models; non-stationarity and tests for unit roots; ARCH and GARCH models; VAR models and impulse response functions; fractional integration and cointegration; and error correction models. Computer applications will be used to reinforce the theoretical models.

Prerequisite(s): ECON 5640 or consent of department.

Usually offered spring term/semester.

ECON 5670 - Applied Econometrics

3 hours

Analysis, interpretation and development of empirical applications of econometric estimation procedures with emphasis on the examination of real-world economic phenomena and a focus on applied procedures including: dummy variables and structural change, heteroskedasticity, autocorrelation, simultaneous equations and causality, logit, probit, Tobit and panel data.

Prerequisite(s): ECON 5650.

Usually offered fall term/semester.

ECON 5700 - Economic Development

3 hours

General analysis and survey of development theories, problems and policies involved with those countries that have not yet attained the level of economic well-being and integration observed in the United States. Individual readings and research required.

Prerequisite(s): ECON 1100-ECON 1110 or consent of department.

Students may not receive credit for both ECON 4600 and ECON 5700. Usually offered spring term/semester.

ECON 5750 - Urban Economics

3 hours

Using economic analysis to understand the development of cities and regions and how economic activity in the area is organized. Explores the economics of transportation and urban problems such as poverty, segregation, crime and congestion.

Prerequisite(s): ECON 3550.

Students may not receive credit for both ECON 4650 and ECON 5750.

ECON 5850 - International Trade

3 hours

Examines the nature and theoretical foundations of modern trade between nations. Topics to be covered include patterns of international trade and production, welfare implications of trade, impacts of tariffs and quotas, balance of trade and balance of payments issues. Analysis of trade implications of international monetary systems, multinational corporations, exchange rates and economic implications of political action. Individual readings and research required.

Prerequisite(s): ECON 1100-ECON 1110 or consent of department.

Students may not receive credit for both ECON 4850 and ECON 5850.

ECON 5880 - Seminar on Current Health Care Economics Research

3 hours

Topics include health care reform; problems associated with health insurance markets; alternative health care financing systems in the United States and other countries; health care regulation by the states; universal health care coverage; and the "public goods" nature of health care. Topics are subject to change depending on the current trends in the field and relevancy to students' interests. The course includes presentations and discussion of the student's research papers.

Prerequisite(s): ECON 4180 or ECON 5180.

ECON 5900 - Special Problems

1–3 hours

Open to advanced students capable of doing independent research under the direction of the instructor. To be registered for only on recommendation of the department chair.

Prerequisite(s): None.

ECON 5910 - Special Problems

1–3 hours

Open to advanced students capable of doing independent research under the direction of the instructor. To be registered for only on recommendation of the department chair.

Prerequisite(s): None.

ECON 5920 - Research Problems in Lieu of Thesis

3 hours

Students write a significant research paper on an original idea with an emphasis on empirical analysis.

Prerequisite(s): Consent of department.

ECON 5930 - Research Problems in Lieu of Thesis

3 hours

Students write a significant research paper on an original idea with an emphasis on empirical analysis.

Prerequisite(s): Consent of department.

ECON 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

ECON 5960 - Economics Institute

1–6 hours.

For students accepted by the university as participants in special institute courses.

Prerequisite(s): None.

May be repeated for credit, but not to exceed a total of 6 hours.

ECON 5970 - Economics Institute

1–6 hours.

For students accepted by the university as participants in special institute courses.

Prerequisite(s): None.

May be repeated for credit, but not to exceed a total of 6 hours.

Educational Curriculum and Instruction

EDCI 5010 - Everyone Can Learn: Applying Theory to Teaching Practice

3 hours

Processes of learning and development related to teaching in diverse EC-12 school settings. Cognitive, social, physical and moral development research is presented, and practical examples applied to teaching practice are demonstrated. Also explored are student differences with regard to intelligence, learning style, culture, economic status and gender. 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.

Prerequisite(s): None.

EDCI 5020 - Curriculum Development for Culturally Diverse Learners

3 hours

Knowledge and skills required for the development and organization of curriculum and instructional strategies in diverse EC-12 classrooms. Topics include philosophy and principles of multicultural education; racial and cultural influences on education; Texas Essential Knowledge and Skills; alignment of district, state and national curriculum standards; standardized testing; impact of teaching and learning on instruction and assessment; alternative assessment theories; and the relationship of instruction to classroom management.

Prerequisite(s): None.

EDCI 5030 - Maintaining Classroom Discipline

3 hours

Models and procedures for classroom management and discipline, as well as techniques for motivating and instructing diverse student populations. Human relations strategies are discussed in great detail and methods for increasing parental involvement are also addressed. Topics include: what to do before students arrive, creating the learning environment, behavioral analysis, legal considerations, conferencing, learning contracts, incentives, planning, staying organized and time management.
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.

Prerequisite(s): None.

EDCI 5070 - Geo-Spatial Technologies for Educational Environments

3 hours

Application of geo-spatial technologies for visualization and analysis in K–12 educational settings. Emphasis on applications such as Geographic Information Systems, Global Positioning System and Internet-based interactive mapping, and digital globes for geo-spatial inquiry in formal and informal educational environments.

Prerequisite(s): None.

EDCI 5100 - Action Research for Multicultural Education

3 hours

Provides graduate students with opportunities to review the literature on action research and multicultural populations and to develop basic skills in quantitative and qualitative data generation, analysis and interpretation.

Prerequisite(s): EDCI 5710 and EDCI 5130 or consent of instructor.

Same as EPSY 5100.

EDCI 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.

EDCI 5108 - Student Teaching in the Secondary Schools

3 hours

Teaching under supervision. Research paper may be required.

Prerequisite(s): EDSE 5001, EDCI 5010, EDSE 5003, EDSE 5004, EDCI 5020, EDCI 5030.

Corequisite(s): EDCI 5118.

Required for those seeking secondary certification. See student teaching program for details. Pass/no pass only.

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.

EDCI 5118 - Student Teaching in the Secondary Schools

3 hours

Teaching under supervision. Research paper may be required.

Prerequisite(s): EDSE 5001, EDCI 5010, EDSE 5003, EDSE 5004, EDCI 5020, EDCI 5030.

Corequisite(s): EDCI 5108.

Required for those seeking secondary certification. See student teaching program for details. Pass/no pass only.

EDCI 5130 - Schooling in a Multicultural Society

3 hours

Recognition and examination of the philosophy and principles germane to multicultural education. Emphasis is on sensitivity to racial and cultural differences and their influences on an effective educational program as well as the political and social implications of these differences. Students also examine the great diversity of lifestyles that our multicultural heritage embraces.

Prerequisite(s): None.

Should be taken upon first residence registration in the curriculum and instruction MEd program.

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. Examines theoretical and social foundations of curriculum, including philosophy, history, major terms and concepts, and decision making.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EDCI 5620 - Anthropology of Education

3 hours

Examines issues and approaches relevant to the study of education within the field of anthropology. Introduction to anthropological concepts and anthropological methods used in the study of education and schooling. Examination of the relation between anthropology and education as it pertains to cultural transmission, cultural difference, minority status, and educational outcomes. Current perspectives and critiques relevant to educational "problems" and emerging solutions derived from an anthropological perspective of education.

Prerequisite(s): None.

Same as ANTH 5620.

EDCI 5710 - 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.

Prerequisite(s): None.

Should be taken upon first residence registration in the curriculum and instruction MEd program.

EDCI 5720 - Curriculum and Instruction Inquiry II

3 hours

Advanced critical reflection and inquiry through action research and advocacy. Refinement of skills as consumers of educational research, teacher-researcher and advocate for and against educational change. Consideration of contemporary issues in education. Presentation of program portfolio is scheduled during enrollment in this course, including completion of action research report.

Prerequisite(s): EDCI 5130, EDCI 5320, EDCI 5360, EDCI 5710, EDSP 5755.

Should be taken during the last resident registration in the curriculum and instruction MEd program.

EDCI 5800 - Studies in Education

1–3 hours

Organized class specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis.

Prerequisite(s): None.

Same as EDEE 5800. Same as EDSE 5800.

May be repeated for credit with departmental approval.

EDCI 5810 - Studies in Education

1–3 hours

Organized class specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis.

Prerequisite(s): None.

Same as EDEE 5810. Same as EDSE 5810.

May be repeated for credit with departmental approval.

EDCI 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.

Prerequisite(s): None.

Course is designed for post-baccalaureate teacher certification and MEd with a major in teaching candidates only.

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.

Prerequisite(s): None.

Course is designed for post-baccalaureate teacher certification and MEd with a major in teaching candidates only.

EDCI 5900 - Special Problems

1–3 hours

Open to master's students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor and the department chair.

Prerequisite(s): None.

EDCI 5960 - Education Institute

1–6 hours

For students accepted as participants in special institute courses on a range of topics relevant to the development of teacher leaders.

Prerequisite(s): None.

Same as EDEE 5960.

EDCI 5970 - Education Institute

1–6 hours

For students accepted as participants in special institute courses on a range of topics relevant to the development of teacher leaders.

Prerequisite(s): None.

Same as EDEE 5970.

EDCI 6030 - Practicum, Field Problem or Internship

3 or 6 hours

Provision of supervised professional activities in education by the student's major advisor.

Prerequisite(s): None.

Registration is on an individual basis.

EDCI 6110 - Conceptual Frames for Curriculum and Instruction

3 hours

Analysis of major concepts, areas of concern and modes of inquiry of the fields of educational history, philosophy, sociology and anthropology as applied to theory and policy in the fields of curriculum and instruction.

Prerequisite(s): None.

Required entry course for doctoral program in curriculum and instruction.

EDCI 6220 - Conceptual Models of Curriculum Development

3 hours

Descriptions and analyses of conceptual models of curriculum theory, curriculum development, and curriculum inquiry and research.

Prerequisite(s): None.

EDCI 6230 - Implementation and Evaluation of Curriculum

3 hours

Course covers selected models of curriculum and allows students to analyze and design appropriate strategies for implementing and evaluating curriculum.

Prerequisite(s): None.

EDCI 6280 - Qualitative Research in Education

3 hours

Focuses on the knowledge and skills necessary for naturalistic research; observation, interviewing and other qualitative data generation techniques, as well as data analysis and interpretation.

Prerequisite(s): Consent of instructor.

Same as EPSY 6280.

EDCI 6285 - Qualitative Data Analysis in Education

3 hours

Data collection, analysis and interpretation using qualitative methodology such as participant observation and interviewing for data gathering with special focus on constant comparative/grounded theory for data analysis. Use of computer software programs for qualitative data analysis. Students complete a qualitative study consisting of at least 45 hours of field work during the term/semester.

Prerequisite(s): EPSY 6280 or EDCI 6280.

Same as EPSY 6285.

EDCI 6340 - Conceptual Models of Learning and Instruction

3 hours

Study of the research base and the learning theory underlying major current models of teaching.

Prerequisite(s): None.

EDCI 6350 - Research and Practice of Teaching

3 hours

Focuses on research in teaching; the selection, implementation and evaluation of strategies and models; and conceptual models of improving instruction.

Prerequisite(s): None.

EDCI 6360 - Critical Issues in Curriculum Studies

3 hours

Critical examination of current topics and issues in the field of curriculum studies. Students analyze trends in U.S. and international education in terms of social transformation and globalization.

Prerequisite(s): EDUC 6040 or consent of instructor.

EDCI 6460 - Policy Analysis in Curriculum and Instruction

3 hours

Description and analysis of major factors involved in curriculum and instruction policy-making at the local, state, national and international levels. The course includes information and practice on developing a practical approach to policy development in curriculum and instruction.

Prerequisite(s): None.

EDCI 6800 - Topics in Education

3 hours

Organized classes specifically designed to accommodate the needs of doctoral students and the demands of the doctoral program development that are not being met by the regular offerings. Short courses and workshops on specific topics organized on a limited offering basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit as topics vary.

EDCI 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

EDCI 6910 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

EDCI 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Educational Foundations

EDUC 6040 - Traditions of Inquiry

3 hours

History, theoretical assumptions and methodological issues associated with major traditions of inquiry in educational studies.

Prerequisite(s): None.

EDUC 6050 - Culture, Identity and Education

3 hours

Examination of conceptions of culture and notions of multiculturalism, interculturalism and transculturalism in education. Attention is on related concepts, especially social identity, and on the conduct of research in various sociocultural contexts.

Prerequisite(s): None.

EDUC 6120 - Theoretical Foundations for Educational Studies

3 hours

Theoretical perspectives of major importance in educational studies today. Attention is given to the contexts in which the theories have developed, to the major claims that are made and to the means by which the claims are supported.

Prerequisite(s): None.

EDUC 6220 - Issues of Educational Law and Policy

3 hours

Consideration of current issues of educational law and policy that are of concern to the general public as well as to policymakers and educators. Emphasis is on such issues as educational reform and accountability, language, management and equality of educational opportunity. Attention goes to historical background of the issues and to different approaches to policy analysis.

Prerequisite(s): None.

EDUC 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 9 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Educational 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EDLE 5500 - Internship in Educational Administration

3 hours

Provision for on-the-job experiences and professional studies in administration and supervision as directed by the student's major advisor. Internship requires 160 hours of administrative duties at an EC-12 school.

Prerequisite(s): A master's degree, at least 2 years of experience as the teacher of record at an EC-12 school, and a teaching certificate.

Required for Texas Principal Certificate. Not applicable to degree programs.

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.

Prerequisite(s): None.

EDLE 5600 - Race, Class and Gender Issues in Education

3 hours

Race, class and gender inequities exist throughout educational systems. Students critically examine issues related to providing leadership for a diverse student population. Students learn what it means to be a culturally responsive leader and to review, research and debunk stereotypes and negative views. Students begin to recognize all learners as capable, motivated, resilient and able to build on cultural strengths. Strategies for school change are also explored.

Prerequisite(s): None.

EDLE 5610 - School Communications and Public Relations

3 hours

Every administrator in an educational organization has a responsibility to engage in public relations on a daily basis. The primary objective of this course is to examine school-based public relations with the context of life in an information age, practice in schools shared decision making, and sustained demands for school improvement. Students study three critical dimensions of school public relations: informing the public; modifying attitudes and opinions; and integrating the actions and attitudes of an organization with those of its public.

Prerequisite(s): None.

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 students placed at risk in educational settings by circumstances and situations beyond their control. Emphasis on students who are educationally disadvantaged because of poverty, language differences, disabilities, interests and academic performance or lack thereof.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EDLE 5670 - Leading and Sustaining Educational Communities for Professional Learning

3 hours

Investigation of the design, implementation, and maintenance of successful learning communities that result in improved educational practice in K-12 schools. Emphasis is on relevant dimensions of the culture, which include leadership, vision, personal factors, contextual conditions, and application of learning.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EDLE 5700 - Educational Leadership Applications

3 hours

Comprehensive view of educational leadership with an emphasis on the application of leadership competencies.

Prerequisite(s): None.

EDLE 5800 - Studies in Education

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

EDLE 5810 - Studies in Education

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

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.

Prerequisite(s): None.

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 5500 - Internship in Educational Administration.

Prerequisite(s): Approval by Educational Leadership Program faculty and an accredited school district.

Restricted course approval required. Contact Educational Leadership Program.

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.

Prerequisite(s): None.

Limited to 6 hours in doctoral degree program. Required for Texas professional certificate for school administration. Not applicable to degree programs.

EDLE 6032 - Practicum or Field Problem

3 hours

Provision for on-the-job experience or professional study in administration or supervision as directed by student's major adviser.

Prerequisite(s): None.

Limited to 6 hours in doctoral degree program. An elective for doctoral candidates in administrative leadership.

EDLE 6033 - Internship Under School Superintendent

3 hours

Provision for on-the-job experience or professional study in administration or supervision as directed by student's major advisor. Internship requires 160 hours of experience.

Prerequisite(s): Principal's certificate.

Limited to 3 hours in doctoral degree program. Required for Texas professional certificate for superintendent. Not applicable to degree programs.

EDLE 6100 - Theories of Organizational Development and Reform

3 hours

Study of major theories of organizational development and change that provide foundations for educational administration and leadership. Connections are made among theory, research and practice.

Prerequisite(s): Any one of EPSY 5050, EPSY 5210, EPSY 6120, and EPSY 6020, or consent of instructor.

EDLE 6110 - Advanced Theory and Research in Administration

3 hours

Contemporary inquiry in educational administration. Examines the impact of positivism, subjectivism and functionalism and their critics on recent research on school organization and administration.

Prerequisite(s): None.

EDLE 6130 - Cultural Foundations in Educational Leadership

3 hours

Doctoral seminar on issues of policy, structures and practices in educational leadership specific to cultural diversity in a K-12 setting. Explores the cause and consequences of inequities in society and in K-12 specifically and the effect on educator/student and family relationships and academic success.

Prerequisite(s): None.

EDLE 6150 - Ethics, Social Justice and Policy

3 hours

Doctoral seminar designed to provide advanced experience in current research and problems of practice that involve the interdependency of ethics, social justice and policy specific to an EC–12 setting. Provides students with a strong conceptual foundation in theories that enhance equity in terms of access, student outcomes, and institutional culture.

Prerequisite(s): EDLE 6130.

EDLE 6160 - Professional Learning Communities: Research and Practice

3 hours

Use of current research and practice to investigate the characteristics of professional learning community (PLC) theory and application in EC–12 school settings. Students examine current learning community literature and analyze available practical application strategies in schools. Also addresses adult learning theory and applies that to collaborative real world education context for the purpose of school improvement and student achievement.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EDLE 6310 - Research Practicum

3 hours

Students conduct a research project designed to generate or test theory.

Prerequisite(s): EDLE 6110 and consent of instructor.

May be repeated for credit.

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.

Prerequisite(s): None.

EDLE 6450 - Public School Finance, Business Management, and Facilities

3 hours

Provides students an overview of the interrelated aspects of school finance, business management, and facilities development. Relates concepts from the fields of economics, business, law, and political science to the public school environment. As future superintendents, students use real-world situations to apply skills in budgeting, school business management, and facilities management, including new school construction.

Prerequisite(s): EDLE 5400.

EDLE 6510 - Seminar in Advanced Education Law

3 hours

Builds on the content of the prerequisite course by focusing on legal and policy issues of particular concern to top-level educational policymakers and administrators. Topics include such complex issues as the role of the state in education, parental rights, school choice and vouchers, privatization, religion on campus, and legal liability for constitutional wrongs. Topics vary, depending upon the current school reform agenda. Underlying concerns that drive the development of legal mandates in schooling are explored.

Prerequisite(s): EDLE 5390 or equivalent.

EDLE 6520 - Personnel Administration in the Public Schools

3 hours

Principles and practices of personnel administration. Emphasis on recruitment, selection, deployment, evaluation, staff development, manpower planning and employee relations in the public schools.

Prerequisite(s): None.

EDLE 6530 - Educational Facilities

3 hours

Planning, design, construction, maintenance and evaluation of educational facilities. Develops awareness and skills related to population projections, needs assessment, educational specifications, site selection, rehabilitation of buildings, maintenance and operation of educational facilities, and building evaluation surveys.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

EDLE 6580 - Administration and Supervision of the Instructional Program

3 hours

Major issues, problems and trends in the EC–12 curriculum, from an administrative and supervisory point of view. Special emphasis is given to the role of organizational leadership and to strategies for stimulating, implementing and evaluating alternatives in curriculum and instruction.

Prerequisite(s): Any one of EDLE 5680, EDCI 5320, and EDEE 5400/EDSE 5400, or consent of instructor.

EDLE 6590 - The Superintendency

3 hours

An advanced course dealing with the basic functions of the superintendency — planning, programming, communicating and evaluating — and the current issues and problems confronting the practicing educational administrator.

Prerequisite(s): EDLE 5330 or consent of instructor.

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.

Prerequisite(s): EPSY 6010, EPSY 6020, and four core educational leadership courses.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EDLE 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): None.

May be repeated for credit.

Educational Psychology

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.

Prerequisite(s): EDSP 5710.

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.

Prerequisite(s): None.

EPSY 5000 - Introduction to Educational Psychology

3 hours

Review of theories and applications of educational psychology; basic concepts in learning, cognition, development and their applications to teaching and learning context.

Prerequisite(s): None.

EPSY 5033 - Practicum, Field Experience or Internship

3–6 hours

Mentored professional activities, including consultation, clinical intervention or conducting research.

Prerequisite(s): Consent of instructor.

Registration is on an individual basis. May be repeated for credit.

EPSY 5040 - Post-Baccalaureate Student Teaching

3 hours

Teaching under supervision. Designed for UNT post-baccalaureate teacher certification candidates. Supervision is provided by UNT faculty and support from a school-based mentor teacher.

Prerequisite(s): Consent of department.

May be repeated for credit.

EPSY 5041 - Post-Baccalaureate Student Teaching

3 hours

Teaching under supervision. Designed to meet the needs of post-baccalaureate candidates in the Department of Educational Psychology. Supervision is provided by UNT faculty with support from school-based mentors.

Prerequisite(s): Consent of department.

EPSY 5050 - Foundations of Educational Research Methodology

3 hours

Overview of the process of conducting research, from formulating research questions to sampling, data collection, analysis and drawing inferences. The main focus is on being able to understand, evaluate and utilize published research, both qualitative and quantitative. Final product is a detailed critique of published research.

Prerequisite(s): None.

EPSY 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.

Prerequisite(s): None.

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.

Prerequisite(s): EPSY 5050 or equivalent.

EPSY 5105 - Nature and Needs of the Gifted and Talented Student

3 hours

Introduction to the intellectual, social, emotional and educational characteristics and needs of gifted, talented and creative individuals. Includes study of varied conceptions of gifted, talented and creative research findings.

Prerequisite(s): None.

EPSY 5110 - Social and Emotional Components of Giftedness

3 hours

Review of current research on affective growth and potential adjustment problems of gifted youth. Addresses vocational concerns, self-concept and self-esteem, the teacher's role in preventing or remediating affective problems related to giftedness, and potential parenting or family problems.

Prerequisite(s): None.

EPSY 5113 - Developmental and Family Theory

3 hours

Survey of classic and contemporary theories in the fields of human development and family studies, including the role of theory in empirical investigation, conceptual frameworks, strategies of theory building, and an examination of theoretical perspectives useful in the study of behavior.

Prerequisite(s): None.

EPSY 5120 - Program Planning for the Education of Gifted and Talented Students

3 hours

Instruments and procedures for identification of gifted, talented and creative students. Major curriculum and program models; evaluation of programs.

Prerequisite(s): None.

EPSY 5123 - Human Development Across the Life Span

3 hours

Processes and stages that individuals undergo as they progress from birth through old age and death are studied from a human ecological perspective. Developmental tasks and concepts are explored.

Prerequisite(s): None.

EPSY 5130 - Methods and Curriculum for Teaching Gifted and Talented Students

3 hours

Curriculum theory, methods and materials to meet the special educational needs of gifted, talented and creative children. Strategies for individual assessment, modification of standard curriculum, design of instructional materials and classroom organization for grades K–12. Includes theories and models of creativity and higher-level thinking.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EPSY 5210 - Educational Statistics

3 hours

Descriptive and inferential statistical concepts and techniques commonly used in educational research. Organization of data, graphical representation, measures of central tendency and variability, normal distribution curve, sampling theory and tests of significant differences between related and independent samples.

Prerequisite(s): None.

EPSY 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.

Prerequisite(s): EPSY 5213.

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 DFST 4213.

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.

Prerequisite(s): EPSY 5213.

EPSY 5231 - Medical Terminology and Human Anatomy

1 hour

Provides a foundation in essential medical terminology and human anatomy for the child life specialist.

Prerequisite(s): EPSY 5213.

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.

Prerequisite(s): EPSY 5133.

EPSY 5240 - Survey Research Methods in Education

3 hours

History of surveys, information needs, sampling design, instrumentation data collection, data processing and report generation.

Prerequisite(s): None.

EPSY 5250 - Grant Proposal Writing Techniques

3 hours

Investigation of state and federal grant funding sources. Introduction to and application of grant proposal writing techniques.

Prerequisite(s): None.

EPSY 5323 - Parent and Family Education

3 hours

Empirical knowledge and skills required for education and leadership of parents and families. Overview of major theoretical and programmatic approaches to parent and family education. Application of models and techniques.

Prerequisite(s): EPSY 5413 or equivalent.

EPSY 5350 - Foundations of Psychoeducational Measurement

3 hours

Introduces issues in psychoeducational testing and measurement, including needs assessment, item/test construction, item/test evaluation and use of measurement results for assessment, placement, and intervention purposes. Includes discussions of measurement in diverse and bilingual populations and social, cultural issues in text utilization.

Prerequisite(s): None.

EPSY 5413 - Family Relationships

3 hours

Analysis of the influences that affect modern family life; consideration of variant family forms.

Prerequisite(s): None.

EPSY 5443 - Family Economics and Management

3 hours

Theories, models and research related to family resource management. Family economic issues, public policy, consumer issues, work/life issues. Consideration of diverse family cultures, values and attitudes as factors in family resource management.

Prerequisite(s): EPSY 5413 or equivalent.

EPSY 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.

Prerequisite(s): None.

EPSY 5550 - Learning Theories

3 hours

Examination of theories of learning and their applications to teaching and learning contexts.

Prerequisite(s): None.

EPSY 5800 - Studies of Educational Psychology

3 hours

Organized class specifically designed to accommodate the needs of students and the demand of program development that are not met by regular offerings.

Prerequisite(s): Consent of department.

May be repeated for credit.

EPSY 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor.

Prerequisite(s): Consent of department.

EPSY 5910 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor.

Prerequisite(s): Consent of department.

EPSY 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.

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.

EPSY 6010 - Statistics for Educational Research

3 hours

Application of statistical techniques to research in education; the development of skills in interpreting statistical concepts. Analysis of variance and covariance, multiple comparisons, non-parametric statistics and multiple correlation.

Prerequisite(s): EPSY 5210 or equivalent.

Required of all doctoral candidates in education.

EPSY 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.

Prerequisite(s): EPSY 6010.

EPSY 6020 - Research Methods in Education

3 hours

Introduction to quantitative (survey, experimental design, correlation, causal-comparative, evaluation) and qualitative (case study, observation, action, participant-observation, historical, ethnograph, phenomenology) research methods used in conducting educational research.

Prerequisite(s): EPSY 6010.

EPSY 6030 - Practicum, Field Problem or Internship

3–6 hours

Mentored professional activities in educational psychology or special education, including consultation, clinical intervention or conducting research.

Prerequisite(s): Consent of instructor.

May be repeated for credit.

EPSY 6040 - Foundations of Educational Psychology

3 hours

History of educational psychology, advanced philosophical and empirical foundations of learning, cognition, development, individual differences; applications to teaching and learning contexts.

Prerequisite(s): EPSY 5000.

EPSY 6101 - Human Perception

3 hours

Critically examines sensory mechanisms and perceptual organization in human learning processes. Explores theoretical constructs associated with recognizing, identifying and acting on naturally occurring environmental stimuli and perceptional displays created for educational purposes.

Prerequisite(s): EPSY 5000.

EPSY 6102 - Human Motivation

3 hours

Theoretical, historical and empirical study of human motivation. Implications of motivation on the learning process and in educational environments.

Prerequisite(s): EPSY 5000.

EPSY 6103 - Cognitive and Language Development

3 hours

Comprehensive developmental sequence of cognitive development and language acquisition from birth through adulthood, focusing on theories and research related to cognitive, perceptual and language development, as well as relationships between language and thought.

Prerequisite(s): None.

EPSY 6110 - Individual Difference, Creativity and Problem Solving

3 hours

Focus on how to teach and instruct from examining theories, models, and research of creativity and problem solving and their applications to the development of individuals. Individual differences that result from an interaction among personality, creativity and ecological factors are related to the design of learning environments that meet the changing abilities and needs of learners.

Prerequisite(s): None.

EPSY 6113 - Application of Developmental Theories in Research

3 hours

Scholarly application of theory to research regarding growth and change across the lifespan, including an ecological perspective. A review of socio-historical influences on theory development as well as practical issues associated with operationalization of theories and their use in professional and research settings.

Prerequisite(s): None.

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.

Prerequisite(s): EPSY 5050, EPSY 5060 or EPSY 6020.

EPSY 6122 - Single-Subject Research Methodology

3 hours

Addresses single-subject research designs, procedures for documenting experimental control, measurement of the fidelity of intervention and evaluation of effective size. Includes the language and terminology of single-subject (observational) research methods, key issues related to designing effective experimental interventions, and developing a high-quality research proposal utilizing single-subject research methodologies in applied settings.

Prerequisite(s): EPSY 6010 and EPSY 6020.

EPSY 6153 - Social-Emotional Development

3 hours

Comprehensive developmental sequence of social and emotional development from birth through adulthood. 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.

Prerequisite(s): EPSY 5123.

EPSY 6163 - Diversity in Individuals, Families and Schools

3 hours

Effects of cultural, ethnic, gender, linguistic, religious and developmental differences on teaching, learning, development, and adjustment of children and families. Educational, psychological, attitudinal, social, legal and political issues in diversity. Necessity of attention to diversity and acculturation within educational and social organizations.

Prerequisite(s): None.

EPSY 6182 - Advanced Seminar in Bilingual Psychoeducational Assessment

3 hours

Clinical opportunities to practice best known strategies in conducting appropriate psychoeducational assessment of emotional and cognitive problems, achievement, and aptitude among individuals from diverse linguistic and cultural backgrounds. Practitioners plan appropriate clinical and educational intervention strategies to facilitate the success and well-being of individuals in mainstream work settings.

Prerequisite(s): EPSY 5350 and consent of department.

EPSY 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.

Prerequisite(s): EPSY 6010 or equivalent.

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

Prerequisite(s): EPSY 6010 or equivalent.

EPSY 6230 - Theory and Application of Hierarchical Linear Modeling

3 hours

Introduces the theory and application of hierarchical linear models, how to use hierarchical linear models (HLMs) to answer research questions for cross-sectional and longitudinal data. Hierarchical linear models are linear multiple regression models typically used with data that violate the assumption of independent observations. HLM appropriately handles the violation, and also provides the tools for testing hypotheses in research designs with multilevel data structure.

Prerequisite(s): EPSY 6210 or equivalent as approved by the department.

EPSY 6240 - Technology in Research

3 hours

Use of data analysis in the planning and implementation of research projects in the disciplines of educational psychology. Emphasis on statistical packages, organization and collection of data, computing hardware and software, and various data display and reporting techniques.

Prerequisite(s): EPSY 6010, EPSY 6020.

EPSY 6250 - Item Response Theory

3 hours

The Common Factor model of measurement and latent variables with IRT concepts, models, and assumptions. Item and trait/ability parameter estimation with Rasch, 2, and 3 parameter dichotomous models, and polytomous IRT models. Test reliability, development, equating, bias (DIF), computer adaptive testing, and multidimensional models.

Prerequisite(s): EPSY 5350 or EPSY 6220 or equivalent.

EPSY 6260 - Advanced Seminar in Educational Psychology and Special Education

3 hours

Study and discussion of advanced issues in educational psychology and/or special education, including the contemporary theoretical, empirical and policy problems; designing advanced research projects to address complex issues in teaching, learning, and special needs of individual learners.

Prerequisite(s): EPSY 6040.

EPSY 6270 - Structural Equation Modeling

3 hours

Multiple regression, path analysis and factor analysis methods are reviewed. Structural Equation Modeling (SEM) approaches using AMOS, EQS, LISREL, MPLUS and other personal computer application software are presented. The basic SEM approaches include path models, factor models, interaction models, MIMIC models, multi-level models, latent growth curve models and multiple group models.

Prerequisite(s): EPSY 6290 or equivalent multivariate statistics course.

EPSY 6280 - Qualitative Research in Education

3 hours

Focus on the knowledge and skill necessary for naturalistic research; observation, interviewing and other data collection procedures, as well as data retrieval, analysis techniques and reporting procedures.

Prerequisite(s): EPSY 5050 or EPSY 6020.

EPSY 6285 - Qualitative Data Analysis in Education

3 hours

Data collection, analysis and interpretation using qualitative methodology such as participant observation and interviewing for data gathering; constant comparative/grounded theory and modified analytic induction for data analysis. Use of computer software programs for qualitative data analysis. Students will complete a qualitative study consisting of at least 45 hours of field work during the term/semester.

Prerequisite(s): EPSY 6280 and EPSY 6020.

EPSY 6290 - Multivariate Statistics in Education

3 hours

History of multivariate statistics, univariate vs. multivariate statistics, matrix algebra, multivariate analysis of variance, canonical correlation, discriminant analysis and multivariate analysis of contingency tables.

Prerequisite(s): EPSY 6210.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EPSY 6413 - Current Issues in Family Science

3 hours

Current issues in the field of family science.

Prerequisite(s): None.

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.

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.

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.

Prerequisite(s): EPSY 5105, EPSY 5120, and EPSY 5130, or equivalents.

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.

EPSY 6800 - Selected Topics

3 hours

Organized classes designed to accommodate the needs of students and the demands of program development not met by regular course offerings. Short courses and workshops of specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit as topics vary.

EPSY 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

EPSY 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Electrical Engineering

EENG 5310 - Control Systems Design

3 hours

Transform domain and state space representations of linear feedback systems, system stability, nonlinear systems, optimal control, bounded and time optimal control of linear systems.

Prerequisite(s): EENG 2620 or equivalent.

EENG 5320 - Systems Modeling and Simulation

3 hours

Aims to systematically introduce the concepts and analytical tools required to abstract engineering problems from applications, and to simulate and analyze such problems. Topics include dynamical systems modeling, stochastic models, queuing models, Markov chains, model identification, Monte-Carlo simulation, model reduction, agent-based modeling, large-scale networks, and applications to ecological, biological, and modern infrastructure systems.

Prerequisite(s): Consent of department.

EENG 5330 - Environmental Systems

3 hours

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.

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.

Prerequisite(s): Graduate standing.

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.

EENG 5410 - Microwave Engineering

3 hours

Investigates the fundamental concepts and techniques in the area of RF/microwave circuit designs. Topics include RF/microwave transmission lines, RF matching networks, microwave resonators, microwave coupler and power dividers, microwave filters, and fabrication of RF/microwave circuits.

Prerequisite(s): EENG 3410 or equivalent.

EENG 5420 - Antenna Theory and Design

3 hours

Provides students with the fundamental theory in antenna designs and hands-on skills related to antenna designs and characterizations. Includes linear dipole antennas, loop antennas, patch antennas, RFID antennas, broadband and frequency-independent antennas, and antenna arrays.

Prerequisite(s): EENG 3410 or equivalent.

EENG 5520 - Design and Testing of Digital Systems

3 hours

Review of combinational logic, testing combinational circuits, sequential circuit synthesis, state minimization, state assignment, and structure of sequential circuits; state identification and fault detection experiments; testing of sequential circuits and design for testability.

Prerequisite(s): EENG 2710 or equivalent.

EENG 5530 - Analog Integrated Circuit Design

3 hours

Thoroughly investigates the fundamentals in design and analysis of analog and mixed-signal integrated circuits. Topics include analog MOS transistor models, current sources and sinks, circuit reference, amplifier, feedback amplifiers, differential amplifiers and operational amplifiers.

Prerequisite(s): EENG 3520 or equivalent.

EENG 5540 - Digital Integrated Circuit Design

3 hours

Focuses on the design of digital systems with an emphasis on hands-on chip design. Uses industry CAD tools to design, layout and simulate the VLSI circuits. Includes MOS transistor, circuit characterization, circuit simulation, combinational and sequential circuits, static and dynamic logic circuits, memories, and low power circuit design.

Prerequisite(s): EENG 2710 and EENG 3510, or consent of department.

EENG 5550 - Hardware Design Methodologies for ASICs and FPGAs

3 hours

Explores hardware design methodologies through the use of industry tools. Students use design automation tools to design, simulate and synthesize designs for standard cell-based ASICs and FPGAs using hardware description languages (e.g., VHDL and Verilog). Examines the synthesis concept to understand how hardware functions written in these hardware description languages are synthesized. Covers techniques for design optimization, simulation, and synthesis of combinatorial functions, data paths, and finite state machines in depth. Examines the differences between design flows for standard cell-based ASICs and FPGAs.

Prerequisite(s): EENG 2710 or equivalent.

EENG 5560 - Reconfigurable Computing

3 hours

Focuses on the fundamental architectural aspects of different reconfigurable devices such as some of the commercially available FPGAs, and coarse-grained reconfigurable fabrics from academia and industry. Includes both a description of the architectures and discussion of pros and cons of these architectures for different applications and user needs, including the need for run-time reconfiguration. Covers various low power reconfigurable devices.

Prerequisite(s): EENG 2710.

Same as CSCE 3730.

EENG 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.

Prerequisite(s): None.

EENG 5610 - Digital Signal Processing

3 hours

Introduction to modern digital signal processing theory and techniques. Includes discrete time signals and systems, sampling theorem, Z-transform, frequency analysis of signals and systems, discrete Fourier transform, fast Fourier transform algorithms, and digital filter design.

Prerequisite(s): EENG 2620 or equivalent.

EENG 5620 - Statistical Signal Processing

3 hours

Introduction to detection and estimation theories. Includes hypothesis testing, Neyman-Pearson detection theory, Bayesian detection theory, maximum-likelihood estimation, Cramer-Rao bound, Bayesian and minimum mean-squared error estimators, Kalman filter, and least-squares estimation.

Prerequisite(s): EENG 2620 and MATH 3680 or equivalent.

EENG 5630 - Adaptive Signal Processing

3 hours

Provides students with fundamental knowledge of modern adaptive signal processing theorems and algorithms and their applications. Includes search algorithms, LMS, RLS adaptive filtering, adaptive signal modeling and applications.

Prerequisite(s): EENG 2620, EENG 3910 or equivalent.

EENG 5640 - Computer Vision and Image Analysis

3 hours

Introduction to computer vision and image processing, image geometry and 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.

Prerequisite(s): None.

EENG 5650 - Speech Analysis, Synthesis and Recognition

3 hours

Introduces the production of human speech, vocal tract, the hearing system, the units of speech, methods of analysis for speech signals, speech recognition technology, and computerized speech synthesis.

Prerequisite(s): MATH 1710, MATH 1720, MATH 2700 or equivalent; or consent of instructor.

EENG 5810 - Digital Communications

3 hours

Introduction to the analysis and design of digital communication systems. Includes decision theory, signal space, optimal receivers, modulation schemes, error performance, inter-symbol interference, fading channels, spread spectrum, and link budget analysis.

Prerequisite(s): EENG 3810 or equivalent.

EENG 5820 - Wireless Communications

3 hours

Provides in-depth coverage in wireless and mobile networks. Introduces fundamental theory and design of modern wireless communication systems. Topics include 2G and 3G wireless standards, cellular communications, mobile radio propagation, multipath fading channel characterization, channel equalization, and multiple access technique for wireless communications.

Prerequisite(s): EENG 5810 or equivalent.

EENG 5830 - Coding Theory

3 hours

Channel coding theorem, error-correcting codes, algebraic block codes, linear codes, BCH codes, convolutional codes, burst-error correcting codes, and design of encoders and decoders.

Prerequisite(s): EENG 3810 or equivalent.

EENG 5840 - Information Theory

3 hours

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.

EENG 5850 - Image and Video Communications

3 hours

Explores topics ranging from the fundamentals of video coding, motion estimation, source and channel coding, and transform (wavelet and discrete cosine) coding to the state-of-the-art compression and multimedia standards such as MPEG-4, H.264, MPEG-7, and MPEG-21. Advanced research topics include video streaming, joint source-channel coding, distributed video coding, and video surveillance using sensor networks.

Prerequisite(s): Consent of department.

EENG 5890 - Directed Study

1–3 hours

Directed study 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.

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.

EENG 5932 - Internship

1–3 hours

Supervised work in a job that meets specific educational objectives of the department and is beneficial to the student's career development. Required submission of a final report summarizing industrial experience gained through the internship.

Prerequisite(s): Consent of instructor.

EENG 5940 - Advanced Topics in Electrical Engineering

3 hours

Contemporary topics at the advanced graduate elective level. Faculty present advanced elective topics not included in the established curriculum.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

EENG 5950 - Master's Thesis

3–6 hours

To be scheduled only with consent of department. No credit assigned until thesis has been completed and filed with the School of Graduate Studies.

Prerequisite(s): Consent of department.

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.

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.

Elementary Education

EDEE 5020 - Advanced Studies in Elementary School Mathematics

3 hours

Modern curricula and techniques. The content, scope, philosophy and pedagogical strategies of several modern mathematics curricula and their utilization in upgrading mathematics instruction in the elementary school.

Prerequisite(s): EDEE 4350.

EDEE 5030 - Field Experiences in Elementary Schools

3 hours

Supervised professional activities in elementary schools; includes teaching under supervision.

Prerequisite(s): None.

EDEE 5040 - Advanced Studies in Elementary School Social Studies

3 hours

Teaching social studies in the elementary school and aspects of citizenship and character development.

Prerequisite(s): EDEE 4340.

EDEE 5050 - Advanced Studies in Elementary School Science

3 hours

Modern curricula and techniques. The content, scope, philosophy and pedagogical strategies of several modern science curricula and their utilization in upgrading science instruction in the elementary school.

Prerequisite(s): EDEE 4330.

EDEE 5060 - Advanced Studies in Elementary School Language Arts

3 hours

Comprehensive study, based on principles of child growth and development, of the language arts for the elementary school. Major areas of consideration are trends and philosophies, materials and techniques, and relevant research. The interrelationships of all the language arts are given primary emphasis.

Prerequisite(s): EDRE 4860.

EDEE 5101 - Student Teaching in 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.

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.

EDEE 5103 - Student Teaching in Grade 4 through Grade 8

3 hours

Certification program requires 6 hours total, to be taken simultaneously. Teaching under supervision. Courses are designed for UNT teacher certification candidates in the post-baccalaureate program. Supervision by university faculty and support from a school-based mentor teacher. Content includes supervised application of the Texas Pedagogy and Professional Responsibilities Standards. Requirements include classroom teaching under the leadership of the mentor or cooperating teacher and guidance of the supervisor. Research paper and a professional portfolio may also be required.

Prerequisite(s): Admission to teacher education and approval of Field Experience Coordinator.

Contact advisor. Pass/no pass only.

EDEE 5104 - Student Teaching in Grade 4 through Grade 8

3 hours

Certification program requires 6 hours total, to be taken simultaneously. Teaching under supervision. Courses are designed for UNT teacher certification candidates in the post-baccalaureate program. Supervision by university faculty and support from a school-based mentor teacher. Content includes supervised application of the Texas Pedagogy and Professional Responsibilities Standards. Requirements include classroom teaching under the leadership of the mentor or cooperating teacher and guidance of the supervisor. Research paper and a professional portfolio may also be required.

Prerequisite(s): Admission to teacher education and approval of Field Experience Coordinator.

Contact advisor. Pass/no pass only.

EDEE 5105 - 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.

Prerequisite(s): Admission to Teacher Education Program; probationary teaching certificate.

Grade is pass/no pass.

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.

Prerequisite(s): Admission to Teacher Education Program; probationary teaching certificate.

Grade is pass/no pass.

EDEE 5140 - The Linguistically Diverse Learner

3 hours

Designed to enhance an understanding of the unique needs and requirements of learners whose first language is not English. Students examine their own beliefs about speakers of other languages. Appropriate strategies and materials for the second language learner in both the ESL and regular classroom are explored.

Prerequisite(s): None.

EDEE 5400 - Curriculum Development in the Middle School

3 hours

Analysis of the bases and techniques for curriculum development in the middle school with particular emphasis on the nature of the early adolescent learner and salient elements of middle school theory. Includes practical problems in developing curricula for middle schools and implementation of innovation in the middle school setting.

Prerequisite(s): None.

Same as EDSE 5400.

EDEE 5800 - Studies in Education

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

Same as EDCI 5800. Same as EDSE 5800.

May be repeated for credit.

EDEE 5810 - Studies in Education

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

Same as EDCI 5810. Same as EDSE 5810.

May be repeated for credit.

EDEE 5840 - Engaging Students in Learning

3 hours

Introduction to teaching in the school focusing on the circumstances of contemporary students, the qualities and practices of teachers who engage students in learning, and on schools as communities of learning for students and professionals. Teacher practices in classroom management and organization and focusing learning through assessment are emphasized. A field experience is included.

Prerequisite(s): Admission to the teacher education program, a child/adolescent/lifespan development course, and an educational-application computer course.

EDEE 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor.

Prerequisite(s): None.

Open only to resident students.

EDEE 5910 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor.

Prerequisite(s): None.

Open only to resident students.

EDEE 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

EDEE 5960 - Education Institute

1–6 hours

For students accepted as participants in special institute courses.

Prerequisite(s): None.

Same as EDCI 5960.

EDEE 5970 - Education Institute

1–6 hours

For students accepted as participants in special institute courses.

Prerequisite(s): None.

Same as EDCI 5970.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

May be repeated for credit for a maximum of 12 hours.

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.

Prerequisite(s): None.

May be repeated for credit.

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 student prepare for their comprehensive exams in EMDS.

Prerequisite(s): Consent of department.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary for a maximum of 12 hours.

Engineering Technology, Master's Courses

MSET 5010 - Graduate Seminar

1 hour

In-depth examination of current theories, research, trends and processes of industry. Readings, individual study and research, information exchange and guest lectures provide an understanding of selected industrial topics.

Prerequisite(s): None.

May be repeated for credit.

MSET 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.

MSET 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.

MSET 5040 - Analytical Methods in Engineering Technology

3 hours

Study of mathematical methods and techniques typically used in solving engineering problems. Emphasis is placed on the applications of the various techniques and on the effective utilization of modern computer simulation tools.

Prerequisite(s): Graduate standing or consent of department.

MSET 5050 - Supervision of Projects in Engineering Technology

3 hours

Study of the planning, organization and management of successful technology projects. Topics include project management principles, communication with project owners, functional organizations, suppliers and clients, and tools for managing projects to reach quality outcomes.

Prerequisite(s): Graduate standing.

MSET 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.

MSET 5100 - Nontraditional Manufacturing Processes

3 hours

Analysis of selected contemporary and emerging manufacturing/production processes utilizing high-level automation, productivity-enhancing technologies and/or specialty technologies; emphasis on process structure, organization, economics and application within the industrial environment.

Prerequisite(s): Graduate standing or consent of department.

MSET 5120 - Computer-Integrated Manufacturing

3 hours (2;2)

Computerization in manufacturing/production from an integrated systems perspective; emphasis on selected contemporary and emerging applications such as design/documentation, engineering analysis, process planning, machine tool programming, automated material handling and inspection, and factory networking.

Prerequisite(s): Graduate standing or consent of department.

MSET 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.

MSET 5140 - Applied Engineering Vibration

3 hours

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.

Prerequisite(s): None.

Same as MEEN 5640.

MSET 5150 - 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.

MSET 5160 - Creep and Fatigue in Engineering Design and Systems Performance

3 hours

Examines creep and fatigue of engineering materials; introduces continuum mechanics and explores deformable bodies, crystalline plasticity, cyclic loading and deformation, high temperature and rate dependent deformation, service life prediction, creep/fatigue/environment interactions, creep and fatigue fracture mechanisms, sliding, rolling, fretting, methods of analysis and case studies.

Prerequisite(s): ENGR 2332 and ENGR 3450.

MSET 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.

Prerequisite(s): None.

MSET 5180 - Structural Dynamics

3 hours

Determines the effect of time-varying loads on structural performance and introduces single degree of freedom (SDOF) systems in free vibration circumstances and proceeds to forced response performance where loads are harmonic, periodic, impulsive, and generally time-varying. Multi degree of freedom (MDOF) systems and similar load response structural performances are developed using matrix methods.

Prerequisite(s): Graduate standing or consent of department.

MSET 5190 - Corrosion Engineering Technology

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.

MSET 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.

MSET 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.

MSET 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.

MSET 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.

Prerequisite(s): None.

MSET 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.

Prerequisite(s): None.

MSET 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): Minimum of 18 MSET credit hours completed or consent of instructor.

MSET 5270 - Management in Human and Societal Development

3 hours

Covers the scope and nature of human knowledge and how they are 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.

Prerequisite(s): None

MSET 5280 - 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.

Prerequisite(s): None.

MSET 5300 - Embedded Systems 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): ELET 3750 (or equivalent) or consent of department.

MSET 5310 - Industrial Process Controls

3 hours

Classical feedback control design and applications for continuous- and discrete-time dynamical systems used to model industrial processes. Topics include transfer-function modeling, sampling, and frequency-domain controller designs using modern computer-based simulation software.

Prerequisite(s): ELET 4720 (or equivalent) and MSET 5040.

MSET 5320 - Introduction to Telecommunications

3 hours

Introduction to the technology, standards, systems and practices of the telecommunications industry to include equipment, switched and dedicated communications lines, and voice and data communications.

Prerequisite(s): ELET 4710 (or equivalent) or consent of department.

MSET 5330 - Instrumentation System Design

3 hours

Instrumentation design techniques, transducer selection and interfacing control and measurement signals to the system. The use of graphical and structured programming techniques in the design of virtual instrument systems constitutes a significant portion of the course.

Prerequisite(s): Consent of major professor.

Must be taken the last term/semester offered prior to graduation.

MSET 5340 - Digital Logic Design Techniques

3 hours

Study of the design, simulation and implementation of digital logic circuits including combinational and sequential logic, algorithmic state machines, hardware test techniques, software used in design, simulation and an introduction to the use of the Verilog or VHDL programming languages.

Prerequisite(s): ELET 3750 (or equivalent) or consent of department.

MSET 5800 - Studies in Engineering Technology

3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by regular offerings. Short courses and workshops on specific topics, organized on a limited-offering basis, to be repeated only upon demand.

Prerequisite(s): Consent of major professor and department.

May be repeated for credit as topics vary.

MSET 5900 - Special Problems

1–3 hours

Independent study and research of a specific problem in engineering technology. A written report is required defining the problem and a solution.

Prerequisite(s): Consent of instructor and major professor.

MSET 5930 - Research Problems in Lieu of Thesis

3 hours

Open to students in the project option. Three (3) hours credit is required. Independent, applied research that addresses a significant problem in engineering technology supervised by a member of the engineering technology graduate faculty.

Prerequisite(s): Approval of a project proposal by the major professor.

MSET 5950 - Master's Thesis

3 or 6 hours

Open to students in the thesis option. Six (6) hours credit is required. Independent, applied research that addresses a significant problem in engineering technology supervised by a member of the engineering technology graduate faculty. Course is scheduled only with consent of the major professor and the department. Credit is assigned when the thesis is completed and filed with the graduate school. Continuous enrollment is required once work on thesis has begun.

Prerequisite(s): Consent of major professor and department.

May be repeated for credit.

English

ENGL 5000 - Old English

3 hours

Study of Old English grammar and phonology; the reading of selections from prose and poetry in West Saxon; a survey of the literature of the Old English period.

Prerequisite(s): None.

ENGL 5010 - Beowulf

3 hours

Study of Beowulf, its language and its place in the Germanic epic tradition; some attention to other heroic poetry.

Prerequisite(s): ENGL 5000.

ENGL 5020 - Chaucer: Major Works

3 hours

Study of the works of Geoffrey Chaucer, including the short poems and Troilus and Criseyde or the Canterbury Tales in relation to late medieval culture.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5030 - Studies in Medieval Literature and Culture

3 hours

Detailed study of the works of one or more of the major writers or literary genres of the medieval period in England, with a study of the major literary and social forces that helped to shape the cultural context of the period.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5100 - Studies in British Literature and Culture of the Romantic Period

3 hours

Detailed study of the work of one or more of the major Romantic poets, together with wide reading in the general literature of the period and general consideration of the cultural, social, literary and intellectual history of the period.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5140 - Form and Theory: Poetry

3 hours

Rhetorical criticism of poetry to show how poems achieve identification with the audience; emphasis on student mastery of critical analysis.

Prerequisite(s): None.

ENGL 5145 - Form and Theory: Prose

3 hours

Rhetorical criticism of prose fiction to show how short stories and novels achieve effect.

Prerequisite(s): None.

ENGL 5162 - Creative Writing: Creative Nonfiction

3 hours

Workshop devoted to the writing, reading and analysis of creative nonfiction. Emphasis shifts each semester and may encompass the personal essay, memoir, nature writing, travel writing and the nonfiction short story.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

ENGL 5200 - Studies in British Literature and Culture of the Victorian Period

3 hours

Study of the works of one or more of the major British writers of the Victorian period and of the cultural, social, intellectual and philosophical interests of the period.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5250 - Studies in British Literature and Culture of the Eighteenth Century

3 hours

Appraisal of a significant group of writers or a literary genre of either the Restoration or the 18th century, together with attention to the historical, intellectual and social background.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5260 - Studies in Nineteenth-Century British Literature and Culture

3 hours

Detailed survey of the works of the Romantic and Victorian periods, with a general consideration of social and intellectual history of the time.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5310 - Studies in Rhetorical Theory

3 hours

Detailed study of narrowly conceived topics exigent to contemporary rhetorical theory, history and practice.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5320 - Studies in Composition Theory

3 hours

Detailed topics course centering on exigent questions, issues and research topics relevant to the theory and practice of composition and writing studies.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5400 - Studies in Shakespeare

3 hours

Intensive study of selected plays and a consideration of some of the literary problems connected with Shakespeare's life and work.

Prerequisite(s): None.

ENGL 5410 - Studies in the British Renaissance

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5420 - Creative Writing: Poetry

3 hours

Study of the principles of poetic composition in traditional forms as well as free verse. Format includes lecture and workshop.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

ENGL 5490 - Studies in the Twentieth-Century British Novel

3 hours

Detailed study of the writings of one or more major 20th-century British novelists, with consideration of relevant social and intellectual interests of the time.

Prerequisite(s): None.

ENGL 5500 - Studies in American Literature and Culture from the Beginning to 1800

3 hours

Survey of the works of major writers from the Puritan, Colonial and Federalist eras, and a general consideration of the social, cultural, literary and intellectual history of these times.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5510 - Studies in American Literature and Culture, 1800 to 1865

3 hours

Detailed study of the writings of major authors and a general consideration of the social and intellectual interests of the time.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5515 - Studies in the American Renaissance

3 hours

Explores the outpouring of American cultural and literary expression in the decades leading up to the Civil War. Covers major authors such as Emerson, Dickinson, Melville and Douglass, as well as a variety of other literary and visual texts. Possible topics of study include the literary marketplace, reform movements such as antislavery and women's rights, nationalism and multiculturalism, and modern critical reevaluations of the period.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5520 - Studies in American Literature and Culture, 1865 to 1914

3 hours

Detailed study of the writings of major authors and a general consideration of the social and intellectual interests of the time.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5525 - Studies in American Realism

3 hours

Focuses on the development of realism in American literature and culture from approximately 1865–1914, along with the related literary movements of naturalism, regionalism and local color. Provides coverage of such major authors as Mark Twain, Sarah Orne Jewett, Charles 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5530 - Studies in American Literature and Culture, 1914 to the Present

3 hours

Detailed study of the writings of major authors and a general consideration of the social, cultural and intellectual interests of the time.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5540 - Studies in Twentieth-Century British or Irish Literature and Culture

3 hours

Detailed study of the writings of one or more 20th-century British or Irish authors, with consideration of relevant social and intellectual interests of the time.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5550 - Studies in the Teaching of Composition

3 hours

Survey of current scholarly opinion concerning objectives and methods of instruction in written composition; supervised planning of the English curriculum, with special attention to problems related to teaching composition; development through practice of criteria for evaluating student composition.

Prerequisite(s): None.

May be repeated for credit as topics vary. ENGL 5550 is required for all new teaching fellows. Offered every fall.

ENGL 5560 - Studies in the Teaching of Literature

3 hours

Survey of current scholarly opinion concerning objectives and methods of teaching literature; supervised planning of the English curriculum, with special attention to problems related to the teaching of poetry, drama, prose fiction and prose non-fiction.

Prerequisite(s): None.

ENGL 5570 - Studies in the Teaching of the English Language

3 hours

Survey of current scholarly opinion concerning objectives and methods of teaching grammar, vocabulary, semantics, usage and other aspects of language; supervised planning of the curriculum with special attention to problems related to the teaching of the English language in its spoken and written forms.

Prerequisite(s): None.

ENGL 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.

Prerequisite(s): None.

ENGL 5600 - Studies in European Literature and Culture

3 hours

Study of a major period or movement in continental European literature; extensive reading in literature in translation and research in literary history and development, with emphasis upon relations to British, Anglophone and/or American literature.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5605 - Studies in the Literature and Culture of the Colonial Americas

3 hours

Study of writing from and about the conquest, colonization, and settlement of the Americas. Covers such major writers as Christopher Columbus, Alvar Nunez Cabeza de Vaca, Bartolome de Las Casas, Thomas Harriot, John Winthrop, Inca Garcilaso de la Vega, Mary Rowlandson, Cotton Mather, William Byrd, Thomas Jefferson and others. Possible topics of study include transatlantic and hemispheric exchange and migration, travel, slavery, captivity, Creole subjectivities, religion, and independence movements.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5610 - Studies in Early African-American Literature and Culture

3 hours

Explores the beginnings of African-American cultural and literary expression during the 18th and 19th centuries. Covers major authors such as Phyllis Wheatley, Olaudah Equiano, William Wells Brown, Harriet Jacobs, Frederick Douglass, Paul Laurence Dunbar, Ida B. Wells, Booker T. Washington and Charles Chesnutt. Possible topics of study include theology, Constitutional law, antebellum slave and Southern culture, transatlantic abolition movements, Reconstruction, migration and nationalism.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5620 - Studies in Contemporary African-American Literature and Culture

3 hours

Focuses on the development of African American literature and cultural production during the 20th and 21st centuries, across literary and cultural movements such as realism, regionalism, the Harlem/New Negro movement, Black Power/Arts Movement, postmodernism, and the Dark Room Collective. Covers such major artists as W.E.B. DuBois, Duke Ellington, Zora Neale Hurston, Ralph Ellison, Katherine Dunham, Gwendolyn Brooks, James Baldwin, Toni Morrison, Yusef Komunyakaa, Spike Lee, and Suzan-Lori Parks. Additional topics of study may include Black Atlantic studies, African American feminism, black intellectual practice, sociological and political theory, and photography.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5630 - Semiotics

3 hours

Introduction to the study of signs as signifiers of meaning in various genres.

Prerequisite(s): None.

ENGL 5635 - Mexican-American Literature and Theory Before 1954

3 hours

Examines the literary productions of Mexican-Americans from the 19th century up to the landmark civil rights Supreme Court case Hernandez v. Texas of 1954. Traces the historical and cultural influences of Mexicans and Mexican-Americans in the U.S. from the early 19th century through the rise of modernism and the impact of the Mexican Revolution and increasing immigration from Mexico, to the emergence of post-war activism. Provides a foundation in Mexican-American literature by attending to historical contexts and to concerns of war and displacement, migration, early ethnic consciousness, mestizaje, and other relevant topics. Secondary readings may also be drawn from anthropology, historiography, studies in nationalism, popular literature and journalism, narrative studies, and various ancillary fields.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5640 - Mexican-American Literature and Theory After 1954

3 hours

Beginning during a period of several landmark Mexican-American court cases including Hernandez v. Texas (1954), examines the literary production of Mexican-Americans in the latter half of the 20th century up to the present day. Works may address topics such as, but not limited to, Mexican-Americans and civil rights, the Chicana/o Movement, Chicana feminism, film and television, immigration, education, postmodern narrative, ethnic identity/mestizaje, global literary studies and environmental justice. Traces the development of contemporary Mexican-American literature and Chicana/o theory in the context of recent history, politics and cultural studies.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5650 - United States Ethnic Literature and Culture

3 hours

Explores the theoretical and critical contexts pertinent to the field of ethnic writing in the United States. Involves the close reading and analysis of both key primary texts and influential criticism and theoretical writings, including, but not limited to, postcolonialism, narratology, deconstruction and globalization. Key aims for the course are to understand the relationship between literature, ethnic populations, the cultural and social aspects of immigration, and key moments in U.S. history. Ancillary interdisciplinary readings may be drawn from sociology, anthropology, cognitive sciences, U.S. historiography and other fields.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5680 - Studies in Global Literature and Culture

3 hours

Examines world literatures written in English, or in translation, in a project aimed at establishing critical and theoretical paradigms for effective analysis. Primary readings (novels, poetry, films and other forms) typically deal with issues of transnationalism, migration, global and regionalist identities, and cosmopolitanism. Secondary readings establish a foundation in key disciplines such as, but not limited to, nationalism, postcolonialism, anthropology, cognitive sciences and globalization studies.

Prerequisite(s): None.

May be repeated for credits as topics vary.

ENGL 5700 - Classical Background of English and American Literature and Culture

3 hours

Study of Greek and Latin literature in translation, with emphasis on a study of the specific literary, cultural and intellectual influences of Classical works that have shaped English and American literary culture.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5710 - Studies in Folklore

3 hours

Introduction to the types of folklore, with emphasis upon cultural phenomena as reflected in tales, legends, proverbs and folk songs, and upon folklore motifs as bases for formal literature. Techniques of collecting, comparing and analyzing folklore.

Prerequisite(s): None.

ENGL 5720 - Literature and Science

3 hours

Examines the relationships between literature and science in any historical period of American or British literature. Involves the close reading of both literary and scientific texts in order to explore how leading scientific figures and theories (such as Darwin and evolutionary biology) provided literary works with new representational practices and new ways of examining the connections between science, culture and ethics. May also encompass such areas of interdisciplinary investigation as anthropology and literature or literature and medicine.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 5730 - Literature and the Environment

3 hours

Explores a variety of philosophical, aesthetic and cultural traditions of representing the natural world and its relation to human societies. In addition to literature, readings may extend into natural science, environmental philosophy, cultural criticism and artistic theory.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

ENGL 5760 - Scholarly and Critical Writing

3 hours

Examination of the writing strategies entailed in preparing successful seminar papers, conference presentations and scholarly articles.

Prerequisite(s): None.

ENGL 5770 - Literary Publishing, Editing and Writing for Publication

3 hours

Multi-genre seminar/workshop in literary publishing, editing and writing for publication. Advanced stage workshop for creative pieces, with special emphasis on researching publishing markets and forming submission strategies. Smaller workshops focus on cover letters, query letters, book proposals and book reviews. Covers the history of publishing as well as contemporary issues in publishing and editing, and provides practical experience by working with the *American Literary Review*.

Prerequisite(s): None.

ENGL 5800 - Studies in Literary Genres

3 hours

Study of the historical development of one or more literary genres in American, English, continental or world literature, with attention to major practitioners in the genre and to the historical and literary influences on the form.

Prerequisite(s): None.

ENGL 5810 - Survey of Critical Theory

3 hours

Survey of major theoretical schools with special attention to those influential in the 20th and 21st centuries.

Prerequisite(s): None.

ENGL 5820 - Creative Writing: Prose Fiction

3 hours

Study of the principles of prose fiction as exemplified in published and unpublished works. Emphasis on writing for specific subgenres and methods of preparation and submission of work. Workshop format is employed.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

ENGL 5825 - Screenwriting

3 hours

Study of the principles of dramatic composition as applied to writing for the motion picture or television screen.

Prerequisite(s): None.

ENGL 5890 - Studies in the American Novel, 1914 to the Present

3 hours

Detailed study of the writings of one or more major American novelists and a general consideration of the social and intellectual interests of the time.

Prerequisite(s): None.

ENGL 5900 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): None.

Registration permitted only when other graduate courses are not available and only upon the recommendation of the instructor and the consent of the department chair. A maximum of 3 semester hours of credit is allowed for each course.

ENGL 5910 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): None.

Registration permitted only when other graduate courses are not available and only upon the recommendation of the instructor and the consent of the department chair. A maximum of 3 semester hours of credit is allowed for each course.

ENGL 5920 - Research Problems in Lieu of Thesis

6 hours (0;0;6)

Composition of an original scholarly paper in the field of linguistics and/or English as a second language.

Prerequisite(s): Consent of department.

ENGL 5930 - Research Problems in Lieu of Thesis

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.

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.

Prerequisite(s): None.

May be repeated for credit.

ENGL 5960 - English Institute

1–6 hours

For students accepted by the university as participants in special institute courses.

Prerequisite(s): None.

May be repeated for credit but not to exceed 6 hours in each course.

ENGL 5970 - English Institute

1–6 hours

For students accepted by the university as participants in special institute courses.

Prerequisite(s): None.

May be repeated for credit but not to exceed 6 hours in each course.

ENGL 6020 - Seminar in Old and Middle English Language or Literature

3 hours

In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and a general consideration of the social, intellectual and cultural contexts of the literary work.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6200 - Seminar in British Literature and Culture, 1500–1660

3 hours

In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and a general consideration of the social, intellectual and cultural contexts of the literary work.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6250 - Seminar in British Literature and Culture, 1660–1780

3 hours

In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and a general consideration of the social, intellectual, and cultural contexts of the literary work.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6410 - Seminar in British Literature and Culture, 1780 to the Present

3 hours

In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and a general consideration of the social, intellectual, and cultural contexts of the literary work.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6500 - Seminar in American Literature and Culture to 1865

3 hours

In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and a general consideration of the associated social, cultural, literary and intellectual history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6530 - Seminar in American Literature and Culture, 1865 to the Present

3 hours

In-depth study of a single writer, a group of writers, a literary genre or a literary fashion of the period, and general consideration of the associated social, cultural, literary and intellectual history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6540 - American Women Writers

3 hours

In-depth study of a single woman writer or group of women writers in any period and genre of American literature.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6590 - Seminar in the Novel

3 hours

In-depth study of a single novelist, a group of novelists, a literary genre or literary fashion of the period; consideration of the cultural context of the literary work.

Prerequisite(s): None.

ENGL 6810 - Topics in Critical Theory

3 hours

Study of one or more related major strains of critical, literary or cultural emphasis.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6820 - Topics in Cultural Studies

3 hours

Cultural studies approaches to literature, including visual culture, film, history, philosophy, politics, gender and sexuality.

Prerequisite(s): None.

May be repeated for credit as topics vary.

ENGL 6900 - Special Problems

1–3 hours

Conference course open to doctoral candidates doing independent research under the direction of the instructor.

Prerequisite(s): None.

ENGL 6910 - Special Problems

1–3 hours

Conference course open to doctoral candidates doing independent research under the direction of the instructor.

Prerequisite(s): None.

ENGL 6941 - Directed Research

1–12 hours

Doctoral research of an independent nature.

Prerequisite(s): None.

May be repeated for credit.

ENGL 6942 - Directed Research

1–12 hours

Doctoral research of an independent nature.

Prerequisite(s): None.

May be repeated for credit.

ENGL 6944 - Directed Research

1–12 hours

Doctoral research of an independent nature.

Prerequisite(s): None.

May be repeated for credit.

ENGL 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Ethnomusicology

MUET 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.

Prerequisite(s): None.

MUET 5030 - Music Cultures of the World

3 hours (3;1)

Selected survey of music cultures of the world. Examination of musical traditions from a perspective that emphasizes music as an integral part of society and culture.

Prerequisite(s): None.

MUET 5040 - Ethnomusicology Studies Abroad

3–6 hours

Study and experience music cultures in their traditional settings. Field school locations include Africa, India and China. On-site visits to celebrations, ceremonies and rituals are combined with instruction by traditional musicians and guest lectures by cultural bearers. Musical traditions are studied from a perspective that emphasizes participant-observation.

Prerequisite(s): None.

Meets with MUET 3040.

Open to majors from all fields of study. No formal musical training required. May be repeated for credit as topics/locations vary.

MUET 5050 - Music of Africa

3 hours

Study of musical experience in African life. How does music function in everyday life, in ritual and ceremony? When does music happen and for what reasons? What are the social and political horizons of musical events? How has musical experience changed in contemporary life? These questions are explored in relation to African music, ranging from the complex vocal polyphony of the Mbuti Pygmies of the Itui Forest to the worldwide explosion of Afro Pop.

Prerequisite(s): None.

Meets with MUET 3050.

Open to majors of all fields. No formal musical training is needed to successfully complete this course.

MUET 5060 - African-American Music

3 hours

Exploration of the experiences of blacks in the Americas vis-à-vis music. In particular, critical examination of the long trajectory of "black music" in the United States, making reference first to its West African antecedents. Consideration of ways that the term "black music" is deployed politically and its appropriateness as a descriptive and analytical category. Exploring the permeability of the sacred and secular in African-American cultural experience, we will interrogate the musical, philosophical, and behavioral links between a Saturday night crowd and a Sunday morning people.

Prerequisite(s): None.

MUET 5070 - Studies in Asian Music

3 hours

Historical developments and current issues in Asian music. Select music cultures are studied from an ethnomusicological perspective.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MUET 5080 - Studies in Latin American Music

3 hours

Study of the traditional and popular music of Latin America in its cultural context using theoretical approaches of ethnomusicology and related disciplines. Countries and topics may vary.

Prerequisite(s): None.

May be repeated as topics vary.

MUET 5090 - Music of India

3 hours (3;1)

Development of Indian music from Vedic times to the present day. Overview of North Indian classical music, a detailed study of South Indian classical music systems, and a selected survey of folk music from different regions of India.

Prerequisite(s): None.

MUET 5210 - Seminar in Ethnomusicology

3 hours

Selected topics in ethnomusicology: current theoretical and practical issues in the discipline.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MUET 5220 - Ethnomusicology Field and Research Methods

3 hours

Exploration of the relationship between shifting theoretical research paradigms and how they have affected field methodology. Close readings of representative ethnographies, several short field assignments and reports, and a field research project, resulting in a final paper.

Prerequisite(s): None.

MUET 5230 - 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

MUET 5900 - Ethnomusicology Special Problems

3 hours

Special problems in ethnomusicology.

Prerequisite(s): None.

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.

Prerequisite(s): None.

MUET 6010 - Current Issues in Ethnomusicology

3 hours

Investigative research into current issues in ethnomusicology.

Prerequisite(s): None.

May be repeated for credit as topics vary up to a maximum of 12 hours.

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): ACCT 5020 or equivalent. Department recommends students lacking background complete DSCI 5180 and ACCT 5130 and third party vendor modules in finance, economics, calculus and statistics.

FINA 5210 - Investment Analysis and Management

3 hours

Economic and industry studies, company analysis, selection of senior securities, theory and application of common stock valuation models, security markets and timing, portfolio management, options and futures markets.

Prerequisite(s): FINA 5170 or equivalent; ECON 1100 or ECON 5000 or equivalent; ACCT 2010 or ACCT 5020 or equivalent; MATH 1190 or equivalent, or consent of department.

FINA 5220 - Theory and Application of Financial Derivatives

3 hours

Theory, valuation and analysis of derivative securities; the use of options, futures and swaps in risk management; current applications to financial engineering and innovation.

Prerequisite(s): FINA 5170 and FINA 5210 or equivalents; ECON 1100 or ECON 5000 or equivalent; ACCT 2010 or ACCT 5020 or equivalent; MATH 1190 or equivalent.

FINA 5230 - Portfolio Management and Security Analysis in Investments

3 hours

Overview of portfolio management and security analysis from the point of view of a trust officer, mutual fund manager, pension fund manager or other manager of securities. Emphasizes the need of financial managers for an understanding of problems, trends and theory of portfolio management.

Prerequisite(s): FINA 5210 or consent of instructor.

FINA 5310 - Advanced Topics in Financial Management

3 hours

Introduces the student to the use of financial decision models. Also focuses on the application of advanced theoretical models and provides an understanding of the interaction of financial decisions.

Prerequisite(s): FINA 5170 or equivalent; ECON 1100 or ECON 5000 or equivalent; ACCT 2010 or ACCT 5020 or equivalent; MATH 1190 or equivalent.

FINA 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 also are covered.

Prerequisite(s): ACCT 5700 and FINA 5040 .

FINA 5400 - Financial Markets and Institutions

3 hours

Determination of interest rates, their term structure and the relationship with inflation. Management of interest rate risk. Financial instruments and their characteristics. Monetary policy, the Federal Reserve System and regulation. Introduction to the international financial system.

Prerequisite(s): FINA 5170 or equivalent; ECON 1100 or ECON 5000 or equivalent; ACCT 2010 or ACCT 5020 or equivalent; MATH 1190 or equivalent.

FINA 5410 - Advanced Management of Financial Institutions

3 hours

Current problems and issues in the management of financial institutions are covered in readings, case problems and computer simulation models.

Prerequisite(s): FINA 5400 or consent of department.

FINA 5500 - International Financial Management

3 hours

Analyses of the balance of payments and its impact on domestic economies and currencies. Theories of financing foreign trade and investments. Foreign exchange markets and exchange rate behavior in theory and practice. Assessing exposure to the foreign exchange risk and the use of hedging tools and techniques.

Prerequisite(s): FINA 5170 or equivalent; ECON 1100 or ECON 5000 or equivalent; ACCT 2010 or ACCT 5020 or equivalent; MATH 1190 or equivalent.

FINA 5510 - Theory of Finance

3 hours

Advanced topics in the theory of finance. Topics include decision-making under uncertainty; equilibrium pricing models, capital structure theory; agency theory and the market for corporate control; signaling models; the pricing of contingent claims; current developments and selected readings in the finance literature.

Prerequisite(s): FINA 5310 or equivalent; knowledge of differential and integral calculus, matrix algebra and intermediate microeconomics are recommended; or consent of department.

FINA 5650 - Contemporary Issues in Finance

3 hours

Current topics as selected by the instructor. May include cases and/or lecture format.

Prerequisite(s): Consent of instructor.

May be repeated for credit.

FINA 5700 - Integrative Capstone Course in Finance

3 hours

Integrative cases and/or theory as selected by the instructor. Required for MS finance students. Open to MBA students, but all students must meet prerequisites.

Prerequisite(s): FINA 5210, FINA 5310, FINA 5400 and FINA 5500 or consent of department. One or two prerequisites may be taken concurrently.

FINA 5800 - Internship

1–3 hours

Supervised work experience in a position related to the student's career objective that meets the department's internship requirements.

Prerequisite(s): Students must meet employer's requirements and have consent of the department's master's advisor.

Pass/no pass only.

FINA 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

FINA 5910 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

FINA 6010 - Seminar in Business Administration

3 hours

Covers one or more special fields.

Prerequisite(s): Approval of the PhD program advisor in the department.

May be repeated for credit, and two or more sections may be taken concurrently.

FINA 6014 - Seminar in Investments, Modern Portfolio Theory and Capital Markets Research

3 hours

Explores the origins of the established theories explaining investment analysis, portfolio management equilibrium in the capital market and the evidence that supports these principles. Seminar focuses on the original writings that have formed the foundations of the discipline and the empirical methods used for research in investment analysis, portfolio management and capital markets research.

Prerequisite(s): Admission to doctoral finance program and consent of department.

FINA 6015 - Seminar in Financial Derivatives

3 hours

Explores the origins of the established theories explaining the behavior and use of financial derivatives, and the evidence that supports them. Focuses on the original writings that have formed the foundations of the discipline and the empirical methods used for research in financial derivatives. Examines the application of financial derivatives analysis to capital investment decisions, using the Real Options Approach.

Prerequisite(s): Admission to the doctoral finance program and consent of department.

FINA 6016 - Seminar in Corporate Finance

3 hours

Explores the origins of the established theories explaining firms decisions about how to raise money from investors, how to make capital investment decisions, plus when and how to return capital to investors. Examines the evidence that supports these principles. Focuses on the original writings that have formed the foundations of the discipline and the empirical methods used for research in corporate finance.

Prerequisite(s): Admission to the doctoral finance program and consent of department.

FINA 6017 - Seminar in Financial Institutions and Markets

3 hours

Explores the origins of the established theories explaining the functions of financial institutions and the flow of funds through the money markets. Examines the evidence that supports these principles. Focuses on the original writings that have formed the foundations of the discipline and the empirical methods used for research about financial institutions and markets.

Prerequisite(s): Admission to the doctoral finance program and consent of department.

FINA 6018 - Seminar in Econometric Methods Applied in Financial Markets Research

3 hours

Explores the econometric methods currently available for application in financial market research. Prepares students for dissertation research and for careers in financial markets research.

Prerequisite(s): MATH 5810, MATH 5820, and ECON 5660 or equivalents; admission to the doctoral finance program or consent of department.

FINA 6100 - The Theory of Financial Decisions

3 hours

Examines the theoretical underpinnings of financial decision making. Explores valuation and the impact on firm value of the investment, financing and dividend decisions under conditions of certainty and uncertainty in both perfect and imperfect markets.

Prerequisite(s): FINA 5310 and doctoral standing, or consent of department.

FINA 6110 - Special Topics in Financial Theory

3 hours

Emphasizes current issues in theoretical finance. Students explore both current and classic literature and engage in individual research on the issues under consideration.

Prerequisite(s): FINA 6100 or consent of department.

FINA 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

FINA 6910 - Independent Doctoral Research

1–12 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

May be repeated for credit.

FINA 6940 - Individual Research

1–12 hours

Individual research for the doctoral candidate.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

May be repeated for credit.

FINA 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate 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 CoB Graduate Programs Office prior to registration.

May be repeated for credit.

French

FREN 5016 - French for Graduate Research

3 hours

French readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool.

Prerequisite(s): None.

No prior knowledge of French is required. Evaluation on a pass/no pass basis.

FREN 5026 - French for Graduate Research

3 hours

French readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool.

Prerequisite(s): FREN 5016 or equivalent.

Evaluation on a pass/no pass basis.

FREN 5150 - Seminar in French

3 hours

Topics include practicum in teaching college level French; and theory of teaching methodology and language acquisition in French.

Prerequisite(s): None.

Open to all graduate students. May be repeated for credit as topics vary.

FREN 5200 - Seminar in French

3 hours

Topics taught include the 20th-century French novel; the 20th-century French theatre; selected readings in 18th-century literature; selected French writers of the 19th century, such as Hugo, Balzac, Stendhal, Baudelaire and Flaubert; and French Renaissance literature, advanced grammar and advanced civilization and culture.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5300 - French Linguistics

3 hours

Advanced French grammar, morphology, phonology and syntax.

Prerequisite(s): None.

FREN 5310 - Analysis of French Discourse

3 hours

Analysis of spoken, written and electronic French discourse with a focus on the ways in which language varies in different types of texts and contexts.

Prerequisite(s): None.

FREN 5320 - New Technologies for Teaching French

3 hours

Current pedagogical frameworks combined with practical applications related to the use of the new technologies for teaching French.

Prerequisite(s): None.

FREN 5330 - History of the French Language

3 hours

Consideration of all aspects of the development of the French language with concentration on internal development (phonology, morphology and syntax) from Latin to Modern French.

Prerequisite(s): None.

Knowledge of Latin useful but not necessary.

FREN 5340 - French Structures and Stylistics

3 hours

Comparative analysis of French and English grammatical structures and stylistics with intensive writing practice, including translations.

Prerequisite(s): None.

This is a required course that will enable students to improve their writing skills.

FREN 5350 - Theory and Analysis of Literary Texts

3 hours

Study of major essays on semiology and literary theory by French structuralists and post-structuralists. Focus on methods of literary analysis applied to representative prose/poetry of French classics.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5360 - French Translation Theory and Practice

3 hours

Study of current theoretical frameworks, strategies and tools for translation combined with translation practice in a variety of contexts.

Prerequisite(s): None.

FREN 5410 - Topics in Medieval Literature

3 hours

Study and analysis of poetic and/or prose writers and texts in Medieval France.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5430 - Topics in Renaissance Literature

3 hours

Study and analysis of poetic and/or prose writers and texts in 16th-century France.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5450 - Seventeenth- and Eighteenth-Century French Theatre

3 hours

Overview of French theatre in the 17th and 18th century, with emphasis on Corneille, Racine, Molière, Marivaux and Beaumarchais.

Prerequisite(s): None.

FREN 5460 - The Seventeenth- and Eighteenth-Century French Epistolary Novel

3 hours

Study and analysis of the epistolary novel in French literature, from its humble beginnings in the late 17th century to its heyday in the 18th century.

Prerequisite(s): None.

FREN 5500 - Nineteenth- and Twentieth-Century French Poetry

3 hours

Study and analysis of the major movements of French poetry of the 19th and 20th centuries, starting with the works of the Romantics, the Parnassians, the Symbolists (Baudelaire, Rimbaud, Verlaine and Mallarmé), including a survey of the development of the genre since the Surrealists (Apollinaire, Breton, Desnos) with an emphasis on poetry after 1950 (Ponge, Char, du Bouchet).

Prerequisite(s): None.

FREN 5520 - Nineteenth-Century French Prose

3 hours

Topics focus on either the development of the short story genre and/or the fantastic tale (Balzac, Gautier, Mérimée, and Maupassant); or the development of the novel genre (Balzac, Flaubert, Stendhal, Maupassant). Includes the study of some film adaptations.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5540 - Twentieth-Century French Novel

3 hours

Topics focus on either the transformation of the novel genre throughout the century (Proust, Gide, Camus, Colette, Sartre, Giono, and contemporary developments); or concentrate on French Nouveau Roman (Butor, Duras, Ollier, Ricardou, Robbe-Grillet, Sarraute, Simon). The study of this major movement in 20th-century French novel includes films and theory of the novel.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5600 - French Women Writers

3 hours

Overview of women's contributions to French literature, from the Middle Ages through the modern age.

Prerequisite(s): None.

FREN 5710 - History of French Civilization to 1789

3 hours

History of French civilization from the origins to the Revolution of 1789, including political and social history, art, music, and literary movements. Lectures, readings, recordings, films and video sequences.

Prerequisite(s): None.

FREN 5715 - History of French Civilization since 1789

3 hours

History of French civilization from the Revolution of 1789 to the beginning of the Fifth Republic, including political and social history, art, music and literary movements. Includes lectures, readings, recordings, films and video sequences.

Prerequisite(s): None.

FREN 5720 - Contemporary France

3 hours

Survey of contemporary France, including geography, demography, family, education, the value system, politics, the economy, leisure activities and culture, the place of France in the European Union, and current events.

Prerequisite(s): None.

FREN 5730 - Topics on Contemporary France

3 hours

Specialized topics may include women in France, education in France, social classes in France, the youth in France.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5740 - Quebec Society and Culture

3 hours

Overview of Quebec society and culture since its colonial origins. Topics include historical survey, "Révolution tranquille," identity, language concerns, institutions, ideologies, efforts toward separatism, social issues, culture (literature, art, film, chanson).

Prerequisite(s): None.

FREN 5750 - Exploring the Francophone World

3 hours

Analysis and exploration of language and other aspects of society in the francophone world, including former colonies of France and countries where French is used as a national, official, or vernacular language.

Prerequisite(s): None.

May be repeated for credit as topics vary.

FREN 5900 - Special Problems

1–3 hours

Conference courses open only to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

FREN 5910 - Special Problems

1–3 hours

Conference courses open only to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

FREN 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

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.

Prerequisite(s): Acceptance to the summers-only MMEd program (teaching emphasis).

MUGC 5040 - Vocal Pedagogy and Diction

3 hours

Advanced vocal pedagogy techniques and diction in multiple languages.

Prerequisite(s): Acceptance to the summers-only MMEd program (teaching emphasis).

MUGC 5060 - Early Childhood/Elementary Music

3 hours

Examination and application of pedagogical techniques suitable for teaching music to students in early childhood.

Prerequisite(s): Acceptance to the summers-only MMEd program (teaching emphasis).

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.

Prerequisite(s): Acceptance to the summers-only MMEd program (teaching emphasis).

MUGC 5890 - Studies in Music

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demand of program development that are not met by the regular offerings. Short courses and workshops on specific topics organized on a limited offering basis.

Prerequisite(s): None.

May be repeated for credit.

MUGC 5900 - Special Problems

1–3 hours

For graduate students of unusual ability in music who may elect to study material not formally listed for instruction.

Prerequisite(s): None.

May be repeated for credit.

MUGC 5910 - Special Problems

1–3 hours

For graduate students of unusual ability in music who may elect to study material not formally listed for instruction.

Prerequisite(s): None.

May be repeated for credit.

MUGC 5930 - Research Problem in Lieu of Thesis

3 hours

Prerequisite(s): MUMH 5010.

May be repeated for credit.

MUGC 5941 - Graduate Artist Certificate Recital

3 hours (0;1)

Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.

Prerequisite(s): Consent of major professor.

Registration only by consent of major professor.

MUGC 5942 - Graduate Artist Certificate Recital

3 hours (0;1)

Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.

Prerequisite(s): Consent of major professor.

Registration only by consent of major professor.

MUGC 5943 - Graduate Artist Certificate Recital

3 hours (0;1)

Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.

Prerequisite(s): Consent of major professor.

Registration only by consent of major professor.

MUGC 5944 - Graduate Artist Certificate Recital

3 hours (0;1)

Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.

Prerequisite(s): Consent of major professor.

Registration only by consent of major professor.

MUGC 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of college. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

MUGC 6900 - Special Problems

1–3 hours

For doctoral students of unusual ability in music who may elect to study material not formally listed for instruction.

Prerequisite(s): None.

May be repeated for credit.

MUGC 6910 - Special Problems

1–3 hours

For doctoral students of unusual ability in music who may elect to study material not formally listed for instruction.

Prerequisite(s): None.

May be repeated for credit.

MUGC 6941 - Graduate Artist Certificate Recital

3 hours (0;1)

Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.

Prerequisite(s): Consent of major professor.

Registration only by consent of major professor.

MUGC 6942 - Graduate Artist Certificate Recital

3 hours (0;1)

Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.

Prerequisite(s): Consent of major professor.

Registration only by consent of major professor.

MUGC 6943 - Graduate Artist Certificate Recital

3 hours (0;1)

Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.

Prerequisite(s): Consent of major professor.

Registration only by consent of major professor.

MUGC 6944 - Graduate Artist Certificate Recital

3 hours (0;1)

Recital requirement for those seeking the Graduate Artist Certificate in Music Performance.

Prerequisite(s): Consent of major professor.

Registration only by consent of major professor.

MUGC 6950 - Doctoral Dissertation

3, 6 or 9 hours

Registration only by consent of college. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

MUGC 6951 - Dissertation Recital

1-3 hours

First dissertation recital.

Prerequisite(s): Consent of major professor.

Open only to DMA students in performance.

MUGC 6952 - Dissertation Recital

1-3 hours

Second dissertation recital.

Prerequisite(s): MUGC 6951. Consent of major professor.

Open only to DMA students in performance.

MUGC 6953 - Dissertation Recital

1-3 hours

Third dissertation recital.

Prerequisite(s): MUGC 6951, MUGC 6952. Admission to candidacy, and consent of major professor.

Registration only by consent of major professor. Open only to DMA students in performance.

MUGC 6954 - Dissertation Recital

3-9 hours

Prerequisite(s): MUGC 6951, MUGC 6952, MUGC 6953. Admission to candidacy, and consent of major professor.

Registration only by consent of major professor. Open only to DMA students in performance.

MUGC 6955 - Dissertation Recital in Jazz Studies

3 hours

Combination of recitals, lecture-recitals and scholarly writing to be determined in consultation with the major professor.

Prerequisite(s): Consent of major professor.

Open only to DMA students in jazz studies. Pending approval of the DMA with a major in jazz studies.

MUGC 6958 - Dissertation Recital in Jazz Studies

3 hours

Combination of recitals, lecture-recitals and scholarly writing to be determined in consultation with the major professor.

Prerequisite(s): Consent of major professor.

Open only to DMA students in jazz studies. Pending approval of the DMA with a major in jazz studies.

Geography

GEOG 5030 - British Isles Field School

6 hours

Applying geographical field techniques in a foreign setting – the British Isles and Ireland. The field school is centered on five base sites – Plymouth, Cork, Galway, Aberystwyth and Edinburgh. At each site, students conduct one-day human and physical geography field exercises. Topics include: mapping historic changes in commercial function in Plymouth; combining field mapping, air photo and map analysis to measure coastal erosion in Cork; field survey of rural service provision in Tipperary County; physical and human dimensions of flood hazard in Aberystwyth; comparison of medieval, Georgian and modernist town planning in Edinburgh. Duration of fieldwork is approximately three weeks.

Prerequisite(s): None.

GEOG 5040 - Ghana Field School

6 hours

Geography of health and economic development in Ghana. The trip includes visits to herbalists, hospitals and rural clinics, a gold mine, slave castles, and industrial sites such as cocoa processing plants and timber mills. Duration of fieldwork is approximately three weeks.

Prerequisite(s): None.

GEOG 5050 - Cartography and Graphics

3 hours (1;2)

Construction and interpretation of topographic maps; thematic mapping of geographically referenced data; field mapping and survey techniques; introduction to geographic information systems and computer graphics.

Prerequisite(s): None.

GEOG 5060 - Applied GIS: MapInfo Professional

3 hours (1;2)

Introduction to conceptual and practical aspects of geographic information systems. Emphasis on applications, using sociodemographic and business examples. Topics include: importing and mapping census data; creating and editing map attribute databases; geocoding, buffering and aggregating data; thematic maps; applications.

Prerequisite(s): None.

GEOG 5075 - China Field School

6 hours

Develop advanced skills in field observation, analysis, and interpretation for a variety of geographical, geological, and environmental problems; experience diverse landscapes and cultures in China, and visit Chinese national research institutes in geography, resources

and environment, and geospatial technologies. The China Field School teaches field skills through visits to a number of sites: Beijing, Kunming, Dali, and Lijiang. Exercises emphasize the implementation of graduate-level field skills in an applied geography context.

Prerequisite(s): Admission to graduate studies in the department, or consent of department.

GEOG 5120 - Research in Physical Geography

3 hours

Study of physical processes manifest at or near the earth's surface. Topics will focus on atmosphere, hydrologic, geomorphic, and tectonic processes and associate phenomena.

Prerequisite(s): None.

May be repeated for credit as topics vary.

GEOG 5130 - Research in Human Geography

3 hours

Study of spatial and ecological relationships with cultural, demographic, political, economic and social forces shaping human settlement patterns.

Prerequisite(s): None.

May be repeated for credit as topics vary.

GEOG 5140 - Medical Geography

3 hours

Locational aspects of disease and health care, spatial patterns of diseases, health facilities, and health care policies and problems. Individual project required.

Prerequisite(s): Consent of department.

Meets with GEOG 4120.

GEOG 5145 - Epidemiological Research Methods in Spatial Perspective

3 hours

The spatial analysis of observed health outcomes with an emphasis on the geographical considerations that are important to the design and interpretation of epidemiological studies. Covers the basic principles and methods used in epidemiology, geographical sampling and population study designs, and relevant statistical/analytical methodologies.

Prerequisite(s): GEOG 5190 or equivalent.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

GEOG 5160 - Foundations of Geographic Thought

3 hours

Explores epistemological developments in the discipline of geography, including the origins, development and diffusion of predominant ideas that form the foundation of geography. Provides a grounding in contemporary geographic thought, focusing on diverse ways that geographers go about explaining, interpreting and understanding the world (i.e., epistemologies).

Prerequisite(s): Consent of department.

GEOG 5170 - Mapping and Field Methods

3 hours

Evaluation and interpretation of aerial photography and satellite images. Quantitative analysis, interpretation and processing techniques. Base maps and field methods. Involves independent research project.

Prerequisite(s): None.

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.

GEOG 5190 - Advanced Quantitative Techniques

3 hours

Application of advanced statistical procedures including multivariate techniques to analysis of point and areal patterns and spatial data.

Prerequisite(s): Consent of department.

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.

Prerequisite(s): None.

Meets with GEOG 4195.

Not open to students who have completed GEOG 4195.

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.

GEOG 5220 - Applied Retail Geography

3 hours

Advanced survey of principles and applications in the geographic analysis of the retail marketplace. Examines changes in the retail industry and in the markets surveyed by retail firms. Students are required to complete an independent research paper.

Prerequisite(s): None.

Meets with GEOG 4220.

GEOG 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.

Prerequisite(s): None.

GEOG 5240 - Meteorology

3 hours

Advanced study of the dynamic processes operating in the earth's atmosphere and how they create both usual and unusual patterns of weather. Models of severe atmosphere storm systems receive special attention. Requires completion of an individual research project on a meteorology topic.

Prerequisite(s): Consent of department.

Meets with GEOG 4240.

GEOG 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.

Prerequisite(s): None.

Meets with GEOG 4245.

GEOG 5250 - Climatology

3 hours

Description and analysis of world climates; major classifications, controls, regional distribution and change.

Prerequisite(s): Consent of department.

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.

GEOG 5350 - Geomorphology

3 hours

Processes of land form analysis. Glacial, desert, fluvial and other settings are reviewed along with basic processes of construction, erosion and weathering.

Prerequisite(s): None.

GEOG 5360 - Applied Paleozoology in Conservation Science

3 hours

Integrates issues in conservation biology and environmental management with the deep temporal perspectives of paleontology and zooarchaeology. Zooarchaeological studies are integrated to highlight temporal perspectives on biogeography, biological invasion, ecological restoration and environmental philosophy/ethics. Divided into three sections that are discussion oriented: theory-concept-philosophy, case studies, and extinctions in deep time.

Prerequisite(s): Admission to the graduate program in environmental science, environmental philosophy or geography.

GEOG 5400 - Environmental Modeling

3 hours (2;2)

Modeling of environmental processes and human impacts on the environment to include topics on sensitivity, calibration and evaluation, watersheds, non-point source pollution, hydrological models, GIS, water and air quality models, pollutant transport and fate, and ecotoxicology.

Prerequisite(s): Graduate standing or consent of department.

GEOG 5410 - Location-Allocation Modeling

3 hours

Introduction to location-allocation models for service delivery, covering p-median, p-center and hierarchical models and their applications; data accuracy, aggregation and distance problems in location-allocation modeling.

Prerequisite(s): Consent of department.

GEOG 5420 - 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.

GEOG 5430 - Remote Sensing

3 hours

Principles, methods, and applications of multispectral, hyperspectral, radar, and light detection and ranging (LiDAR) remote sensing, including: fundamental characteristics of electromagnetic radiation and how the energy interacts with Earth surface materials; remote sensing platforms and instruments; principles and methods of visual image interpretation and digital image processing and analysis; and remote sensing of vegetation, water, soils, minerals, landforms and urban environments.

Prerequisite(s): None.

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.

Prerequisite(s): None.

Basic computer skills are mandatory.

GEOG 5530 - 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.

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.

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.

Prerequisite(s): None.

Meets with GEOG 4560.

GEOG 5570 - Special Topics in GIS

3 hours

Advanced examination of selected topics and techniques in Geographic Information Systems. Course content reflects current trends in GIS research and the job market. Examples include multiuser geospatial data management, web-based GIS implementation and customization, GIS programming, advanced topics in spatial analysis and spatial statistics, applications for specific career fields, and other topics. Students must complete an independent research paper.

Prerequisite(s): GEOG 3500 or GEOG 5510 or consent of department.

Meets with GEOG 4570.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

GEOG 5590 - Advanced GIS Programming

3 hours

Methods of creating new applications and improving productivity in GIS through computer programming. Culminates in an advanced-level programming project. Topics include accessing maps and data layers, querying and selecting features, updating databases, and accessing raster and TIN/Terrain layers.

Prerequisite(s): GEOG 5560 or consent of department.

Meets with GEOG 4590.

GEOG 5600 - Seminar in Environmental Policy

3 hours

Analysis and evaluation of environmental policy, including spatial, historical, economic, ecological and institutional dimensions of contemporary resource management issues.

Prerequisite(s): None.

GEOG 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.

GEOG 5750 - Surface Water Hydrology

3 hours

Study of hydrological processes with emphasis on the hydrological cycle; soil moisture and infiltration; watersheds and drainage systems; flow mechanics, sediment transportation and deposition; and river response to climatic change and other impacts of human activity. Requires completion of an individual research project on a topic in surface water hydrology.

Prerequisite(s): Consent of department.

Meets with GEOG 4750.

GEOG 5800 - Research Design and Geographic Applications

3 hours

Themes in geographical research, application of scientific method in spatial problem-solving and analysis.

Prerequisite(s): Consent of instructor.

GEOG 5900 - Special Problems

1–3 hours

Research by graduate students in fields of special interest.

Prerequisite(s): Consent of department.

GEOG 5920 - Research Problems in Lieu of Thesis

3 hours

Research-based independent study. Problem must be approved by major professor. Requires submission of research report.

Prerequisite(s): Must have completed 12 additional hours toward the Master of Science degree in applied geography, or consent of department.

Non-thesis option only.

GEOG 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

GEOG 5960 - Geography Institute

3 hours

For students accepted by the university as participants in special institute courses.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

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.

Prerequisite(s): None.

German

GERM 5017 - German for Graduate Research

3 hours

German readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool.

Prerequisite(s): None.

No prior knowledge of German is required. Evaluation on a pass/no pass basis.

GERM 5027 - German for Graduate Research

3 hours

German readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool.

Prerequisite(s): GERM 5017 or equivalent.

Evaluation on a pass/no pass basis.

GERM 5300 - German Linguistics

3 hours

Introduction to the core linguistic systems of German (phonology, morphology, syntax or semantics.) Taught in German.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

GERM 5710 - German Culture and Civilization

3 hours

Exemplifying the perspectives, practices, and products of German-speaking countries through the description and analysis of history, culture and literature.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

Health Promotion

HLTH 5100 - Research Perspectives in Kinesiology, Health Promotion and Recreation

3 hours

Research techniques and their application to the research process in kinesiology, health promotion and recreation.

Prerequisite(s): None.

Same as KINE 5100. Same as RESM 5100.

HLTH 5110 - Critical Analysis of Professional Literature

3 hours

Analysis and philosophical criticism of the literature in the student's major area and other related fields. Extensive reading assignments and discussion of published and unpublished research.

Prerequisite(s): None.

HLTH 5131 - Exercise and Health Psychology

3 hours

Introduces students to health, leisure and exercise behavior change strategies, and provides knowledge and skills necessary to improve the initiation and adherence of lifetime health and physical activity behaviors among individuals and groups. Offers a comprehensive inquiry into individual behaviors and lifestyles that affect physical and mental health from health promotion, exercise science and psychological perspectives. Topics include enhancement of health, identification of health risk factors, prevention and treatment of disease, improvement of the health care system and shaping of public opinion with regard to health and physical activity.

Prerequisite(s): A course in sport psychology or consent of department.

Same as KINE 6131 . Same as PSYC 6135.

HLTH 5170 - Critical Health Issues

3 hours

Health aspects and health promotion implications of current health issues. Exploration of health problems currently found in society; role of health educators in terms of preparation, planning, instruction and evaluation.

Prerequisite(s): None.

May be repeated for maximum of 6 hours credit.

HLTH 5290 - Human Sexuality Education

3 hours

Basic human aspects that influence the development of the individual's total sexuality. The philosophy, content, methods, resources and evaluation that relate specifically to the teaching of human sexuality.

Prerequisite(s): None.

HLTH 5300 - Health Promotion: Advanced Concepts and Theories

3 hours

Analysis of the growing body of knowledge concerning health promotion and education. Concepts of theory, research and practice are discussed, analyzed and used as a framework for investigative study.

Prerequisite(s): None.

HLTH 5310 - Health Promotion Workshop

3 hours

Workshop for teachers, nurses, principals, superintendents and community leaders with opportunities to concentrate on individual and group problems. Activities based upon the problems, needs and interests of participants. Consultants from most areas of health are utilized.

Prerequisite(s): None.

Corequisite(s): HLTH 5320 is taken in conjunction with HLTH 5310.

HLTH 5320 - Health Promotion Workshop

3 hours

Workshop for teachers, nurses, principals, superintendents and community leaders with opportunities to concentrate on individual and group problems. Activities based upon the problems, needs and interests of participants. Consultants from most areas of health are utilized.

Prerequisite(s): None.

Corequisite(s): HLTH 5320 is taken in conjunction with HLTH 5310.

HLTH 5510 - Stress Management for the Health Professional

3 hours

Environmental, organizational, interpersonal and individual patterns of stress with reference to the role of the health professional. Prevention and intervention strategies are emphasized.

Prerequisite(s): None.

Same as KINE 5510.

HLTH 5600 - Health Promotion in a Multicultural Context

3 hours

Explores ethnic and cultural factors influencing disease prevention and health promotion among ethnic-cultural groups. Students will be able to design, implement and evaluate health promotion programs targeting multiethnic and multicultural groups.

Prerequisite(s): None.

HLTH 5800 - Studies in Health Promotion

1–3 hours

Organized classes to satisfy program needs.

Prerequisite(s): Consent of department.

Limited-offering basis; may be repeated for credit.

HLTH 5850 - Graduate Internship

3 hours

Graduate internship affiliated with an approved community health promotion agency. Emphasis is on application of knowledge and skills to job roles, professional responsibilities, and program development and evaluation. The internship will involve a minimum of 320 consecutive hours to be completed within a term/semester.

Prerequisite(s): Completion of a minimum of 18 graduate hours in health promotion.

Required of all graduate students without a minimum of 1 year experience in a community health agency.

HLTH 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor.

Prerequisite(s): None.

HLTH 5910 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor.

Prerequisite(s): None.

HLTH 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

HLSV 5880 - Health Care Law and Ethics

3 hours

Provides an overview of the contemporary legal and ethical issues facing health care 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.

Prerequisite(s): None.

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.

Health Services Research

HLSR 6200 - 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.

HLSR 6420 - Health Services Research

3 hours

Advanced research class featuring methods employed in health services research. Students use methods applied in health services research to perform a health services research project, based either on data from a health services provider or an appropriate existing data set (e.g., the National Health Interview Survey, an American Hospital Association Annual Survey, a local health provider, or so

on). Convenes in a computer classroom. Student activity includes development of a research plan (possibly in consultation with a health provider), and students undertake analysis and include at least preliminary interpretation of results.

Prerequisite(s): BUSI 6240 or equivalent.

HLSR 6710 - 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 program.

Prerequisite(s): Consent of instructor.

HLSR 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.

Prerequisite(s): None.

HLSR 6880 - Analysis and Writing for Reporting and Publication

3 hours

Advanced research class featuring interpretation and reporting of research. Ideally follows up on projects begun in Health Services Research (HLSR 6420). 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): HLSR 6420.

HLSR 6900 - Special Problems in Health Services Research

1-3 hours

Research by doctoral students in an area of special interest. Includes supervised projects, research studies and field-based data collection.

Prerequisite(s): None.

May be repeated for credit as topics vary for a maximum of 6 hours.

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.

Prerequisite(s): None.

EDHE 5110 - Foundations of Student Development Administration

3 hours

Principles and techniques of administration applied to the student development subsystem of higher education institutions. Applications to both senior and community college institutions.

Prerequisite(s): None.

EDHE 5120 - Student Development Programming Administration

3 hours

Principles and techniques of creating, analyzing and administering student development programming to meet the needs of heterogeneous college student groups in the areas of academic, social, community and personal development in higher education. Applications to both senior and community college institutions.

Prerequisite(s): EDHE 5110.

EDHE 5210 - Student Demographics

3 hours

Designed to increase knowledge and learning in the area of college student demographics and current student issues. Provides a comprehensive examination of the demographics and collegiate experiences of today's postsecondary education student populations in light of current conceptualizations, perspectives and research. Topics include characteristics of entering students and student subcultures.

Prerequisite(s): None.

EDHE 5220 - Cultural Pluralism in Higher Education

3 hours

Examines the role of cultural pluralism in U.S. higher education. Focuses on issues of race, ethnicity and gender, and their implications for the change processes of colleges and universities.

Prerequisite(s): None.

EDHE 5250 - Programming for Conferences, Seminars, Workshops

3 hours

Examination of theory and practice for the development and operation of brief learning activities for education, training and development.

Prerequisite(s): None.

EDHE 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EDHE 5710 - Trends and Issues in Adult/Continuing Education

3 hours

Introduction to adult/continuing education that includes a review and analysis of its historical development, social context, current practice and problems, and research.

Prerequisite(s): None.

EDHE 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor.

Prerequisite(s): None.

Open only to resident students.

EDHE 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.

Prerequisite(s): None.

EDHE 6030 - Practicum, Field Problem or Internship

3–6 hours

Supervised professional activities in post-secondary teaching, research or administration.

Prerequisite(s): None.

Registration is on an individual basis.

EDHE 6050 - 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.

Prerequisite(s): None.

EDHE 6060 - History and Philosophy of the Community College

3 hours

Exploration of the development and the evolution of the community college as an innovation in U.S. higher education. Factors that influenced its creation and development, the historical and philosophical roots and the mission and function of community colleges.

Prerequisite(s): None.

This should be the first course taken in the sequence when beginning the community college cognate.

EDHE 6065 - 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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

EDHE 6085 - Contemporary Issues in the Community College

3 hours

Exploration of key contemporary issues in the community college as these relate to the areas of developmental education, leadership and governance, state support, federal student aid, federal policies affecting higher education and community colleges, evaluation and accountability, professional development, leadership development, diversity and access.

Prerequisite(s): EDHE 6060.

This should be the last course taken in the sequence when finishing the community college cognate.

EDHE 6120 - Seminar in Higher Education Research I

3 hours

Review and critique of research in higher education. Students develop and execute a research project. Topics are selected by faculty and vary each term/semester.

Prerequisite(s): EPSY 6010, EPSY 6020. 30 hours completed course work in higher education.

Required in the semester immediately preceding EDHE 6540.

EDHE 6500 - Essentials of Academic Publishing in Higher Education

3 hours

Deals extensively and intensively with major issues and problems affecting academic publishing. Topics treated include copyrights, book reviews, journal articles, policies and practices of professional journals, researching journals, publishing contacts and contracts, and book publishing.

Prerequisite(s): None.

EDHE 6510 - History and Philosophy of Higher Education

3 hours

Study of the development of higher education in the United States, including the forces that have shaped institutions and institutional culture and practice. Identification of the significant events and philosophies that have influenced the evolution of higher education institutions and analysis of the implications of these for practice and for the future of higher education.

Prerequisite(s): None.

EDHE 6520 - Students in Higher Education

3 hours

Links theories about college student development and research methodology on the study of college student outcomes. Specifically addressed are the conditions and kinds of effects that college attendance has on students. The course considers topics of interest to both practitioners and researchers.

Prerequisite(s): None.

EDHE 6530 - Research on Higher Education

3 hours

Critical review and analysis of the research literature on higher education and of designs used to conduct research in the field of higher education and on higher education in general.

Prerequisite(s): None.

EDHE 6540 - Seminar in Higher Education Research II

3 hours

Designed to familiarize doctoral students with the various genres of acceptable qualitative and quantitative research in higher education. Emphasis is on research needed in higher education, the psychology and economics of dissertation research and the importance of publishing completed research. Differences between EdD and PhD dissertations are considered.

Prerequisite(s): EDHE 6120.

Required in the semester immediately following EDHE 6120.

EDHE 6550 - Policy Studies in Higher Education

3 hours

Studies in the development, implementation and enforcement of policies by institutions of higher education, state higher education coordinating and governing boards and the federal government. Measurements of the impacts of policies on educational outcomes and institutional management also are examined.

Prerequisite(s): None.

EDHE 6560 - Comparative International Higher Education Systems

3 hours

Survey of the history and organizational concepts, approaches and educational philosophies utilized by selected nations around the world in the development of higher education systems. Attention also is given to the professional literature and research methods used in comparative higher education studies.

Prerequisite(s): None.

EDHE 6570 - The Professoriate in Higher Education

3 hours

Investigates the American professoriate and the relative importance of teaching, research and service. Includes in-depth investigations of the conditions of the professoriate within the range of Carnegie institutional classifications.

Prerequisite(s): None.

EDHE 6640 - The Adult Learner and Adult Learning

3 hours

Review and analysis with applications to practice of theory and research on adult learners and adult learning.

Prerequisite(s): None.

EDHE 6660 - Seminar in College Student Personnel Work

3 hours

Intensive study of special topics and problems in the organization, practices and administration of college student personnel services.

Prerequisite(s): None.

EDHE 6700 - Role of Higher Education in a Democracy

3 hours

Examination of the roles, goals, purposes and problems of a diverse pluralistic system of higher education in the unique context of American democracy.

Prerequisite(s): None.

EDHE 6710 - Organization and Administration of Higher Education

3 hours

Examination of the theoretical principles of organizational behavior, leadership and institutional culture applied to a functional examination of administrative roles in higher education.

Prerequisite(s): None.

EDHE 6720 - Academic Administration in Higher Education

3 hours

Functions of administrators of academic programs in institutions of higher education. Emphasis given to philosophy, objectives and curriculum development in academic programs. Both junior and senior college problems are considered.

Prerequisite(s): None.

EDHE 6730 - Organization and Administration of Student 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.

Prerequisite(s): None.

EDHE 6740 - Planning and Analytical Systems in Higher Education

3 hours

Systems theory; goals and objectives; management information systems; simulation models and planning, programming, budgeting systems (PPBS); evaluation of educational outcomes; and the institutional research function in higher education.

Prerequisite(s): None.

EDHE 6750 - Human Resource Development in Higher Education

3 hours

Examination of research and practice, including principles and techniques for the development, management and evaluation of faculty and staff, in colleges and universities.

Prerequisite(s): None.

EDHE 6760 - Higher Education Finance

3 hours

Examines the sources of revenues, types of expenditures, budgeting and accounting practices, tuition and financial aid policies, cost containment strategies, and the effects of the economy and state and federal funding on the financing of both private and public institutions of higher education.

Prerequisite(s): None.

EDHE 6780 - Educational Resource Development in Higher Education

3 hours

Designed to provide the administrator in higher education with knowledge and skills in educational resource development. Specific areas to be studied are identification and translation of institutional objectives into support programs and goals, program organization and management, and traditional and non-traditional sources of educational income.

Prerequisite(s): None.

EDHE 6790 - Legal Aspects of Higher Education

3 hours

Legal aspects and issues affecting institutions of higher learning and their administrations, faculties and students. Analyses of decisions rendered by the federal and state courts concerning procedural and substantive due process, civil rights, and the operation and function of higher education.

Prerequisite(s): None.

EDHE 6850 - Studies in Higher/Adult Education

1–3 hours

Short courses and/or workshops organized on a limited-offering basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

EDHE 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

EDHE 6910 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

EDHE 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

History

HIST 5010 - Studies in Ancient History

3 hours

Extensive readings and study in the social, religious, political and military history of ancient Egypt, Israel, Greece or Rome.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5020 - Seminar in Ancient History

3 hours

Research seminar in selected themes in ancient history.

Prerequisite(s): HIST 5010 or consent of department.

May be repeated for credit as topics vary.

HIST 5040 - Studies in Modern European History

3 hours

Extensive readings and study in one of the topical areas of modern European history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5060 - Seminar in Recent and Contemporary European History

3 hours

Studies in European history since World War I.

Prerequisite(s): None.

HIST 5080 - Seminar in Modern European History

3 hours

Research seminar in modern European history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5100 - Seminar in United States History

3 hours

Research seminar in United States history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5110 - Studies in United States History

3 hours

Extensive readings and study in United States history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5130 - Studies in World History: Latin American or Asian

3 hours

Extensive readings and study in either Latin American or Asian history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5150 - Seminar in World History: Latin American or Asian

3 hours

Research seminar in either Latin American or Asian history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5190 - Studies in Near East/African History

3 hours

Extensive readings and study in one of the topical areas of Near East/African history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5220 - Studies in United States Military/Diplomatic History

3 hours

Extensive readings and study in either United States military or diplomatic history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5230 - Seminar in United States Military/Diplomatic History

3 hours

Research seminar in either United States military or diplomatic history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5240 - Studies in European Military/Diplomatic History

3 hours

Extensive readings and study in either European military or diplomatic history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5250 - Seminar in European Military/Diplomatic History

3 hours

Research seminar in either European military or diplomatic history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5260 - Seminar in Near East/African History

3 hours

Research seminar in Near East/African history.

Prerequisite(s): None.

May be repeated for credit as topics vary.

HIST 5420 - Research Seminar in Local History

3 hours

Research and writing of local history.

Prerequisite(s): None.

HIST 5460 - Archives and Manuscript Repositories Studies

3 hours

Examines the theory and role of archives and manuscript repositories, their history and basic practices used in each.

Prerequisite(s): None.

HIST 5500 - Theory and Methods of Oral History

3 hours

Training in methodology of conducting, editing, transcribing and indexing interviews with eyewitnesses to or participants in historic events; emphasis on archival functions.

Prerequisite(s): None.

HIST 5520 - Oral History: Project Development and Implementation

3 hours (0;0;3)

Detailed, advanced consideration of the planning and development of an oral history project. Purpose is to create sources of research information to be used writing the master's thesis.

Prerequisite(s): HIST 5500.

May be repeated for credit.

HIST 5900 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only with consent of department.

HIST 5910 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only with consent of department.

HIST 5940 - Historical Bibliography

3 hours

Introduction to major reference materials in American and European history with discussions of significant research centers.

Prerequisite(s): None.

Required for all beginning MA/MS students.

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.

Prerequisite(s): None.

May be repeated for credit.

HIST 5980 - Teaching of College History

3 hours

Examination of the philosophies and techniques of teaching history at the college and university level.

Prerequisite(s): None.

Open to all graduate students and required of all history teaching fellows at their first opportunity to take it. This course is in addition to other degree requirements.

HIST 6000 - Historiography

3 hours

History of United States and European historical literature.

Prerequisite(s): None.

Required of all PhD students in history.

HIST 6900 - Special Problems

1–3 hours

Research by doctoral students in the fields of special interest.

Prerequisite(s): Consent of department.

HIST 6910 - Special Problems

1–3 hours

Research by doctoral students in the fields of special interest.

Prerequisite(s): Consent of department.

HIST 6940 - Individual Research

3 hours

Doctoral research of an independent nature.

Prerequisite(s): None.

May be repeated for credit.

HIST 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Hospitality Management

HMGT 5200 - Survey of Beverages in the Hospitality Industry

3 hours

Examination of wines, beers, and distilled spirits with a focus on vinicultural techniques, beer and distilled spirit production and classification, styles of wine and other beverages, and theory of wine and food pairing.

Prerequisite(s): Students must be 21 years of age or older.

HMGT 5210 - Hospitality Cost Controls

3 hours

Critical analysis of the food, beverage and labor cost control systems used in the hospitality industry. Emphasizes the identification, analysis and evaluation of control systems used for hospitality managerial planning. Develops procedures for successful control of business expenses.

Prerequisite(s): Undergraduate financial and managerial accounting or consent of department.

HMGT 5250 - Restaurant Development

3 hours

Identification, examination and application of restaurant development principles. Topics include menu planning, service styles, dining room and kitchen design, materials purchasing and receiving, food production techniques, accounting and financial management, and merchandising.

Prerequisite(s): None.

HMGT 5260 - Hospitality Business Strategies

3 hours

Critical thinking and strategic planning processes for hospitality operations. Analyze financial business plans, human resources plans and marketing plans for hospitality organizations; address leadership issues and global dimensions of management for hospitality organizations; analyze ethical issues and legal issues in managing hospitality enterprises, create solutions for hospitality operations from corporate and entrepreneurial perspectives. Utilize case study analysis and computer applications to apply principles.

Prerequisite(s): None.

HMGT 5280 - Hotel and Restaurant Operations: Theory and Analysis

3 hours

Study of hotel and restaurant management operations problems, including the areas of budgeting, human resource scheduling and payroll control, sales forecasting, costing and financial statement analysis. Students are actively involved in writing and discussing cases on current operations issues.

Prerequisite(s): None.

HMGT 5480 - Hospitality Industry Finance

3 hours

Critical evaluation of financial management issues in the hospitality industry. Analysis and evaluation of asset structures, capital structures, costs of capital and capital budgeting for hospitality firms. Determination of financial aspects of hotel valuation. Evaluation and comparison of the financial value, worth and health of hospitality firms.

Prerequisite(s): None.

HMGT 5520 - Global Tourism Systems

3 hours

In-depth analysis of the global travel and tourism industries from a systems perspective. Models of tourism system used as methodological tools to understand this complex global industry. Topics include historical, contemporary and future effects of travel and tourism as related to social, economic, cultural and environmental issues.

Prerequisite(s): None.

HMGT 5530 - International Sustainable Tourism

3 hours

Examines the philosophy, concepts and attitudes prevalent in practices of sustainable tourism in global destinations. Emphasizes the social/cultural, environmental and economic elements of sustainable tourism development. The variety of ways sustainable tourism activities are organized internationally and best practices are explored.

Prerequisite(s): None.

HMGT 5531 - Sustainable Natural Resource Management

3 hours

Examines the fundamental changes affecting the world that impact institutions and attitudes toward more sustainable natural resource management. Problems with the depletion of the ozone layer, global warming, deforestation, species decimation, coastal erosion, wetlands protection, acid rain, water pollution, solid and hazardous waste disposal, toxic air emissions, and other environmental problems of similar magnitude require changes in industry. Case study analysis and problem solving.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

HMGT 5532 - Context and Challenges of Sustainable Tourism Development

3 hours

The environment's dilutive capacity and its importance to sustainable tourism are explored. Factors critical to the sustainable tourism industry such as concentration of visitors, rising affluence, technological change, and increased expectations are examined. Social responsibility, cultural assessment, and community participation principles for sustainable tourism development are considered in field excursions. Intervention strategies for sustainable tourism development are presented as a compelling case for an effective private–public partnership for development of sustainable tourism.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

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.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

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.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

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.

Prerequisite(s): HMGT 5530.

Taught at CATIE in Costa Rica.

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 in Costa Rica through partnerships with CATIE.

Prerequisite(s): None.

Taught at CATIE in Costa Rica.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

HMGT 5580 - Hospitality and Tourism Information Technology Strategies

3 hours

In-depth discussion and analysis of the strategic use of information technologies from the consumer perspective in the hospitality and tourism industries. Topics include theoretical foundations of IT studies, behavioral foundations in travel and tourism, consumer behavior in a digital environment, web site evaluation, social media, search engine marketing, and emergent marketing strategies.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

HMGT 5790 - Field Experience in Hospitality and Tourism

3 hours

Arranged.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

HMGT 5900 - Special Problems in Hospitality and Tourism

1–3 hours

Arranged.

Prerequisite(s): Consent of instructor.

HMGT 5910 - Special Problems in Hospitality and Tourism

1–3 hours

Arranged.

Prerequisite(s): Consent of instructor.

HMGT 5920 - Problem in Lieu of Thesis

3 hours

No credit given until problem in lieu of thesis is completed.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): INFO 5208, INFO 5340, INFO 5420, INFO 5430, INFO 5720.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

INFO 5082 - Seminar in Research and Research Methodology

3 or 6 hours

Special topics in research methodology. Research proposal development. Directed research study.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

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.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

Corequisite(s): INFO 5200 or INFO 5210 and INFO 5710, or consent of department.

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.

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.

Prerequisite(s): None.

INFO 5210 - Resource Description and Access I

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.

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.

INFO 5220 - Resource Description and Access II

3 hours

Advanced descriptive and subject cataloging to represent multiple forms of information resources in bibliographic databases. In-depth study of cataloging models, standards and codes (Functional Requirements for Bibliographic Records, Resource Description and Access, Anglo-American Cataloging Rules 2, Machine Readable Cataloging); creation of name and subject access points authority records (Functional Requirements for Authority Data, Functional Requirements for Subject Authority Data, Library of Congress and OCLC authority databases); advanced principles of subject analysis and representation, subject heading construction, and subject classification (Library of Congress subject headings, Library of Congress Classification System, etc.); use of professional metadata creation tools (OCLC Connexion, etc.); issues of cataloging quality and future directions in development of library cataloging.

Prerequisite(s): INFO 5210.

INFO 5223 - Metadata for Information Organization and Retrieval I

3 hours

Representation and organization of different kinds of information resources using various forms of metadata. Examination and evaluation of key metadata schemes for representing and organizing information resources in the digital environment. Identification, use and evaluation of metadata creation tools. Exploration of metadata implications for retrieval of information resources.

Prerequisite(s): INFO 5200 or consent of department.

INFO 5224 - Metadata for Information Organization and Retrieval II

3 hours

Examination of current trends in metadata theory and practice. Exploration of metadata quality and interoperability and their implications for retrieval of information resources. Application and evaluation of metadata standards, element sets, and syntaxes for representing and organizing information resources in the digital environment. Exploration of digital repositories for storing information objects, their associated metadata, and making those objects and metadata searchable. Analysis of metadata practices and applications in digital libraries and repositories.

Prerequisite(s): INFO 5223 or consent of department.

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.

INFO 5230 - Records Management

3 hours

Operations in preparation, dissemination, organization, storing and retrieval with emphasis on records control and utilization. Preservation and security problems; retention, transfer and disposal. Planning and supervising records management programs. Departmental functions and organization. Data-processing applications and online systems.

Prerequisite(s): None.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

INFO 5330 - Academic Libraries

3 hours

Problems of organization and management of university, college and community college libraries; their resources, functions and services. Federal and state programs; development and trends. Individual investigation of major issues and topics.

Prerequisite(s): INFO 5300 or consent of department.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

INFO 5365 - Health Sciences Information Management

3 hours

Development of health sciences libraries and information centers. Principles of management, staffing, budgeting and organization of various types of health sciences information systems. Technical processes and public services. Application of computer and information technology to health sciences library processes.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

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.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): INFO 5200 or consent of department.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

INFO 5420 - Literature for Youth

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

INFO 5427 - Multi-ethnic Materials for Children and Young Adults

3 hours

Study of multicultural materials which meet the recreational, informational and educational needs of children and young adults in a diverse society.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

INFO 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.

Prerequisite(s): None.

INFO 5502 - Analytic Tools, Techniques and Methods

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

INFO 5505 - Applied 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

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.

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.

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.

INFO 5634 - Disaster/Emergency Management for Information Professionals

3 hours

Provides the basic skills to create a disaster plan for a library serving information needs related to disasters/emergencies for first responders, clinicians, victims, public health professionals, and the public, and to develop an outreach program to reach these populations. Students learn about the role librarians can play in disaster/emergency management by providing information and tools to those who plan for disasters/emergencies, by supporting those involved during the disaster/emergency, and by providing information support during the recovery period.

Prerequisite(s): None.

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.

Prerequisite(s): None.

INFO 5636 - Community-Based Health Information

3 hours

Covers basic skills to provide consumer and public health information services and programs. Designed for students interested in health information in medical libraries as well as public, school, and academic libraries, with a focus on how to serve the health information needs in the community.

Prerequisite(s): None.

INFO 5637 - Medical Informatics

3 hours

History of medical information. Biomedical communication. Types of information resources and services related to the transfer of information in the health sciences. Computer applications to health sciences libraries. Analyses of current issues in the health care field and their relationship to health sciences libraries and information centers.

Prerequisite(s): None.

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.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

Not to be taken for master's credit toward library and information sciences degrees.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): Basic programming knowledge and experience, or consent of instructor.

INFO 5735 - Usability and User Experience Assessment

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): INFO 5740.

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.

Prerequisite(s): INFO 5200.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

May be repeated for credit.

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.

INFO 5841 - Digital Curation Fundamentals

3 hours

Introduces fundamental concepts, practices, procedures, processes and vocabulary for the entire curation lifecycle of digital materials and 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 basic techniques for curating and managing digital materials and data.

Prerequisite(s): None.

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).

INFO 5843 - Preservation Planning and Implementation for Digital Curation

3 hours

Provides students an opportunity to develop a plan for preservation throughout the curation lifecycle of digital materials and data. Students apply digital curation concepts and models to understand preservation planning processes and use various tools and applications to implement the plan on digital materials and data.

Prerequisite(s): INFO 5740 or INFO 5841 (may be taken concurrently).

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).

INFO 5845 - Creating Online Content for Youth Services

3 hours

Examines current trends in developing an online course and adapting face-to-face content to the online environment for a K–12 audience. Exploration of instructional design methods to develop online content and the implications for youth services. Application of HTML markup and web editors to create and format Web pages. Understanding of what is involved in curating online content for school or public libraries. Analysis of online content, online courses and online functionality of course material with associated recommendations for content delivery policies.

Prerequisite(s): None.

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.

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.

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.

Prerequisite(s): None.

May be repeated for credit.

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.

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.

Prerequisite(s): 18 hours of course work.

May be repeated for credit as topics vary for a maximum of 6 hours.

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.

Prerequisite(s): INFO 5970.

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.

Prerequisite(s): None.

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.

Prerequisite(s): INFO 6940.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): 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.

May be repeated for credit.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

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.

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.

Prerequisite(s): None.

INFO 6940 - Seminar in Research and Research Methodology

1–12 hours

Advanced topics in research methodology. Research proposal development. Directed research study.

Prerequisite(s): None.

May be repeated for credit as topics vary.

INFO 6945 - Doctoral Seminar in Information Issues

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

May be repeated for credit.

Information Technology and Decision Sciences

ITDS 6100 - Seminar in Instructional Practices in Information Systems and Management Science

1 hour

Study of instructional methods used in information systems and management science. Intended to be a rigorous course that exposes doctoral students in information systems and management science to an array of topics in teaching methodologies. Focuses on those topics that provide doctoral students with practical teaching tips to help them become more effective in the classroom. Different learning styles are addressed, and frameworks, theories, and teaching models are presented that help doctoral students continually improve their teaching throughout their career.

Prerequisite(s): Consent of department.

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.

Prerequisite(s): None.

INSD 5940 - Interdisciplinary Capstone Experience

3 hours

Unique learn-by-doing course offered in lieu of a project, portfolio, or thesis for candidates of the MA/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.

Prerequisite(s): To be taken within the last year of course work, preferably the last term.

Open to all students seeking an interdisciplinary capstone course.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary for a maximum of 9 hours.

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.

Prerequisite(s): None.

INST 5900 - Special Problems

1–3 hours

Prerequisite(s): None.

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.

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.

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.

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.

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.

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.

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.

MUJS 5430 - Graduate Review of Jazz History

3 hours

Study of the standard narrative of jazz history and jazz repertoire.

Prerequisite(s): None.

Meets with MUJS 4470.

MUJS 5440 - Introduction to Research in Jazz Studies

3 hours

Bibliography, discography, interviewing; sociocultural aspects of research on jazz; scholarly writing; connections between jazz studies and musicology, ethnomusicology, and other related disciplines.

Prerequisite(s): MUJS 5430 or consent of college.

MUJS 5450 - Jazz Historiography

3 hours

Critical study of historical writing on jazz; special topics in jazz history; pedagogy of jazz history.

Prerequisite(s): MUJS 5430 or consent of college.

MUJS 5460 - Jazz Lecture Series

1 hour

Contemporary jazz composition, performances and presentations by nationally recognized composers, arrangers and performers.

Prerequisite(s): Consent of division.

MUJS 5470 - Conducting College Jazz Ensembles

3 hours

Score study and rehearsal preparation; methods of conducting jazz ensembles at all levels; supervised conducting.

Prerequisite(s): None.

May be repeated for credit.

MUJS 5480 - Pedagogy of Jazz

3 hours

Techniques, systems and materials.

Prerequisite(s): MUJS 2360 and MUJS 2370, or consent of college.

MUJS 5490 - Advanced Jazz Improvisation

3 hours

Advanced techniques and practices of jazz improvisation.

Prerequisite(s): MUJS 3370 with grade of A or B, or equivalent.

MUJS 5504 - Jazz Strings

2 hours

Applied study of violin, viola, or cello in the jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5531 - Jazz Piano

2 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5532 - Jazz Saxophone

2 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5533 - Jazz Voice

2 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5534 - Jazz Composition

2 hours

Applied study of jazz composition and arranging for small and large ensembles.

Prerequisite(s): Consent of division.

MUJS 5535 - Jazz Recital

2 hours

For jazz studies MM students in performance track: public performance; in composition/arranging track: public performance of compositions and arrangements; in pedagogy track: public presentation of a pedagogy-related project.

Prerequisite(s): Consent of division.

MUJS 5536 - Jazz Trumpet

2 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5537 - Jazz Trombone

2 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5538 - Jazz Double Bass

2 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5539 - Jazz Drumset

2 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 5540 - Composition for the Media

3 hours (4;2)

Composition and production of music for various media. Realization of projects in a studio environment using MIDI sequencing and live instruments.

Prerequisite(s): MUJS 4620 or consent of division.

MUJS 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.

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.

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.

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.

MUJS 5760 - Jazz Arranging

3 hours

Advanced practical study of arranging, focusing on music from jazz and other contemporary jazz-related styles.

Prerequisite(s): MUJS 4620 or equivalent.

May be repeated for credit as topics vary.

MUJS 5780 - Jazz Styles and Analysis

3 hours

Stylistic elements of the various eras of jazz history; theoretical analysis of significant musical qualities of influential musicians of the different periods of jazz.

Prerequisite(s): None.

MUJS 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.

MUJS 5900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUJS 5910 - Special Problems

1–3 hours

Prerequisite(s): None.

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.

MUJS 6010 - Seminar in Jazz History and Analysis

3 hours

Survey and analysis of the literature of jazz history and analysis at the doctoral level, including original student research.

Prerequisite(s): MUJS 5430, MUJS 5440, MUJS 5450, MUJS 5780; or consent of instructor.

Pending approval of the DMA with a major in jazz studies.

MUJS 6020 - Seminar in Jazz Pedagogy

3 hours

Survey and analysis of the literature of jazz pedagogy, including original student research.

Prerequisite(s): MUJS 5480 or consent of instructor.

Pending approval of the DMA with a major in jazz studies.

MUJS 6504 - Jazz Strings

3 hours

Applied study of violin, viola, or cello in the jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 6530 - Jazz Guitar

1-3 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 6531 - Jazz Piano

1-3 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 6532 - Jazz Saxophone

1-3 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 6533 - Jazz Voice

1-3 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 6534 - Jazz Composition

1-3 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 6536 - Jazz Trumpet

1-3 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 6537 - Jazz Trombone

1-3 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 6538 - Jazz Double Bass

1-3 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

MUJS 6539 - Jazz Drumset

1-3 hours

Applied study in jazz idiom; jazz improvisation.

Prerequisite(s): Consent of division.

Journalism

JOUR 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 communications analytics.

JOUR 5010 - Reporting Practices

3 hours

Concentrated study of the principles, practices and ethics of reporting and writing news under the pressure of deadlines to develop news judgment, craftsmanship and ability to handle complex news stories. Student work is subject to classroom analysis and criticism. This course prepares students lacking strong journalistic backgrounds for advanced professional courses and may be counted as part of a graduate program in fields other than journalism.

Prerequisite(s): None.

JOUR 5020 - Editing Practices

3 hours

Concentrated study of the principles and practices of handling copy for print news media, including copy editing, headline writing, design and layout of newspapers and other printed materials, newspaper style, photo editing, graphic editing, news judgment and ethics. Editing for online publications is also covered. Students receive practical experience in the functions of a copy editor. Prepares students lacking strong journalistic backgrounds for advanced professional courses and may be counted as part of a graduate program in other fields.

Prerequisite(s): JOUR 5010 or consent of school.

JOUR 5030 - Visual Journalism

3 hours

Comprehensive look at visual communication theory, Gestalt design theory and applied uses of multimedia, particularly in online visual journalism. Activities include publishable projects on CD-ROM and for the web. Legal issues in producing multimedia packages, including copyright law, are addressed.

Prerequisite(s): None.

JOUR 5040 - Media Studies and Theories

3 hours

Enduring issues and problems of American mass media and to the body of knowledge concerning theories on the function, nature, audience and effects of mass communication. Examines mass communication as a social system and the contributions of social scientists to the study of mass communication by putting emphasis on political, economic, technological, legal and historical factors that have shaped American mass media.

Prerequisite(s): None.

JOUR 5050 - Readings in Mass Communication

3 hours

Study of leading bibliographical tools in mass communication, reading of biographies and analysis of the field. Chief aim of the course is becoming acquainted with a large number of books related to mass communication. Three hours per week given to book reports.

Prerequisite(s): None.

JOUR 5100 - Case Problems in Public Relations

3 hours

Study of public relations trends and principles and how they relate to cases involving organizations and institutions in the profit and non-profit sectors. Attention to the use of proper public relations tools in meeting the needs of each organization's public.

Prerequisite(s): None.

JOUR 5120 - Strategic Public Relations

3 hours

Exploration of the public relations profession with emphasis on strategic planning, ethics, corporate communications, issues management and crisis communications. Opportunities for exposure to high-level PR professionals through a variety of programs and projects. Course curriculum focuses on the KSAs required for accreditation in public relations by the Universal Accreditation Board.

Prerequisite(s): None.

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.

JOUR 5150 - International Mass Communication

3 hours

Study of mass communication media throughout the world, with special attention to press and broadcast systems, the sources and flow of international news, and problems of world communication.

Prerequisite(s): None.

Same as MRTS 5460.

JOUR 5200 - Public Opinion and Propaganda

3 hours

Public opinion and its role in modern society. The significance of propaganda in politics and war during the current century.

Prerequisite(s): None.

JOUR 5210 - Race, Gender and the Media: A Methods Approach

3 hours

Students critically examine media portrayals of race, gender, class and sexuality and employ scholarly research methods to evaluate mass media, including news media, advertising, television, film, video gaming and popular music. Graduate students conduct in-depth research but also participate in class discussions and assignments.

Prerequisite(s): None.

Meets with JOUR 4250.

JOUR 5250 - Quantitative Research

3 hours

Quantitative study of audiences, contents and effects in mass communication by using tools and techniques of social science research. Emphasis on statistical analysis, survey research, content analysis and experimental studies.

Prerequisite(s): None.

JOUR 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.

JOUR 5260 - Qualitative Research

3 hours

Study of the foundations, research methods, practices, theoretical approaches to qualitative research. These methods and approaches include ethnography, literary theory, rhetorical analysis, discourse analysis, gender and race theories, phenomenology, semiotics and others as applied to journalism. Students practice designing well-focused studies, as well as engaging in research practices related to the media.

Prerequisite(s): None.

JOUR 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.

JOUR 5270 - Advanced Reporting Techniques

3 hours

Equips current and future journalists with the skills to do responsible reporting that includes getting information that is often difficult to obtain from government and private sources. This hands-on advanced reporting class focuses on "sunshine laws" and other freedom of information laws that are helpful in obtaining information legally available to the public; mining online databases of public records that pertain to stories journalists pursue for the public's need to know about the institutions, public figures and other entities that affect our daily lives.

Prerequisite(s): Consent of school.

JOUR 5280 - Media Management

3 hours

Explores the various skills and resources required to lead and manage effectively in newspaper, magazine, public relations and advertising organizations. Case studies and guest speakers with specific expertise are included to illustrate various principles and concepts throughout the course.

Prerequisite(s): Consent of school.

JOUR 5290 - Science, 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): Reporting experience or JOUR 5010 and JOUR 5020.

JOUR 5300 - Theories of Mass Communication

3 hours

Theoretical approaches to communication; examination of the developing literature in this field, including the contributions of social scientists and others; special problems in communications research.

Prerequisite(s): None.

JOUR 5310 - Media Ethics

3 hours

Promotes the development of critical thinking and reasoning skills necessary in the mass and hyper media. It examines the relationship between professional ethics and social philosophy and between media practice and a democratic society.

Prerequisite(s): None.

JOUR 5320 - New Technologies of Mass Communication

3 hours

Theoretical and practical approaches to new technologies. Build and maintain weblogs (or "blogs"); analyze existing, mature blogs; discuss theories relating to Internet discourse of all sorts. Explores new technologies from the professional perspectives of working journalists and scrutinizes these same technologies from the perspectives of cultural critics who see not only a technology's utility, but also its impact on society, its workers and its media content. Study of communications technology from historical perspectives in order to learn the broader lessons of intervention and diffusion; utopianism and dystopianism; literacy, orality (second orality) and electracy; identity, property, politics, economics; and other issues.

Prerequisite(s): Consent of school.

JOUR 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.

Prerequisite(s): None.

JOUR 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): None.

JOUR 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): JOUR 5000, JOUR 5251, JOUR 5261 and JOUR 5331.

JOUR 5350 - Seminar in Journalism and Mass Communication

3 hours

Extensive readings, analysis and discussion of significant topics not covered by course offerings. Topics include impact of new technology on the mass media, ethical problems in the mass media, economic problems in media development.

Prerequisite(s): Consent of school.

May be repeated for credit as topics vary.

JOUR 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): JOUR 5000; JOUR 5251 or JOUR 5261.

May be repeated for credit as topics vary for a maximum of 6 hours.

JOUR 5370 - Criticism of Mass Media

3 hours

Facilitates thought and discussion about some of the major issues facing contemporary mass media, their messages, their audiences and the industry.

Prerequisite(s): None.

JOUR 5500 - Integrated Communications

3 hours

Students learn the many elements of strategic planning, branding and integrated communication using all forms of communication in today's digital and changing traditional environment. Real-life individual and group projects are required in all three areas.

Course is 100 percent online using UNT Blackboard and other digital platforms.

Prerequisite(s): Consent of school.

JOUR 5520 - Advanced Study in Advertising and Public Relations for Social Good

3 hours

Learning and practicing various strategies that advertising, public relations and marketing professionals use to change consumer behavior for the purpose of social marketing, or for promoting prosocial behavior. Students examine peer-reviewed literature and propose a research study based on their review of relevant/existing research.

Prerequisite(s): Consent of school.

JOUR 5550 - Advanced Principles of Magazine Production

3 hours

Introductory magazine production with real-world deadlines. Requires multiple interviews, writing, fact-checking, photo and copy editing and lay out of magazine within a strict deadline. Experience with Adobe InDesign preferred but not required.

Prerequisite(s): JOUR 5010 and JOUR 5020 or previous professional experience.

JOUR 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 own ideas and frameworks through actively engaging with classmates via peer feedback.

Prerequisite(s): To be taken during the last 6 hours of course work in the MS with a major in digital communication analytics.

JOUR 5700 - Advanced Feature Writing

3 hours

Focuses on the art and craft of long-form feature writing, using extensive research and interviews; equips students with the skills to construct a feature series.

Prerequisite(s): Consent of school.

JOUR 5710 - Narrative Journalism

3 hours

Explores the art of narrative journalism. Study of short- and long-form narratives for newspapers, magazines and web-based publications.

Prerequisite(s): Consent of school.

JOUR 5720 - Magazine Writing and Publishing

3 hours

Study and practice of magazine production, including photography, editing, advertising and design. Explores production schedules, advertising and marketing promotions. Covers composition, printing methods and cost-quality issues to rewriting, copy reading and fitting galleys into layouts and resulting in the production of a magazine.

Prerequisite(s): Consent of school.

JOUR 5730 - Writing, Editing and Publishing for the 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.

JOUR 5740 - Literary Journalism

3 hours

Explores the application of literary techniques to journalism projects involving real world experiences. Employs setting, dialogue, sensory detail and other techniques used by literary journalists. Teaches immersion journalism techniques. Linked to The Mayborn Literary Nonfiction Conference and other off-campus opportunities.

Prerequisite(s): Consent of school.

JOUR 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.

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.

JOUR 5800 - Professional Internship

3 hours

Practical experience in areas of journalism through an arranged internship under the instruction and supervision of the major professor and a designated professional of the office involved. Different sections scheduled for each of the following internships: advertising, news-editorial, photojournalism and public relations.

Prerequisite(s): Consent of school.

Normally, no more than 3 hours may apply toward the master's degree.

JOUR 5900 - Advanced Problems in Journalism

1–3 hours

Individual investigations of current problems in such areas as ethics of mass communication, reporting, editing, international communication, newspaper or magazine publishing, advertising, photojournalism and journalism education.

Prerequisite(s): None.

Maximum of 6 hours credit in JOUR 5900 and JOUR 5910.

JOUR 5901 - Advanced Problems in Digital Communication Analytics

3 hours

Individual investigations of current problems in digital communication analytics.

Prerequisite(s): JOUR 5000.

Repeatable for credit as topics vary for a maximum of 6 hours.

JOUR 5910 - Advanced Problems in Journalism

1–3 hours

Individual investigations of current problems in such areas as ethics of mass communication, reporting, editing, international communication, newspaper or magazine publishing, advertising, photojournalism and journalism education.

Prerequisite(s): None.

Maximum of 6 hours credit in JOUR 5900 and JOUR 5910.

JOUR 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of school. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

Kinesiology

KINE 5000 - Supervision in Kinesiology

3 hours

Principles of organization and administration for the supervision of kinesiology programs.

Prerequisite(s): None.

KINE 5020 - Aging and Movement Control

3 hours

Examination of the physical, behavioral and psychological aspects of aging and how these changes affect movement and movement control processes.

Prerequisite(s): None.

KINE 5030 - Life-span Motor Development

3 hours

Explanation of changes in human motor patterns across the life span with emphasis on internal and external factors that relate to these changes. Issues, theories and research design problems are presented.

Prerequisite(s): None.

KINE 5050 - Administration and Supervision of Recreation and Sport

3 hours

Principles and procedures involved in the administration and supervision of recreation and sport.

Prerequisite(s): None.

Same as RESM 5050.

KINE 5060 - Areas and Facilities for Recreation and Sport

3 hours

Design, construction and maintenance of recreation and sport areas and facilities.

Prerequisite(s): None.

Same as RESM 5060.

KINE 5090 - Motor Behavior

3 hours

Examination of the major behavioral processes and control mechanics underlying the learning and performance of motor skills. Principles in motor learning, motor behavior and motor control are systematically presented within a conceptual framework focusing on motor behavior and control theories, information processing, feedback, condition of practice, transfer, individual differences and life-cycle changes.

Prerequisite(s): None.

KINE 5100 - Research Perspectives in Kinesiology, Health Promotion and Recreation

3 hours

Research techniques and their application to the research process in kinesiology, health promotion and recreation.

Prerequisite(s): None.

Same as HLTH 5100. Same as RESM 5100.

KINE 5102 - Student Teaching in Kinesiology

3 hours

Teaching under supervision. Portfolio is required. Required for those seeking teacher certification.

Prerequisite(s): KINE 5100, KINE 5150, KINE 5230, KINE 5700, EDCI 5010, EDCI 5020, EDCI 5030, and EDSE 5004.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

KINE 5140 - Women, Leisure and Sport

3 hours

Using historical, psychological, sociological and feminist perspectives as a framework, critical issues surrounding women, leisure and sport are presented. Focuses on women as consumers of leisure and sport experiences and on the social changes that are needed to expand and enhance their leisure and sport opportunities.

Prerequisite(s): None.

Same as RESM 5140.

KINE 5150 - Quantitative Procedures in Exercise and Sport Sciences

3 hours

In-depth study of analysis techniques necessary for scientific investigations in exercise and sport. Emphasis is placed on computer applications, advanced data analysis, techniques and interpretation of resulting analyses.

Prerequisite(s): KINE 5100 or equivalent.

KINE 5160 - Sports in American Culture

3 hours

Role of sports and games in the American culture; their contributions to human welfare; implications of sports in a social order; personalities, institutions and cultural factors as they influence origin and development of sports and games.

Prerequisite(s): None.

KINE 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.

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.

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.

Prerequisite(s): None.

Same as KINE 6205.

May be repeated for credit as topics vary up to a maximum of 4 hours.

KINE 5210 - Administration Issues and Problems in Kinesiology

3 hours

Analysis of issues and problems in administering programs in kinesiology.

Prerequisite(s): None.

KINE 5230 - Professional Preparation in Kinesiology

3 hours

Historical development of professional preparation in kinesiology and current guidelines for programs.

Prerequisite(s): None.

KINE 5290 - Current Topics in Exercise Physiology

3 hours

Current research topics and laboratory techniques with instrumentation to promote currency of thought and measurement technology in the areas of exercise physiology.

Prerequisite(s): None.

May be repeated for a maximum of 6 hours credit.

KINE 5301 - Physiology of Exercise

3 hours

Functional responses of the human body during movement; emphasis on elementary principles and basic research underlying a sound, safe and healthy exercise regimen.

Prerequisite(s): None.

KINE 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.

Prerequisite(s): None.

KINE 5310 - Exercise and Fitness for Special Populations

3 hours

Needs, limitations and program modification for special populations in fitness-related environments. Etiology, pathophysiology and exercise prescription for prevalent disorders.

Prerequisite(s): None.

KINE 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.

KINE 5340 - Biomechanics of Sports Skills

3 hours

Identification of the mechanical factors contributing to selected sports performances with qualitative analysis of skill objectives and contributing performance factors.

Prerequisite(s): None.

KINE 5390 - Physiological Assessment in the Health Sciences

3 hours

Evaluation of assessment techniques used in exercise physiology and health/fitness disciplines, including fitness assessment of working capacity, biochemical assays, advanced metabolic assessment, flexibility assessment and strength assessment.

Prerequisite(s): A course in exercise physiology or consent of department.

KINE 5400 - Clinical Application of Exercise Physiology

3 hours

Techniques of exercise prescription and cardiac evaluation in patients with coronary artery disease, including practical experience in a cardiac rehabilitation program and clinical exercise laboratory.

Prerequisite(s): A course in exercise physiology or consent of department.

KINE 5410 - Sport/Fitness Organization Management

3 hours

Analysis of theoretical orientations to management functions in sport/fitness organizations. Current research and applications of theoretical orientations will be directed toward personnel, communication and marketing activities in sport/fitness enterprises.

Prerequisite(s): None.

KINE 5420 - Facilities and Equipment in Kinesiology

3 hours

Design, use and maintenance of facilities in kinesiology and sport enterprises.

Prerequisite(s): None.

KINE 5430 - Legal Aspects of Kinesiology

3 hours

Analysis of the legal elements and responsibilities in kinesiology and sport management. Emphasis is placed on recognizing and solving legal problems in kinesiology and sport management.

Prerequisite(s): None.

KINE 5450 - Implementing Health/Fitness Programs

3 hours

Strategies, procedures and resources used in implementing health/fitness programs in corporate, commercial and clinical settings.

Prerequisite(s): None.

KINE 5460 - Sport Administration

3 hours

Designed for students seeking practical insight into the application of principles and the use of methods and techniques in administering sports programs in schools and colleges; community, club and industrial recreation programs; or professional sports organizations.

Prerequisite(s): None.

KINE 5470 - Special Topics in Health Fitness

3 hours

Focus on the health fitness industry, including current topics in areas such as health and fitness assessment, facility and equipment innovations, program implementation, client management and business management.

Prerequisite(s): None.

KINE 5500 - Advanced Concepts in Epidemiology

3 hours

Examines the meaning and scope of epidemiological principles, methods and strategies, and the use of morbidity, mortality and other vital statistics data in the scientific appraisal of community health. A specific emphasis will be placed on the relations between physical activity and health.

Prerequisite(s): HLTH 4100 or equivalent, or consent of department.

KINE 5510 - Stress Management for the Health Professional

3 hours

Environmental, organizational, interpersonal and individual patterns of stress with reference to the role of the health professional. Prevention and intervention strategies are emphasized.

Prerequisite(s): None.

Same as HLTH 5510.

KINE 5700 - Curriculum and Methods in Kinesiology and Health Promotion

3 hours

Knowledge, techniques and skills for teaching in kinesiology and health. Practice teaching provides opportunities for application of principles and techniques presented in the course. Objectives within the Texas Essential Knowledge and Skills (TEKS) are used as the basis for the selection, organization and presentation of subject matter in kinesiology-physical education and health.

Prerequisite(s): Consent of department.

KINE 5800 - Studies in Kinesiology

1–3 hours

Short courses, workshops and fully organized classes to meet new and specialized demands in kinesiology not met by the regular offerings.

Prerequisite(s): None.

May be repeated for credit.

KINE 5850 - Sport and Exercise Psychology Practicum

1–3 hours

Supervised active participation in sport and exercise psychology activities within a sport or health-related agency/organization.

Prerequisite(s): Consent of department.

KINE 5860 - Practicum, Field Problem or Internship

1–6 hours

Supervised professional activities and experiences.

Prerequisite(s): None.

May be repeated for credit.

KINE 5900 - Special Problems

1–3 hours

Open to graduate students capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor or major professor.

Prerequisite(s): None.

KINE 5910 - Special Problems

1–3 hours

Open to graduate students capable of developing a problem independently. Problems chosen by the student and developed through conferences with the instructor or major professor.

Prerequisite(s): None.

KINE 5920 - Research Problems in Lieu of Thesis

3 hours

Research dealing with significant problems in physical education.

Prerequisite(s): None.

KINE 5940 - Current Topics in Kinesiology

3 hours

Designated capstone course to provide a culminating experience for students majoring in kinesiology.

Prerequisite(s): None.

KINE 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

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.

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.

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.

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.

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.

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.

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.

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.

Prerequisite(s): None.

It is preferable that students enrolling have a strong understanding of sport and exercise psychology theories and research.

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.

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.

Prerequisite(s): None.

Same as KINE 5205.

May be repeated for credit as topics vary up to a maximum of 6 hours.

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.

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.

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.

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.

Kinesiology/Health Promotion

KHPM 5105 - Advanced Practicum I

3 hours

Field-based courses for participants in the kinesiology or health promotion post-baccalaureate teacher certification program. Participants are to be employed as "teacher of record" within a K–12 physical education or health program and might also have been granted one-year Probationary Certificates. Content of the practicum series emphasizes application of pedagogical content knowledge in physical education or health. It is expected that participants will research, plan, present and assess instructional activities in a way that demonstrates a high level of personal competency.

Prerequisite(s): Consent of department.

KHPM 5115 - Advanced Practicum II

3 hours

Field-based courses for participants in the kinesiology or health promotion post-baccalaureate teacher certification program. Participants are to be employed as "teacher of record" within a K–12 physical education or health program and might also have been granted one-year Probationary Certificates. Content of the practicum series emphasizes application of pedagogical content knowledge in physical education or health. It is expected that participants will research, plan, present and assess instructional activities in a way that demonstrates a high level of personal competency.

Prerequisite(s): Consent of department.

Language

LANG 5900 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

LANG 5910 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor. Registration permitted only upon recommendation by the instructor and consent of the department chair.

Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

Language and Literacy Studies

EDLL 6030 - Practicum, Field Problem or Internship

3 or 6 hours

Supervised professional activities in literacy/language arts education.

Prerequisite(s): None.

Registration is on an individual basis.

EDLL 6040 - Research in Literacy Assessment and Evaluation

3 hours

Study of historically significant and current research and public policies that affect literacy assessment. Participants evaluate published studies and have opportunities to analyze assessment data.

Prerequisite(s): None.

EDLL 6060 - Research Design in Literacy and the Language Arts

3 hours

Critical examination and application of research approaches taken in contemporary literacy and language arts research and the related theoretical and philosophical perspectives. Emphasizes the design of literacy research on selected topics and supports students' design and development of research projects.

Prerequisite(s): 6 hours completed in 6000-level research methods courses.

EDLL 6070 - Politics of Literacy

3 hours

Investigation of significant policy documents that influence the field of literacy education. Along with building historical background, this course engages in critique and interpretation of policy from varying theoretical perspectives. Connections between research and policy, implications for district and campus decision-making, and opportunities for advocacy and policy development are included.

Prerequisite(s): None.

EDLL 6080 - Survey of Literacy Research

3 hours

Survey and critique of significant literacy-related research from an historical perspective with attention to trends and methodological issues. Focus on seminal works, related theoretical models, and major researchers and their contributions.

Prerequisite(s): None.

EDLL 6090 - Cognition and Reading

3 hours

Analysis of the process of reading in relation to the physiological, perceptual, cognitive and affective domains.

Prerequisite(s): None.

EDLL 6100 - Seminar in Language, Literacy and Culture

3 hours

Exploration, analysis and critique of scholarly work focused on various topics related to language and literacy, including societal and cultural issues.

Prerequisite(s): None.

May be repeated once as topics vary.

EDLL 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

EDLL 6910 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs. Conferences with professors in the fields also are included.

Prerequisite(s): None.

EDLL 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

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.

Prerequisite(s): LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

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 and LTEC 5210; or consent of department.

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.

Prerequisite(s): None.

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, LTEC 5210 and LTEC 5220; or consent of department.

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.

Prerequisite(s): None.

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 and LTEC 5210; or consent of department.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

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 and LTEC 5210; or consent of department.

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.

Prerequisite(s): None.

Corequisite(s): LTEC 5030 and LTEC 5300.

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.

Prerequisite(s): LTEC 5030, LTEC 5300, LTEC 5210 and LTEC 5220; or consent of department.

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.

Prerequisite(s): None.

Corequisite(s): LTEC 5030 and LTEC 5300.

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.

Prerequisite(s): LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

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, LTEC 5210 and LTEC 5220; or consent of department.

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.

Prerequisite(s): None.

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.

Prerequisite(s): LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

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.

Prerequisite(s): LTEC 5030, LTEC 5300, LTEC 5210 and LTEC 5610; or consent of department.

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.

Prerequisite(s): EPSY 5210 and LTEC 5320.

This course should be taken in the last 15 semester hours of the program.

LTEC 5360 - Capstone 2 in Workforce Learning and Performance

3 hours

Follows from WLP 5340. Students execute the performance improvement project developed in WLP 5340. Students learn how to apply workforce analytics to survey data to identify potential solutions to real-world problems in corporate and educational settings. This is a field-based practicum course.

Prerequisite(s): EPSY 5210 and LTEC 5340.

Scheduled during last resident registration.

LTEC 5400 - Learning Technologies Telecommunications

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 and LTEC 5210; or consent of department.

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.

Prerequisite(s): LTEC 5030, LTEC 5421, LTEC 5420, or equivalent.

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 5260.

Corequisite(s): LTEC 5030 and LTEC 5300.

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.

Prerequisite(s): LTEC 5030, LTEC 5300, LTEC 5210 and LTEC 5420; or consent of department.

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.

Prerequisite(s): LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

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 and LTEC 5210; or consent of department.

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, LTEC 5210 and LTEC 5450; or consent of department.

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 and LTEC 5210; or consent of department.

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.

Prerequisite(s): LTEC 5030, LTEC 5300 and LTEC 5210; or consent of department.

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.

Prerequisite(s): LTEC 5020.

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 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 and LTEC 5210; or consent of department.

LTEC 5580 - Readings Seminar in Learning Technologies

3 hours

Broad reading in a defined area of technology interaction. Requires the critical evaluation of sources with particular emphasis on methodology and application to educational environments.

Prerequisite(s): Consent of department.

LTEC majors must take this course during the last 6 hours.

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.

Prerequisite(s): LTEC 5020, LTEC 5030, LTEC 5421, LTEC 5111.

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 and LTEC 5210; or consent of department.

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.

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.

Prerequisite(s): None.

May be repeated for credit.

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.

LTEC 5900 - Special Problems

1–3 hours

Independent study and research.

Prerequisite(s): Consent of department and instructor.

May be repeated for credit.

LTEC 5901 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently.

Prerequisite(s): None.

Open only to resident students.

LTEC 5910 - Special Problems

1–3 hours

Independent study and research.

Prerequisite(s): Consent of department and instructor.

May be repeated for credit.

LTEC 5911 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently.

Prerequisite(s): None.

Open only to resident students.

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.

Prerequisite(s): None.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

LTEC 5960 - Institute for Learning Technologies

1–6 hours

For students accepted as participants in special institute courses.

Prerequisite(s): Consent of department.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): LTEC 5420 or consent of instructor.

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.

Prerequisite(s): None.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

LTEC 6310 - Digital Game-Based Learning

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

This course should be taken in the last 15–18 semester hours of the program.

LTEC 6510 - Introduction to Research in Learning Technologies

3 hours

Introduction to research in the field of learning technologies. Students survey introductory research and analysis in these fields of study.

Prerequisite(s): None.

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 6510 or consent of advisor.

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 6510.

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.

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.

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.

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.

Prerequisite(s): Minimum of 15 hours in the program.

LTEC 6701 - Practicum, Field Problem or Internship

3 hours

Supervised professional activities in vocational education. Registration is on an individual basis.

Prerequisite(s): None.

May be repeated for credit.

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.

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.

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): None.

May be repeated for credit.

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.

Prerequisite(s): Doctoral candidate (passed qualifying exam).

May be repeated for credit.

Linguistics

LING 5020 - Studies in Historical Linguistics

3 hours

Introduction to the study of language as it changes over time.

Prerequisite(s): LING 5300 or consent of department.

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.

Prerequisite(s): LING 3070, LING 5040 or consent of department.

LING 5040 - Principles of Linguistics

3 hours

General introduction to the core systems of the languages of the world, focusing on phonetics, phonology, morphology, syntax and semantics.

Prerequisite(s): None.

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.

Prerequisite(s): None.

LING 5050 - Language in Professional Settings

3 hours

Offers a hands-on approach to constructing the most prominent professional genres, including summaries, research papers, position papers, resumes, proposals and correspondence. Learn and apply the basic linguistic principles of these genres as well as recognize how the dominant genre theories in writing studies have informed the current practice, teaching and study of professional discourse.

Prerequisite(s): None.

LING 5060 - Second Language Acquisition

3 hours

Covers a broad range of issues concerning the acquisition of second languages. Topics include L1-L2 differences, child-adult L2 differences, the teachability of grammar and models of L2 acquisition.

Prerequisite(s): LING 3070 or LING 5040.

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.

Prerequisite(s): None.

Should be taken during first term/semester of study if possible.

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.

Prerequisite(s): None.

LING 5080 - Teaching English as a Second Language

3 hours

Current pedagogical theory affecting the teaching of English as a second language. Both theoretical and applied approaches are considered.

Prerequisite(s): None.

LING 5090 - Pedagogical English Grammar

3 hours

Thorough study of the basics of English grammar (morphology and syntax) analyzed from traditional, descriptive and theoretical points of view. Emphasis on pedagogical problems.

Prerequisite(s): None.

LING 5300 - Phonology I

3 hours

Introduction to phonological theory and analysis based on cross-linguistic evidence. Topics: phonological representations including features, syllables and metrical structure; phonological processes; phonological typology and universals.

Prerequisite(s): None.

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.

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.

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.

Prerequisite(s): None.

LING 5320 - Studies in Applied Linguistics

3 hours

Application of the principles and findings of linguistic science to the solution of selected practical problems, particularly those related to pedagogy, such as linguistics and language teaching, ESL testing and research methodology.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

LING 5330 - Sociolinguistics

3 hours

Study of the relationship of language and society as shown in the following areas: the ethnography of speaking (analysis of discourse), language variation and social class, pidgin and Creole languages, diglossia and multilingualism, ethnic varieties, language and sex, language policy and planning.

Prerequisite(s): LING 3070 or LING 5040.

LING 5340 - Practicum in Teaching English as a Second Language

3 hours

Practical experience in the design and implementation of ESL instruction, including actual practice in the teaching of English to speakers of other languages.

Prerequisite(s): LING 4080 or LING 5080 or consent of instructor.

LING 5350 - Language Typology and Universals

3 hours

Data-oriented comparison and classification of the languages of the world according to their morphological and syntactic characteristics (role relations, word order, causatives, relative clauses, comparison, etc.) Emphasis is on working through real data from many languages.

Prerequisite(s): LING 3070 or LING 5040.

LING 5360 - Studies in Descriptive Linguistics

3 hours

Intensive study of a selected topic on linguistic structure, such as psycholinguistics, sociolinguistics or typology.

Prerequisite(s): LING 3070, LING 5040, or consent of instructor.

May be repeated for credit as topics vary.

LING 5370 - ESL Writing Pedagogy

3 hours

Analysis of the cognitive process and product of ESL/EFL writing related to pedagogy.

Prerequisite(s): LING 5080.

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.

LING 5390 - Psycholinguistics

3 hours

Deals with a variety of formal cognitive mechanisms that are relevant to the knowledge and use of natural languages. Primary emphasis is on the modular view of the mind and its consequences for both L1 and L2 language acquisition.

Prerequisite(s): LING 3070 or LING 5040.

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.

Prerequisite(s): LING 3070, LING 5040 or consent of department.

LING 5405 - Python Programming for Text

3 hours

Teaches Python programming focusing on applications for text.

Prerequisite(s): None.

Meets with LING 4135.

LING 5410 - Computational Linguistics I

3 hours

First in a two-course sequence in the computational analysis of language. Focuses on mathematical and computational foundations for computational linguistics, as well as some core methods in natural language processing. Prior programming experience is not required.

Prerequisite(s): LING 3070, LING 5040, or consent of department.

LING 5412 - NLP in Linguistics

3 hours

Survey of problems, methods, and theory of computational linguistics and natural language processing, with a particular focus on linguistically-oriented approaches.

Prerequisite(s): LING 5410.

LING 5415 - Computational Linguistics II

3 hours

Advanced concepts and applications in computational linguistics including principles of linguistic annotation and its evaluation; supervised and semi-supervised classification, unsupervised classification; critical reading of scientific papers in CL; and quantitative reasoning and analytic thinking skills.

Prerequisite(s): LING 5410.

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.

LING 5540 - Endangered Languages

3 hours

Examines the factors that contribute to the process of language death through in-depth study of a specific language to illustrate mechanisms of language loss, methods of language documentation, and requirements for language stabilization and revitalization.

Prerequisite(s): LING 3070 or LING 5040.

LING 5550 - Corpus Linguistics

3 hours

Introduces computerized research methods, which are applied to large databases of language used in natural communicative settings to supplement more traditional ways of linguistic analysis in all linguistic sub-disciplines.

Prerequisite(s): LING 3070 or LING 5040.

LING 5560 - Discourse Analysis

3 hours

Investigates the structure of spoken communication from a linguistic perspective using phonological, morphological, and syntactic tools to understand narrative and conversation. Students study the principles of pragmatic theory, speech act theory and critical discourse analysis.

Prerequisite(s): LING 3070 or LING 5040.

LING 5570 - World Englishes

3 hours

Examines the political and social factors that have contributed to the spread of English around the world and the politics surrounding the maintenance of English as a "world language." Investigates variation in spoken and written English in regions such as: South Asia, Singapore, Australia, New Zealand, East and West Africa, Canada, Scotland and Ireland.

Prerequisite(s): LING 3070 or LING 5040.

LING 5580 - Language and Gender

3 hours

Researches male and female speech in terms of pronunciation, grammar, conversational strategies (e.g., interruptions, overlaps, topical cohesion, politeness and silence). Investigates how speakers appropriate gender identities when they select features typically associated with male and female styles of speech.

Prerequisite(s): LING 3060 or consent of instructor.

LING 5590 - Linguistics and Literature

3 hours

Study of theories and methods of interpretation in terms of contemporary linguistics. Provides practical training in the application of linguistic methods to literary analysis.

Prerequisite(s): LING 3070 or LING 5040, or consent of department.

LING 5900 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only when other graduate courses are not available and only upon the recommendation of the instructor and the consent of the department chair.

Maximum of 3 semester hours of credit allowed for each course.

LING 5910 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only when other graduate courses are not available and only upon the recommendation of the instructor and the consent of the department chair.

Maximum of 3 semester hours of credit allowed for each course.

LING 5920 - Research Problems in Lieu of Thesis (Original Scholarly Papers)

3–6 hours (0;0;3–6)

Requires the composition of an original scholarly paper in the field of linguistics and/or English as a second language.

Prerequisite(s): Consent of department.

LING 5930 - Research Problems in Lieu of Thesis (Original Scholarly Papers)

3–6 hours (0;0;3–6)

Requires the composition of an original scholarly paper in the field of linguistics and/or English as a second language.

Prerequisite(s): Consent of department.

LING 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

LING 5990 - Professional Development for Linguists

3 hours

Provides training in the skills needed to succeed as a professional linguist, including disseminating research at conferences, writing grant proposals, job application and scholarly writing.

Prerequisite(s): Student must be in their last semester of course work with a minimum GPA of 3.0.

LING 6000 - Introduction to Language Technology

3 hours

Introduction to hardware and software used in computational linguistic research.

Prerequisite(s): None.

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.

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.

Prerequisite(s): LING 5310.

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.

LING 6040 - Introduction to Computational Linguistics

3 hours

Research and techniques for describing language using statistical and/or probabilistic models of natural language from a computational perspective.

Prerequisite(s): None.

LING 6050 - Phonology II

3 hours

New developments in phonological theory based on current advances in language documentation and description and language typology.

Prerequisite(s): LING 5300.

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.

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.

Prerequisite(s): LING 5400 or equivalent.

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.

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.

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.

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.

Prerequisite(s): LING 6060.

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.

LING 6160 - Linguistic Models

3 hours

Introduction to the fundamentals of contemporary probabilistic models in the study of language.

Prerequisite(s): Consent of department.

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.

Prerequisite(s): None.

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.

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.

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.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

LSCM 5560 - Strategic Logistics Management

3 hours

Analysis of internal and environmental factors affecting logistical systems and operations. Includes the integration of transportation, inventory, facility location, informational flow, materials handling and packaging activities into a system for managing a physical flow of inbound and outbound products and materials in a global environment. The total-cost and total-system approaches are developed in relationship to planning and managing the logistical function within the organization.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

LSCM 5800 - Internship in Logistics

1–3 hours

Supervised work experience in a position related to the student's career objective that meets the department's internship requirements. Student must meet employer's requirements and have consent of the department's MBA advisor and internship director.

Prerequisite(s): Consent of MBA advisor and instructor.

A maximum of 3 total hours of LSCM 5800 and/or LSCM 5910 or a combination of these courses may be applied toward the MBA degree. Pass/no pass only.

LSCM 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.

Prerequisite(s): None.

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.

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.

LSCM 5900 - Special Problems

3 hours

Topics chosen by the student and developed through meetings and activities under the direction of the instructor; activities include required, regular participation in a specified 4000-level class.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

LSCM 5910 - Special Problems

1–3 hours

Unique opportunity for the student to learn by doing with a real business or institution, solving real problems. While each project provides very specific and unique learning opportunities within the logistics area, the primary areas of knowledge and skill development for each are business analysis and decision making; consultative business relationships; project management; communication, written and oral; and teamwork.

Prerequisite(s): None.

A maximum of 3 total hours of LSCM 5800 and/or LSCM 5910 or a combination of these courses may be applied toward the MBA degree.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

LSCM 6061 - Game Theory

3 hours

Drives students to learn game theory, agency theory and contract theory. The intent is to undertand 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

LSCM 6600 - Seminar in Logistics Issues

1–3 hours

Investigation, analysis and discussion of significant issues in logistics.

Prerequisite(s): None.

May be repeated for credit.

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 CoB Graduate Programs Office prior to registration.

May be repeated for credit as topics 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 CoB Graduate Programs Office prior to registration.

May be repeated for credit as topics 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 CoB Graduate Programs Office prior to registration.

May be repeated for credit as topics 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 CoB Graduate Programs Office prior to registration.

May be repeated for credit.

Management

MGMT 5070 - Management Issues

1.5 hours

Basic concepts in managing the complete flow of materials that represent a supply chain from suppliers to customers. Emphases within the module are placed on production concepts with business wide applications, determining demand, transformation processes used to satisfy demand, and finally managing the supply activity supporting the transformation processes.

Prerequisite(s): None.

MGMT 5120 - Managing Organizational Design and Change

3 hours

Examination of the development of organizational competencies and capabilities through the study of the theory and tools related to organizational design and change. Emphasis is placed on the use of horizontal and vertical linkage mechanisms that provide the organization with the flexibility to adapt to a rapidly changing competitive environment. Definition of management roles and the use of teams are emphasized in the change management process.

Prerequisite(s): None.

MGMT 5140 - Organizational Behavior and Analysis

3 hours

Research emphasis in organizational behavior stressing organization-people linkages and interrelationships, including selection, orientation and training; job design and reward systems; supervision; formal participation schemes; appraisals and development; organizational structure and design; communications; control; and conflict resolution. Examination of behavioral science methodologies and strategies. Applications to tangential areas of organization theory, development, planning and implications for management and employee relations.

Prerequisite(s): None.

MGMT 5210 - Human Resource Management Seminar

3 hours

Study of the creation and implementation of human resource policies in public and private organizations. Topics include employment, placement and personnel planning; compensation and benefits; employee and labor relations; training and development; health, safety and security. Designed for non-business graduate students and business graduate students with limited or no background in personnel management.

Prerequisite(s): None.

MGMT 5230 - Management Seminar

3 hours

Development of philosophy, strategy and tactics in managing an enterprise. Administrative processes common to all enterprises, including variations needed to meet different situational requirements. Methods of study include extensive reading, exploratory research and seminar discussion.

Prerequisite(s): None.

MGMT 5240 - Project Management

3 hours

Analysis and application of project management techniques and processes to large scale, complex and unique projects. Topics include project selection; planning and organization; negotiation and conflict resolution; budgeting and cost estimation; scheduling; resource allocation; monitoring and control; project auditing; and termination.

Prerequisite(s): MGMT 5070 or equivalent.

MGMT 5260 - Employment, Placement and Personnel Planning

3 hours

Review of the basic elements of employed performance, with analysis of the factors involved in employment, placement and personnel planning. This course blends theory and practice so the student may better understand the policies and procedures required for recruitment selection and personnel planning.

Prerequisite(s): None.

MGMT 5280 - Analysis and Design of Operations System

3 hours

Planning, analysis and design of operating systems, including functions such as forecasting, inventory management, facility location and layout, aggregate planning, scheduling and supply chain management. Appropriate decision-making tools and processing are emphasized.

Prerequisite(s): None.

MGMT 5300 - Entrepreneurship and Venture Management

3 hours

Creation of new business enterprises and the expansion of current enterprises through the venture. Topics include assessment of entrepreneurial characteristics, the entrepreneurial team, generation and screening of venture ideas, market analysis and technical analysis.

Prerequisite(s): None.

MGMT 5350 - Seminar in Labor Relations

3 hours

Theory and practice related to the process of labor relations in organizations, including union organization, collective bargaining, contract negotiation and administration, grievance and alternative dispute resolution processes, and current issues related to labor relations.

Prerequisite(s): None.

MGMT 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. Subjects discussed include talent development programs in youth sports, player evaluation strategies around the world, draft and trade strategies, contract law, mentorship, and career development off and on the field.

Prerequisite(s): None.

MGMT 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): None.

MGMT 5530 - Operation and Management of Physician Practice Organizations

3 hours

Provides advanced study of the unique operational application of business/managerial theory, methodology and best practice to physician practice management including facilities design and management, financial analysis and management, systems analysis and evaluation, application and management of information technology, assessment of health needs and marketing, quality improvement, human resource management and the legal/ethical aspects of health care.

Prerequisite(s): None.

MGMT 5550 - Emerging Issues in Health Services Management

3 hours

Investigation, analysis and discussion of emerging concepts, challenges and controversies relevant to management in health services settings. Examines a wide range of topics including economic, social and organizational issues and their implications for management practice.

Prerequisite(s): None.

MGMT 5660 - International Management

3 hours

Designed to expose the student to the international aspects of management. Cultural differences in management applications, management of multinational corporations and integration of domestic business functions and international operations.

Prerequisite(s): None.

MGMT 5700 - Contemporary Issues in Management

3 hours

Investigation of topics emerging from the dynamic environment of contemporary organizations, such as managerial issues related to electronic commerce or international business.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MGMT 5710 - Seminar in Business Ethics and Social Responsibility

3 hours

Examines the strategic purposes of the firm as both an economic and social entity within the global marketplace. Topics include: ethics in business and ethical decision making, corporate social responsibility and corporate citizenship, and stakeholder management, including shareholders, employees, customers, the community, government, and the environment.

Prerequisite(s): None.

MGMT 5760 - Strategic Management

3 hours

Examination and evaluation of current theories, issues and programs involved in strategically managing organizations. Emphasis is on critical thinking, judgment and solving strategy problems within uncertain and complex decision environments.

Prerequisite(s): None.

MGMT 5800 - Internship

1–3 hours

Supervised, productive and educationally meaningful work experience in a job related to the student's career objective.

Prerequisite(s): Student must meet employer's requirements and have consent of department.

May not be used to meet professional field requirements. Pass/no pass only.

MGMT 5850 - Materials Management

3 hours

Specialized application of fundamental principles of economics, accounting and management to the coordination of all business functions relating to materials.

Prerequisite(s): None.

MGMT 5870 - Leadership Research and Development

3 hours

Theories and current research on leadership with emphasis placed on leadership development and specific applications within the organizational setting.

Prerequisite(s): None.

MGMT 5890 - Seminar in Compensation and Motivation Theory

3 hours

Interdisciplinary seminar designed to study the theories, practices and techniques involved in developing and implementing total compensation programs for public and private organizations. The relationship of motivation theory to compensation theory is emphasized in an effort to develop the optimum package for employee productivity and satisfaction and organizational costs. Topics included are compensation theory, conceptual framework for job satisfaction, job design, relationship of incentive compensation packages and international compensation.

Prerequisite(s): None.

MGMT 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

MGMT 6010 - 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.

Prerequisite(s): None.

Designed for doctoral students in the Department of Management.

MGMT 6030 - Seminar in Strategic Management

3 hours

Examination of the theoretical and empirical research on the question of why some firms out perform others. Includes the study of formulation and implementation issues from economic, organizational and other perspectives and prepares the student for participation in research within the field.

Prerequisite(s): None.

MGMT 6100 - Seminar in Organizational Behavior

3 hours

In-depth study of research in organizational behavior that familiarizes students with the classic and current literature in the discipline. Students will develop skills in theory-building and empirical research in the field.

Prerequisite(s): None.

MGMT 6820 - Seminar in Organizational Theory

3 hours

Examination of the major theoretical streams in the study of organizations and the process of organizing. Extensive reading and seminar discussion are used to understand and extend both historical perspectives and emerging views and assist students in becoming active researchers within the discipline.

Prerequisite(s): None.

MGMT 6860 - Seminar in Human Resource Management

3 hours

Examination of the major research in the field of human resources management, including the critical evaluation of research in terms of both theory and methodology. The integration and application of contemporary management theory to the field of human resource management in order to develop skills in theory-building and the design and implementation of empirical research.

Prerequisite(s): None.

MGMT 6880 - 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.

Prerequisite(s): None.

Designed for doctoral students in the Department of Management.

MGMT 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

MGMT 6910 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

MGMT 6940 - Individual Research

1–12 hours

Individual research for the doctoral candidate.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

MGMT 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Management Science

MSCI 6000 - Theory and Application of Nonparametric Statistics

3 hours

Analysis of business research data that is categorical or ordinal (ranked or scaled). Topics include linear rank statistics, test of location for single and multiple sample problems, goodness-of-fit tests, measures of association, related samples tests and independent samples tests, rank tests for ordered alternatives and permutation tests.

Prerequisite(s): DSCI 5180 or equivalent.

MSCI 6010 - Seminar in Business Administration

3 hours

Covers one or more special fields.

Prerequisite(s): None.

May be repeated for credit, and two or more sections may be taken concurrently.

MSCI 6710 - Theory and Application of Stochastic Modeling

3 hours

Probabilistic modeling techniques with emphasis on manufacturing and services. Specific topics covered include inventory theory and methods, scheduling, queuing theory, availability, maintainability, repairability, reliability, Markov processes and renewal theory.

Prerequisite(s): DSCI 5180.

MSCI 6720 - Experimental Design and Statistical Modeling

3 hours

Emphasis is focused on both the design and analysis aspects of planned experimentation. Topics include completely randomized designs, block designs, factorial designs, design resolution and fractional factorial designs, response surface analysis, evolutionary operations in process improvement and Taguchi methods.

Prerequisite(s): DSCI 5180.

MSCI 6740 - Theory and Application of Operations Research

3 hours

Introduction to the theoretical foundations of operation research techniques. Examples and exercises included with an application orientation. Designed to enhance one's understanding of mathematical basis of and research in operations research. Covers the two broad areas of deterministic and stochastic models in operation research. An understanding of basic calculus and matrix algebra is assumed.

Prerequisite(s): DSCI 5210 or consent of department.

MSCI 6750 - Management Science Seminar

3 hours

Organizational problems involved in the development and implementation of various management science models, as well as the applicability of the models to different technical problems in varying ecotechnological systems; in-depth study of areas of potential application of the more widely used management science models.

Prerequisite(s): Consent of department.

May be repeated for credit.

MSCI 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

MSCI 6910 - Special Problems

1–12 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in field involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

MSCI 6940 - Individual Research

1–12 hours

Individual research for the doctoral candidate.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

May be repeated for credit.

MSCI 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate 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 CoB Graduate Programs Office prior to registration.

May be repeated for credit.

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 as well as oral presentation of their analysis. Oral presentations may be made using electronic media. Groups may be required for case work.

Prerequisite(s): ACCT 5020 or equivalent.

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.

Prerequisite(s): None.

MKTG 5250 - Advanced Marketing Research and Analytics

3 hours

Use of advanced marketing research and analytics in making marketing decisions (e.g., segmentation, targeting, positioning, marketing planning, profitability management, and assessing and ROI of marketing campaigns). 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).

MKTG 5260 - Marketing Metrics for Managers

3 hours

Metrics for assessing the financial implications of marketing decisions in the areas of market segmentation, targeting, positioning and in evaluation of marketing plans. Intensive case analysis using real-world data is the primary pedagogical method.

Prerequisite(s): MKTG 3650 or equivalent.

Students who have previously completed the undergraduate MKTG 3700 at UNT must substitute another online course in place of MKTG 5260. Please contact the COB Graduate Programs Office to identify the possible choices and receive approval.

MKTG 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 and/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.

Prerequisite(s): None.

MKTG 5400 - Product Planning and Brand Management

3 hours

Focus on issues related to product/brand management, an important marketing function. Topics covered include integration of the function within the organization; portfolio management, environmental scanning, identification and creation of value (not just a product) to offer to consumers; budgeting, planning and control issues. Within these broad groupings, some of the specific areas discussed are research, data management and analyses for planning and decision making, decisions in the areas of product/service offering, pricing, promotions management (advertising, sales promotion, personal selling and publicity), distribution (all aspects), ethics, and global implications among others.

Prerequisite(s): MKTG 5150.

MKTG 5450 - New Product Development

3 hours

Focus on issues related to new product development. Includes topics such as new product development process, identification and creation of value (not just a product) to offer consumers; budgeting, planning and control issues. Within these broad groupings, some of the specific areas discussed are research, data management and analyses for planning and decision making in areas of new product/service offering, pricing, promotions management (advertising, sales promotion, personal selling and publicity), distribution (all aspects), ethics and global implications among others.

Prerequisite(s): MKTG 5150.

MKTG 5550 - Decision Making in Global Markets

3 hours

The first half of the 21st century will be characterized by significant shifts in the manufacturing, distribution and consumption of products and services. As transitional and emerging economies mature, foreign entry, local marketing and global management become compelling issues in the design and implementation of marketing strategies. Emphasis on the rapidly changing nature of global markets and implications for the desirability and potential profitability of these markets. Significant sources of threats and opportunities, along with those internal resources of a firm necessary for coping with these opportunities and threats will form the core material of the course. Particular emphasis will be given to the market entry and expansion strategies available to multi-national and global marketers.

Prerequisite(s): MKTG 5150.

MKTG 5560 - Retailing and Marketing Channels

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, tehcnology-enabled marketplace. Special emphasis is afforded to the following topics: retail valuation; retail patronage; assortment planning and inventory optimization; predictive modeling; and strategic implementation.

Prerequisite(s): None.

MKTG 5600 - Emerging Issues in Strategic Marketing

3 hours

Investigation, analysis and discussion of selected emerging problems, methods, concepts relevant to strategic marketing decision-making in dynamic markets and environments. Examines a wide variety of marketing topics.

Prerequisite(s): MKTG 5150 or consent of department.

MKTG 5620 - Marketing in a Digital Age

3 hours

Designed for graduate level students, course addresses issues related to high technology marketing in the contemporary business environment. Guide to integrating electronic resources in the marketing process. Includes the following broad topic areas: electronic commerce and traditional marketing, electronics marketing resources, implementing the e-commerce strategy, and special topics.

Prerequisite(s): MKTG 5150.

MKTG 5650 - Salesforce Management

3 hours

Survey of aspects of integrating the salesforce with product development, manufacturing, order processing, account maintenance, and analyzing marketing decisions. Consists of four modules: evaluating the salesforce, integrating marketing (brand and product management) with field sales and customer service, analyzing marketing opportunities from a salesforce perspective, and salesforce analysis.

Prerequisite(s): MKTG 5150.

MKTG 5670 - Strategic Retail Management

3 hours

Exploration of the principles and methods of managing chain and independent retail stores. Requires the student to complete a project that includes all aspects of starting both brick and click retail operations.

Prerequisite(s): MKTG 5150.

MKTG 5750 - Services Marketing

3 hours

Students are assumed to enter this course with basic knowledge of marketing terminology and concepts. Focus is on integration and application of these services marketing contests, with particular focus on analysis and formulation of marketing strategy for service marketing organizations.

Prerequisite(s): MKTG 5150.

MKTG 5760 - New Service Development

3 hours

Examination of some of the important issues in the development of new services and development of the concepts, methods, and procedures by which marketing managers in the services industry can improve the quality of their decision-making with respect to the successful introduction of new offerings.

Prerequisite(s): MKTG 5150.

MKTG 5800 - Internship in Marketing

1–3 hours

Supervised work experience in a position related to the student's career objective that meets the department's internship requirements.

Prerequisite(s): Consent of MBA advisor and instructor.

A maximum of 3 total hours of MKTG 5800 and/or MKTG 5910 may be applied toward the MBA degree. Pass/no pass only.

MKTG 5850 - Effective Marketing Planning in Dynamic Environments

3 hours

Development of a strategic marketing plan for a specific product or service utilizing techniques and information from earlier courses in the program. Implementation, control and evaluation plans are developed. Course also addresses the practical aspects of appraisal, prediction and monitoring of external market factors that will impact organizational performance. A major theme of the course is how marketing decisions contribute to developing and maintaining competitive advantage in dynamic markets.

Prerequisite(s): Must be taken in the final term/semester of the student's program.

MKTG 5875 - Marketing Rights and Responsibilities

3 hours

Critical assessment of the ethical and social management implications in the deployment of marketing strategy and tactics. Specific attention is afforded to the rights and responsibilities of marketers, consumers and society. Topics include the application of ethical theories to marketing problems, the societal outcomes of marketing policies and the reconciliation of international marketing norms, standards and rules of conduct. Exploration of real-world marketing decision-scenarios to provide a platform of highly interactive dialogue on issues dealing with ethics, organizational compliance, societal marketing and social responsibility.

Prerequisite(s): MKTG 5150 or consent of department.

MKTG 5900 - Directed Study

3 hours

Topic chosen by the student and developed through meetings and activities under the direction of the instructor; activities include required, regular participation in a specified 4000-level class.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

MKTG 5910 - Special Problems

1–3 hours

Course provides a unique opportunity for the student to learn-by-doing with a real business or institution, solving real problems. While each project provides very specific and unique learning opportunities within the marketing area, the primary areas of knowledge and skill development for each are business analysis and decision making; consultative business relationships; project management; communication, written and oral; and teamwork.

Prerequisite(s): MKTG 5150, MKTG 5250. Consent of instructor.

MKTG 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.

Prerequisite(s): None.

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 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.

Prerequisite(s): None.

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 to develop research questions that are both theoretically relevant and have a 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.

Prerequisite(s): None.

MKTG 6010 - Seminar in Marketing Thought

3 hours

Understanding of the history of marketing, theoretical definitions of marketing, and controversies in marketing thought. Investigation, analysis, and discussion of significant issues in the field of marketing.

Prerequisite(s): None.

MKTG 6020 - Seminar in Advanced Consumer Behavior

3 hours

Interdisciplinary course examining empirical and theoretical studies of the factors that influence the acquisition, consumption and disposition of goods, services and ideas. Analysis of the psychological, sociological, anthropological, demographic and regulatory forces that impact consumers. Examination of research methodologies employed to conduct empirical studies of consumer behavior.

Prerequisite(s): None.

MKTG 6030 - Seminar in Marketing Strategy

3 hours

Review of research in marketing strategy. Seminar topics include theories of competition and marketing strategy including antecedents, outcomes, mediators and moderators between strategy and performance; multimarket competition, first/late mover advantage, transaction cost analysis, marketing channels, and the contributions to the strategy dialogue.

Prerequisite(s): None.

MKTG 6040 - Supply Chain Strategy

3 hours

Provides a review of research in partnering, collaboration and interfirm relationships. Investigation, analysis and discussion of critical issues in managing the relationships and responsibilities between firms involved in exchange along modern, globally distributed enterprises. Traditional and emerging concepts in managing the sales-sourcing interface from an integrated perspective from the processing of raw materials through ultimate consumption are described through an investigation of the extant literature.

Prerequisite(s): None.

MKTG 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 currentness research, faculty and industry experts in the area of systems theory and supply chain management guest lecture and lead seminar discussions.

Prerequisite(s): None.

MKTG 6060 - Game Theory

3 hours

Drives students to learn game theory, agency theory and contract theory. Intent is to undertand 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.

Prerequisite(s): None.

MKTG 6070 - Seminar in Consumer Psychology

3 hours

This seminar 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.

Prerequisite(s): None.

MKTG 6080 - Qualitative Research Methods

3 hours

Explores the theoretical and practical issues underlying qualitative and hybrid research methodologies in social sciences research as applied to testable relationships in business contexts. Special attention is afforded to sources of nomothetic versus idiothetic research approaches, qualitative research methods, and qualitative research designs (including but not limited to enthnography, narratives, focus groups and case studies). Assesses the philosophical bases of metrics: auditability, bias, truth value, consistency and critical interpretations of data metrics.

Prerequisite(s): None.

MKTG 6600 - Seminar in Marketing Issues

3 hours

Investigation, analysis and discussion of significant issues in marketing.

Prerequisite(s): None.

May be repeated for credit.

MKTG 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

MKTG 6910 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest. Includes project research studies and intensive reading conferences with professors in fields involved.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

MKTG 6940 - Individual Research

1–12 hours

Individual research for the doctoral candidate.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

May be repeated for credit.

MKTG 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate 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 CoB Graduate Programs Office prior to registration.

May be repeated for credit.

Materials Science and Engineering

MTSE 5000 - Thermodynamics of Materials

3 hours

The zeroth law of thermodynamics, work, energy and the first law of thermodynamics; the second law of thermodynamics, thermodynamic potentials, the third law of thermodynamics, thermodynamic identities and their uses, phase equilibria in one-component systems, behavior and reactions of gases. Solutions, binary and multicomponent systems: phase equilibria, materials separation and purification. Electrochemistry. Thermodynamics of modern materials including liquid crystals.

Prerequisite(s): ENGR 3450 or consent of instructor.

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.

MTSE 5020 - Mechanical Properties of Materials

3 hours

Stress, strain and the basics of concepts in deformation and fracture for metals, polymers and ceramics. Analysis of important mechanical properties such as plastic flow, creep, fatigue, fracture toughness, and rupture. Application of these principles to the design of improved materials and engineering structures.

Prerequisite(s): None.

MTSE 5030 - Transport Phenomena and Materials Processing

3 hours

Principles of transport phenomena (momentum, heat, and mass transport) in materials processes. Emphasis on applications of appropriate differential equations and boundary conditions to solve materials processing problems.

Prerequisite(s): MTSE 5000 and MTSE 5010 or consent of instructor.

MTSE 5070 - Tribology of Materials

3 hours

Contact mechanisms of surfaces. Friction, wear and lubrication of solids and liquids. Laboratory equipment used in tribological investigations. Theoretical and empirical models of tribology.

Prerequisite(s): None.

MTSE 5100 - Fundamental Concepts of Materials Science

3 hours

Crystal structures including defects and structures of non-crystalline materials. Phase diagrams, intermolecular forces. Organic raw materials, metals and alloys, ceramics, electronic materials, liquid crystals, polymers, natural and synthetic composites, smart materials, hybrids. Mechanical, thermophysical, electrical, magnetic and surface properties including tribology, corrosion and degradation. Testing of materials.

Prerequisite(s): Consent of instructor.

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.

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 MSET 5190.

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.

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.

MTSE 5400 - Advanced Polymer Physics and Chemistry

3 hours

Chemical structures, polymerization, molar masses, chain conformations. Rubber elasticity, polymer solutions, glassy state and aging. Mechanical properties, fracture mechanics and viscoelasticity. Dielectric properties. Polymer liquid crystals. Semi-crystalline polymers, polymer melts, rheology and processing. Thermal analysis, microscopy, diffractometry and spectroscopy of polymers. Computer simulations of polymer-based materials.

Prerequisite(s): None.

MTSE 5410 - Polymer Reliability

3 hours

Reliability of polymers and polymer-based composites (PPCS); flexible, semirigid, rigid, 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.

MTSE 5415 - Polymer Viscoelasticity

3 hours

Polymer structure-property relations, linear and nonlinear viscoelasticity, dynamic mechanical analysis, time temperature superposition, creep and stress relaxation, mechanical models for prediction of polymer deformation, rubber elasticity, environmental effects on polymer deformation, instrumentation for prediction of long term properties.

Prerequisite(s): MTSE 5400.

MTSE 5430 - Polymer Rheology and Processing

3 hours

Experimental methods for viscosity-temperature-shear rate measurements, application to melts, filled systems and suspensions. Injection, extrusion, thermoforming, blow molding, rotational molding, compression and transfer molding, calendaring and post-manufacturing operations.

Prerequisite(s): MTSE 5400 or consent of department.

MTSE 5440 - Thermal Analysis

3 hours

Differential scanning calorimetry; 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.

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.

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.

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.

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.

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.

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.

MTSE 5560 - Compound Semiconductor Materials and Devices

3 hours

Introduction to compound semiconductors; epitaxial growth and electronic properties of heterojunctions (ideal single heterojunctions: isotype and anisotype; non-ideal heterojunctions; and heterojunctions); applications of heterostructures (heterojunction bipolar transistors, modulation-doped field-effects transistors, LEDS, double heterojunction lasers, photodiodes and photoconductors).

Prerequisite(s): MTSE 5500 or consent of instructor.

MTSE 5570 - Vacuum Technology and Thin Films

3 hours

Introduction and basics of kinetic theory, UHV hardware overview and practical system design; introduction to surface physics, thermodynamics versus kinetics of surfaces, growth modes and nucleation barriers.

Prerequisite(s): MTSE 5500 or consent of instructor.

MTSE 5580 - Materials for a Sustainable Environment

3 hours

Properties of renewable and nonrenewable, sustainable and non-sustainable materials; effects of product application and needs on material choices for a sustainable environment; degradation mechanisms and influence of the environment on mechanisms.

Prerequisite(s): Consent of instructor.

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.

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.

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.

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).

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.

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.

MTSE 5700 - Seminar in Materials Science and Engineering

1–3 hours

Current topics in materials science and engineering.

Prerequisite(s): None.

MTSE 5710 - Computational Materials Science

3 hours

Focus on the use of computational modeling to understand and evaluate the behavior and materials at scales from the atomistic to the continuum. Introduction to the basic principles used to simulate, model and visualize structures and properties of materials. Topics include the various methods used at different length and time scales ranging from the atomistic to the microscopic.

Prerequisite(s): MTSE 5000, MTSE 5010; or consent of instructor.

MTSE 5800 - Special Studies in Materials Science

3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by regular offerings. Short courses and workshops on specific topics, organized on a limited-offering basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

MTSE 5810 - Special Studies in Materials Science

3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by regular offerings. Short courses and workshops on specific topics, organized on a limited-offering basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

MTSE 5820 - Internship in Materials Science.

3 hours

Supervised industrial internship requiring a minimum of 150 clock hours of work experience.

Prerequisite(s): Consent of department.

MTSE 5830 - Cooperative Education in Materials Science

3 hours

Supervised work in a job directly related to the student's major, professional field of study or career objective.

Prerequisite(s): None.

MTSE 5900 - Special Problems in Materials Research

1–6 hours

Special problems in advanced materials science for graduate students. Problems chosen by the student with approval of the supervising professor and the department chair.

Prerequisite(s): None.

MTSE 5910 - Special Problems in Materials Research

1–6 hours

Special problems in advanced materials science for graduate students. Problems chosen by the student with approval of the supervising professor and the department chair.

Prerequisite(s): None.

MTSE 5920 - Research Problems in Lieu of Thesis

3 hours

Introduction to research; may consist of an experimental, theoretical or review topic.

Prerequisite(s): None.

MTSE 5930 - Research Problems in Lieu of Thesis

3 hours

Introduction to research; may consist of an experimental, theoretical or review topic.

Prerequisite(s): None.

MTSE 5940 - Seminar in Current Materials Science Literature

1–3 hours

Reports and discussion of current materials science research published in journals and other means of dissemination of research.

Prerequisite(s): None.

MTSE 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department, 6 hours of credit required. No credit assigned until thesis has been completed and filed with the graduate school.

Prerequisite(s): None.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

MTSE 5960 - Materials Science Institute

1–6 hours

For students accepted by the university as participants in special institute programs.

Prerequisite(s): None.

May be repeated for credit, not to exceed a total of 6 hours in each course. Laboratory fee required.

MTSE 6000 - Quantum Mechanics for Materials Scientists

3 hours

The Schrödinger equation, atomic theory, solid state theory, band structure, tunneling and scattering with an emphasis on materials properties.

Prerequisite(s): MTSE 5500 or consent of instructor.

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.

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.

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.

MTSE 6210 - Deformation Mechanisms in Solid Materials

3 hours

Discussions on microelasticity and microplasticity of materials. Application of dislocation theory to understand deformation mechanisms related to strengthening. Interactions of dislocation with solute precipitates, dispersoid, grain boundary and barriers are presented. Deformation mechanisms in amorphous and polymeric materials. Micromechanisms of deformation in fatigue, creep, creep-fatigue and strain-rate loading are described.

Prerequisite(s): None.

MTSE 6300 - Phase Transformations

3 hours

Thermodynamics, kinetic and structural aspects of metallic and ceramic phase transformations; mechanisms and rate-determining factors in solid-phase reactions; diffusion processes, nucleation theory, precipitations from solid solution, order-disorder phenomena and applications of binary and ternary phase diagrams.

Prerequisite(s): MTSE 5300 or consent of instructor.

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.

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.

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.

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.

MTSE 6620 - Advanced Electron and Ion Microscopy

2 hours

Gives students with existing electron and ion microscopy backgrounds the opportunity to gain theoretical and practical knowledge of advanced analytical techniques. Specific advanced topics include focused ion beam specimen preparation and patterning, Z-contrast scanning transmission electron microscopy, advanced diffraction and defect analysis, electron energy loss spectroscopy and energy filtered imaging in the transmission electron microscope, high resolution transmission electron microscopy imaging and 3D imaging of nanostructures using focused ion beam and tilt-series transmission electron microscopy. Specific applications of these techniques to modern problems in materials science are stressed.

Prerequisite(s): MTSE 6600, MTSE 6605.

MTSE 6625 - Advanced Electron and Ion Microscopy Laboratory

1 hour

Gives students with existing electron and ion microscopy backgrounds the opportunity to gain hands-on knowledge of advanced analytical microscopy techniques. Specific advanced topics include focused ion beam specimen preparation and patterning, Z-contrast scanning transmission electron microscopy, advanced diffraction and defect analysis, electron energy loss spectroscopy and energy filtered imaging in the transmission electron microscope, high resolution transmission electron microscopy imaging and 3D imaging of nanostructures using focused ion beam and tilt-series transmission electron microscopy. Specific applications of these techniques to modern problems in materials science are stressed.

Prerequisite(s): MTSE 6600, MTSE 6605. MTSE 6620 (may be taken concurrently).

MTSE 6800 - Selected Topics in Materials Science

3 hours

Topics from specialized areas of materials science, physics and chemistry.

Prerequisite(s): None.

May be repeated for credit as topics vary.

MTSE 6900 - Special Problems

1–3 hours

Special problems in experimental or theoretical for advanced materials science graduate students. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): None.

MTSE 6910 - Special Problems

1–3 hours

Special problems in experimental or theoretical for advanced materials science graduate students. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): None.

MTSE 6940 - Individual Research

1–3 hours

To be scheduled by the doctoral candidate engaged in research.

Prerequisite(s): None.

May be repeated for credit.

MTSE 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school.

Prerequisite(s): None.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

MTSE 6970 - Seminar for Doctoral Candidates

3 hours

Demonstration of competence in a specific area of materials science as evidenced by criteria established by the faculty of each discipline.

Prerequisite(s): None.

May be repeated for credit.

MTSE 6990 - Postdoctoral Research

3 hours

For postdoctoral fellows to further training and research experience in developing and solving problems independently.

Prerequisite(s): Consent of department.

May be repeated for credit.

Mathematics

MATH 5000 - Instructional Issues for the Professional Mathematician

3 hours

Focus on various instructional issues from the perspective of the professional mathematician. Some major topics include course planning, the content of a course syllabus, lecture styles, the preparation and mechanics of lectures, the conduct of problem solving sessions, classroom management, the student-instructor relationship, examination formats, the preparation, administration and grading of examinations and the management of teaching assistants and graders.

Prerequisite(s): Consent of department.

MATH 5010 - Mathematical Logic and Set Theory

3 hours

Followed by MATH 5020. These two courses together cover the following material. Rigorous development of first-order logic, basic model theory, completeness and incompleteness theorems, decidable and undecidable theories, axioms of set theory, ordinal and cardinal numbers, the axiom of choice, the continuum hypothesis, constructible sets, and basic descriptive set theory.

Prerequisite(s): Consent of department.

MATH 5020 - Mathematical Logic and Set Theory

3 hours

Preceded by MATH 5010. These two courses together cover the following material. Rigorous development of first-order logic, basic model theory, completeness and incompleteness theorems, decidable and undecidable theories, axioms of set theory, ordinal and cardinal numbers, the axiom of choice, the continuum hypothesis, constructible sets, and basic descriptive set theory.

Prerequisite(s): MATH 5010.

MATH 5050 - Linear Programming

3 hours

Convex polyhedra, simplex method, duality theory, network flows, integer programming, ellipsoidal method, applications to modeling and game theory.

Prerequisite(s): Consent of department.

MATH 5110 - Introduction to Analysis

3 hours

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.

Prerequisite(s): None.

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.

MATH 5200 - Topics in Dynamical Systems

3 hours

Dynamical systems in one and higher dimensions. Linearization of hyperbolic fixed points. Hamiltonian systems and twist maps. The concept of topological conjugacy and structural stability. Anosov diffeomorphisms, geodesic flow and attractors. Chaotic long-term behavior of these hyperbolic systems. Measures of complexity.

Prerequisite(s): Consent of department.

MATH 5210 - Numerical Analysis

3 hours

Rigorous mathematical analysis of numerical methods: norms, error analysis, linear systems, eigenvalues and eigenvectors, iterative methods of solving non-linear systems, polynomial and spline approximation, numerical differentiation and integration, numerical solution or ordinary and partial differential equations.

Prerequisite(s): FORTRAN programming or consent of department.

MATH 5220 - Numerical Analysis

3 hours

Rigorous mathematical analysis of numerical methods: norms, error analysis, linear systems, eigenvalues and eigenvectors, iterative methods of solving non-linear systems, polynomial and spline approximation, numerical differentiation and integration, numerical solution or ordinary and partial differential equations.

Prerequisite(s): FORTRAN programming or consent of department.

MATH 5270 - Mathematical Theory of Computation

3 hours

Mathematical models of computation and algorithms, Church-Turing thesis, recursive functions, complexity measures, algorithm analysis, complexity classes and hierarchies, the P versus NP problem, NP-completeness.

Prerequisite(s): Consent of department.

MATH 5290 - Numerical Methods

3 hours

Non-theoretical development of various numerical methods for use with a computer to solve equations, solve linear and non-linear systems of equations, find eigenvalues and eigenvectors, approximate functions, approximate derivatives and definite integrals, solve differential equations and solve other such problems of a mathematical nature. Errors due to instability of method and those due to the finite-precision computer will be studied.

Prerequisite(s): A programming language and consent of department.

MATH 5310 - 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.

Prerequisite(s): None.

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.

MATH 5350 - Markov Processes

3 hours

The ergodic theorem; regular and ergodic Markov chains; absorbing chains and random walks; mean first passage time; applications to electric circuits, entropy, genetics, games, decision theory and probability.

Prerequisite(s): None.

MATH 5400 - Introduction to Functions of a Complex Variable

3 hours

Algebra of complex numbers and geometric representation; analytical functions; elementary functions and mapping; real-line integrals; complex integration; power series; residues, poles, conformal mapping and applications.

Prerequisite(s): None.

Only one course, MATH 5400, MATH 5500 or MATH 5600, may be used towards satisfying the course work requirements for a graduate degree in mathematics.

MATH 5410 - Functions of a Complex Variable

3 hours

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.

Prerequisite(s): None.

MATH 5420 - Functions of a Complex Variable

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.

MATH 5450 - Calculus on Manifolds

3 hours

Introduction to differential geometry and topology. Topics include implicit and inverse function theorems, differentiable manifolds, tangent bundles, Riemannian manifolds, tensors, curvature, differential forms, integration on manifolds and Stokes' theorem.

Prerequisite(s): Consent of department.

MATH 5460 - Differential Equations

3 hours

Calculation of solutions to systems of ordinary differential equations, study of algebraic and qualitative properties of solutions, study of partial differential equations of mathematical physics, iterative methods for numerical solutions of ordinary and partial differential equations and introduction to the finite element method.

Prerequisite(s): MATH 5110-MATH 5120 and linear algebra.

MATH 5470 - Differential Equations

3 hours

Calculation of solutions to systems of ordinary differential equations, study of algebraic and qualitative properties of solutions, study of partial differential equations of mathematical physics, iterative methods for numerical solutions of ordinary and partial differential equations and introduction to the finite element method.

Prerequisite(s): MATH 5110-MATH 5120 and linear algebra.

MATH 5500 - Introduction to the Theory of Matrices

3 hours

Congruence (Hermitian); similarity; orthogonality, matrices with polynomial elements and minimal polynomials; Cayley-Hamilton theorem; bilinear and quadratic forms; eigenvalues.

Prerequisite(s): None.

Only one course, MATH 5400, MATH 5500 or MATH 5600, may be used towards satisfying the course work requirements for a graduate degree in mathematics.

MATH 5520 - Modern Algebra

3 hours

Groups and their generalizations; homomorphism and isomorphism theories; direct sums and products; orderings; abelian groups and their invariants.

Prerequisite(s): MATH 3510 or equivalent.

MATH 5530 - Selected Topics in Modern Algebra

3 hours

Ring and field extensions, Galois groups, ideals and valuation theory.

Prerequisite(s): None.

MATH 5600 - Introduction to Topology

3 hours

Point set topology; connectedness, compactness, continuous functions and metric spaces.

Prerequisite(s): None.

Only one course, MATH 5400, MATH 5500 or MATH 5600, may be used towards satisfying the course work requirement for a graduate degree in mathematics.

MATH 5610 - Topology

3 hours

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.

Prerequisite(s): None.

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.

MATH 5700 - Selected Topics in Contemporary Mathematics

3 hours

Topics of current interest that vary from year to year.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

MATH 5810 - Probability and Statistics

3 hours

Important densities and stochastic processes; measure and integration; laws of large numbers; limit theorems.

Prerequisite(s): None.

MATH 5820 - Probability and Statistics

3 hours

Markov processes and random walks; renewal theory and Laplace transforms; characteristic functions; infinitely divisible distribution; harmonic analysis.

Prerequisite(s): None.

MATH 5900 - Special Problems

1–3 hours

Prerequisite(s): None.

MATH 5910 - Special Problems

1–3 hours

Prerequisite(s): None.

MATH 5940 - Seminar in Mathematical Literature

1–3 hours

Prerequisite(s): None.

MATH 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school.

Prerequisite(s): None.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

MATH 6000 - Millican Colloquium

1 hour

Departmental colloquium. New research developments are presented by nationally and internationally recognized mathematicians from the U.S. and abroad. Topics vary weekly and can cover any of the subdisciplines of mathematics.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

MATH 6010 - Topics in Logic and Foundations

3 hours

Mathematical logic, metamathematics and foundations of mathematics.

Prerequisite(s): None.

May be repeated for credit.

MATH 6020 - Logic Seminar

1 hour

Weekly seminar series covering contemporary topics in logic and set theory. Talks are given by UNT faculty and graduate students as well as by prominent visitors from other institutions. Topics vary weekly.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

MATH 6110 - Topics in Analysis

3 hours

Topics may vary from year to year. They include measure and integration theory, complex variables, analytic number theory, automorphic forms, and Diophantine approximation.

Prerequisite(s): None.

May be repeated for credit.

MATH 6130 - Infinite Processes

3 hours

Topics selected from infinite series, infinite matrices, continued fractions, summation processes and integration theory.

Prerequisite(s): None.

MATH 6150 - Functional Analysis

3 hours

Normed linear spaces; completeness, convexity and duality. Topics selected from linear operators, spectral analysis, vector lattices and Banach algebras.

Prerequisite(s): None.

May be repeated for credit.

MATH 6170 - Differential Equations

3 hours

Existence, uniqueness and approximation of solutions to linear and non-linear ordinary, partial and functional differential equations. Relationships with functional analysis. Emphasis is on computer-related methods.

Prerequisite(s): None.

May be repeated for credit.

MATH 6200 - Topics in Ergodic Theory

3 hours

Basic ergodic theorems. Mixing properties and entropy. Oseledec's multiplicative ergodic theorem and Lyapunov exponents. Applications to dynamical systems. Rational functions and Julia sets. Wandering across Mandelbrot set. Sullivan's conformal measure. Thermodynamical formalism and conformal measures applied to compute Hausdorff measures and packing measures of attractors, repellors and Julia sets. Dimension invariants (Hausdorff, box and packing dimension) of these sets.

Prerequisite(s): Consent of department.

May be repeated for credit.

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.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

MATH 6220 - Logic and Dynamics Seminar

1 hour

Weekly seminar series covering contemporary topics in logic and dynamical systems. Talks are given by UNT faculty and graduate students as well as by prominent visitors from other institutions. Topics vary weekly.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

MATH 6310 - Topics in Combinatorics

3 hours

Selected topics of current interest in combinatorics such as enumeration, combinatorial optimization, Ramsey theory, topological graph theory, random methods in combinatorics (random graphs, random matrices, randomized algorithms, etc.), combinatorial designs, matroids, formal languages and combinatorics on words, combinatorial number theory, combinatorial and symbolic methods in dynamical systems.

Prerequisite(s): None.

May be repeated for credit.

MATH 6510 - Topics in Algebra

3 hours

Groups, rings, modules, fields and other algebraic structures; homological and categorical algebra. Multiplicative and additive number theory, diophantine equations and algebraic number theory.

Prerequisite(s): None.

May be repeated for credit.

MATH 6520 - Algebra Seminar

1 hour

Weekly seminar series covering topics in algebra. Talks are given by UNT faculty and graduate students as well as by prominent visitors from other institutions. Topics vary weekly.

Prerequisite(s): None.

May be repeated for credit. Pass/no pass only.

MATH 6610 - Topics in Topology and Geometry

3 hours

Point set and general topology, differential geometry and global geometry.

Prerequisite(s): None.

May be repeated for credit.

MATH 6620 - Algebraic Topology

3 hours

Topics from algebraic topology such as fundamental group, singular homology, fixed point theorems, cohomology, cup products, Steenrod powers, vector bundles, classifying spaces, characteristic classes and spectral sequences.

Prerequisite(s): MATH 5530, MATH 5620.

May be repeated for credit.

MATH 6700 - Selected Topics in Advanced Mathematics

3 hours

Topics of current interest that vary from year to year.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

MATH 6710 - Topics in Applied Mathematics

3 hours

Optimization and control theory, perturbation methods, eigenvalue problems, generalized functions, transform methods and spectral theory.

Prerequisite(s): None.

May be repeated for credit.

MATH 6810 - Probability

3 hours

Probability measures and integration, random variables and distributions, convergence theorems, conditional probability and expectation, martingales, stochastic processes.

Prerequisite(s): None.

May be repeated for credit.

MATH 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.

Prerequisite(s): MATH 5820.

May be repeated for credit as topics vary for a maximum of 12 hours.

MATH 6900 - Special Problems

1–3 hours

Prerequisite(s): None.

MATH 6910 - Special Problems

1–3 hours

Prerequisite(s): None.

MATH 6940 - Individual Research

Variable credit

To be scheduled by the doctoral candidate engaged in research.

Prerequisite(s): None.

May be repeated for credit.

MATH 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 9 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school.

Prerequisite(s): None.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Mechanical and Energy Engineering

MEEN 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.

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.

Prerequisite(s): None.

MEEN 5112 - Nuclear Energy

3 hours

Atomic physics and the structure of the atom; radioactivity; interactions of neutrons with matter; nuclear cross-sections; nuclear fuels and fuel elements; elements of nuclear reactors; components and operation of nuclear power plants. Notable accidents of nuclear reactors. Breeder reactors.

Prerequisite(s): None.

MEEN 5140 - Advanced Mathematical Methods for Engineers

3 hours

Provides an introduction to advanced mathematical methods used in engineering science, such as vector calculus, integral transforms, partial differential equations and numerical methods.

Prerequisite(s): None.

MEEN 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.

Prerequisite(s): MEEN 3120 and MEEN 3210.

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.

Prerequisite(s): ENGR 2332.

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.

Prerequisite(s): MEEN 5410 or equivalent.

MEEN 5200 - Principles of HVAC

3 hours

Thermodynamics and psychometrics applied to the HVAC system calculations, energy estimating methods, ducts and piping systems, heat pump and heat recovery systems, air-processing, refrigeration and heating equipment.

Prerequisite(s): None.

MEEN 5210 - Solar Energy

3 hours

Fundamentals of radiation processes, blackbody and gray-body; and gray-body radiation; solar radiation flat-plate and parabolic collectors; concentration optics and practical solar concentration devices; central receivers, solar ponds, power cycles of solar plants; thermal storage subsystems and system design.

Prerequisite(s): None.

MEEN 5220 - Computational Fluid Dynamics and Heat Transfer

3 hours

Finite difference, finite volume, and finite element computational methods; techniques for building geometry and meshing; commercial software; modeling and numerically solving real-world fluid flow and heat transfer problems.

Prerequisite(s): MEEN 3120, MEEN 3210.

MEEN 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.

MEEN 5300 - Advanced Thermodynamics

3 hours

Axiomatic presentation of the law of thermodynamics including corollaries and applications related to energy conversion, the exergy method and entropy dissipation method for the evaluation of thermodynamic systems and cycles, thermodynamic equilibrium and stability, irreversible thermodynamics, chemical equilibria and applications in combustion.

Prerequisite(s): None.

MEEN 5310 - Conduction and Radiation Heat Transfer

3 hours

Includes heat conduction for 1-, 2- and 3-dimensional systems; separation of variables; Duhamel's theorem; Green's function; Laplace transforms; radiative properties of particulate media, semi-transparent media, and 1-dimensional gray media; and integro-differential equations.

Prerequisite(s): Consent of department.

MEEN 5311 - Convection Heat Transfer II

3 hours

Explores fundamental equations of fluid flow and heat transfer; internal and external heat transfer; laminar and turbulent heat transfer; similarity solutions; integral method; and boundary layer equations.

Prerequisite(s): Consent of department.

MEEN 5315 - Nanoscale Energy Transport

3 hours

Explores microscopic heat carriers and transport; material waves; energy states in solids; statistical description of thermodynamics; waves; particle transport process; semiconductor materials; and interfacial phenomena for non-conventional liquids.

Prerequisite(s): Consent of department.

MEEN 5320 - Biofluid Dynamics

3 hours

Review of basic fluid mechanics and heat and mass transfer; blood rheology; basic physiology as it relates to biotransport phenomena; and circulatory and respiratory systems.

Prerequisite(s): Consent of department.

MEEN 5330 - Combustion Science and Engineering

3 hours

Examines fuels and combustion; combustion stoichiometry; chemical equilibrium; adiabatic flame temperature; reaction kinetics; transport processes; conservation laws; ignition processes; gas flames classification; premixed flames; laminar and turbulent regimes; flame propagation; deflagrations and detonations; diffusion flames; pollutant formation; atmospheric impacts; engine combustion; solid phase combustion; combustion diagnostics; and combustion applications.

Prerequisite(s): MEEN 3110 or consent of department.

MEEN 5332 - Air Pollution Control Engineering

3 hours

Fundamental theories of air pollution and atmospheric science. Air pollution causes and impacts; atmospheric chemistry and physics; meteorology; and an introduction to air quality models. Control technology of particulate and gaseous air pollutants; process design variables; and industrial and engineering applications of technologies.

Prerequisite(s): MEEN 3110 or consent of department.

MEEN 5340 - Advanced Fluid Mechanics

3 hours

Fundamentals of vector and tensor notation and formulation of governing equations; model of inviscid and viscous flow, vorticity and circulation; exact solutions; turbulence; boundary layer theory; free surface flow.

Prerequisite(s): Consent of department.

MEEN 5350 - Dispersed Multiphase Flow and Heat Transfer

3 hours

Characteristics of particles, bubbles and drops; conservation equations, creeping flow solution, flow and heat transfer at higher Reynolds numbers; the treatment of non-spherical particles, bubbles, and drops; effects of rotation and shear; two-way effects of turbulence; effects of higher concentration, molecular and statistical description.

Prerequisite(s): None.

MEEN 5351 - Multiphase Flow Modeling

3 hours

Covers a broad spectrum of numerical techniques for multiphase flow modeling, ranging from the continuum fluid model to discrete particle method. Examines the fundamentals of multiphase flows, including motion of a single particle in a viscous fluid, particle fluidization, and flow in porous media.

Prerequisite(s): Consent of department.

MEEN 5410 - Advanced Solid Mechanics

3 hours

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.

Prerequisite(s): MEEN 2332 or equivalent with consent of department.

MEEN 5420 - Continuum Mechanics

3 hours

Describes the fundamental law of physics applicable to a continuous medium and develops the linear theory. Introduces Cartesian tensors, state of stress, kinematics of deformation, and constitutive equations of mechanics and thermodynamics.

Prerequisite(s): Consent of department.

MEEN 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.

Prerequisite(s): None.

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.

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.

Prerequisite(s): ENGR 2332, MEEN 3130, or equivalents.

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).

Prerequisite(s): MEEN 3230.

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.

Prerequisite(s): ENGR 2405 (or EENG 2610).

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

Same as MSET 5140.

MEEN 5720 - 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 pump systems. Prediction of long-term performance of ground loop heat exchanger. Annual energy consumption and Electric Peak demand. Borehole filed configurations.

Prerequisite(s): None

MEEN 4470

MEEN 5730 - Bioproducts Manufacturing

3 hours

Explores renewable bioproducts for lightweight, energy efficient building and other structural applications and the manufacturing processes of these products. These renewable bioproducts consist of engineered wood products (EWPs), including structural panels, structural composite lumber, glued laminated timber (Glulam), wood I-joist, and the natural fiber reinforced polymer composites, such as wood plastic composites (WPC), agriculture fiber based polymer composites and others. Characteristics of the bio-based raw materials, such as wood and agricultural fiber, are discussed. The manufacturing processes of the renewable bioproducts include: lamination, mat-forming, compression molding, resin transfer molding, and extrusion. Physical and mechanical behaviors of the composites are discussed. Students will understand how these engineered renewable bioproducts are designed, processed, and graded and what the pros and cons are for each product as related to the structural applications. Students learn about the related standards, acceptance criteria, and technical guides on these products. Some application details in construction are discussed, such as fastener and connection design and fire design.

Prerequisite(s): None

Meets with MEEN 4151.

MEEN 5760 - Energy Materials

3 hours

Describes how advanced materials make possible efficient energy harvesting (solar cells) and energy storages (batteries, supercapacitors). Also introduces some principles for device applications and advanced materials for future energy technologies.

Prerequisite(s): None

Meets with MEEN 4480.

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. The structure and performance of commercial software for applications in analysis and design of thermo-fluid systems are also discussed.

Prerequisite(s): None.

MEEN 5800 - Topics in Mechanical and Energy Engineering

3 hours

Selected topics of contemporary interest in mechanical engineering.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

MEEN 5810 - Topics in Mechanical and Energy Engineering

3 hours

Selected topics of contemporary interest in mechanical engineering.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

MEEN 5890 - Directed Study in Mechanical and Energy Engineering

1–3 hours

Study by individuals or small groups. Plan of study must be approved by supervising faculty. Written report is required.

Prerequisite(s): None.

May be repeated for 6 credit hours, but a maximum of 3 credit hours can apply to major.

MEEN 5900 - Special Problems in Mechanical and Energy Engineering

1–6 hours

Special problems in mechanical and energy engineering for graduate students only.

Prerequisite(s): Approval of the student's supervisor and/or consent of department.

May be repeated for credit.

MEEN 5910 - Special Problems in Mechanical and Energy Engineering

1–6 hours

Special problems in mechanical and energy engineering for graduate students only.

Prerequisite(s): Approval of the student's supervisor and/or consent of department.

May be repeated for credit.

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.

MEEN 5940 - Graduate Seminar in Mechanical and Energy Engineering

1–3 hours

Provides exposure to multidisciplinary research and opinions on current and future issues from industrial, scientific, academic, governmental and engineering experts from mechanical and energy engineering areas.

Prerequisite(s): Consent of department.

MEEN 5950 - Master's Thesis

3 or 6 hours

A minimum of 6 hours of thesis work is required. No credit is assigned until the thesis is filed and approved by the dean of the graduate school.

Prerequisite(s): Approval of the student's supervisor and/or consent of department.

Continuous enrollment is required once thesis work has begun.

MEEN 6000 - Advanced Numerical Methods

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

Media Arts

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): MRTS MA or MFA status and consent of department.

MRTS 5121 - Digital Media Studies

3 hours

Examination of emerging theoretical approaches to mass media. Application to digital media and traditional film and television of qualitative methodologies based on concepts including: participatory culture, community, mobility, network theory, labor economies and globalization.

Prerequisite(s): MRTS MA or MFA status and consent of department.

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.

MRTS 5130 - Media Theory and Society

3 hours

Overview of social science–based theory and research pertaining to the mass media. Review of classic studies in such areas as media effects, uses and gratification research, and the impact of cybermedia.

Prerequisite(s): MRTS MA or MFA status and consent of department.

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): MRTS MA or MFA status and consent of department.

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): MRTS MA or MFA status and consent of department.

May be repeated for credit for a maximum of 6 hours.

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): MRTS MA or MFA status and consent of department.

Meets with MRTS 4220.

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): MRTS MA or MFA status and consent of department.

Meets with MRTS 4240.

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): MRTS MA or MFA status and consent of department.

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): MRTS MA status and consent of department.

Meets with MRTS 4850.

MRTS 5400 - Media Studies Seminars

3 hours

In-depth studies of media—rotating topics.

Prerequisite(s): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary.

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): MRTS MA or MFA status and consent of department.

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): MRTS MA or MFA status and consent of department.

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): MRTS MA or MFA status and consent of department.

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): MRTS MA or MFA status and consent of department.

MRTS 5440 - Broadcast Advertising

3 hours

Economics, standards and ethics of advertising in the broadcast media, including the use of broadcast research to develop an advertising campaign. Advanced sales strategies are developed from in-depth study of principles, theories and techniques of selling advertising. Learning to work with clients and serve their marketing needs.

Prerequisite(s): MRTS MA status and consent of department.

Meets with MRTS 4440.

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): MRTS MA or MFA status and consent of department.

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): MRTS MA or MFA status and consent of 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.

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): MRTS MA or MFA status and consent of department.

Meets with MRTS 4500.

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): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

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): MRTS MA or MFA status and consent of department.

MRTS 5630 - Broadcast Programming

3 hours

Theories and strategies of program selection, scheduling and evaluation for broadcast stations and cable television systems.

Prerequisite(s): MRTS MA or MFA status and consent of department.

MRTS 5640 - Media Management

3 hours

Financial, legal and technical aspects of broadcast stations and cable television systems.

Prerequisite(s): MRTS MA or MFA status and consent of department.

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): MRTS MFA status and consent of department.

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): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

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): MRTS MA or MFA status and consent of department.

MRTS 5701 - Video Production Topics

3 hours

Rotating topics in video production. Representative topics include documentary production and advanced television production.

Prerequisite(s): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

MRTS 5702 - Film Production Topics

3 hours

Rotating topics in film production. Representative topics include lighting for cinematography and directing for film.

Prerequisite(s): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

MRTS 5703 - Audio Production Topics

3 hours

Rotating topics in audio production. Representative topics include music for film and television and digital audio editing.

Prerequisite(s): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

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): MRTS MA or MFA status and consent of department.

MRTS 5750 - Cinema and Video Verite

3 hours

Examines the development of this major style in documentary film and video, from its introduction in 1960 to its present use in nonfiction film and television. Outlines its history in detail and explores its employment in reality television, fiction film and television drama.

Prerequisite(s): MRTS MA or MFA status and consent of department.

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): MRTS MFA status and consent of department.

MRTS 5770 - Documentary Production

3 hours

Production of an advanced documentary project from idea through final cut, culminating in a public screening.

Prerequisite(s): MRTS MFA status and consent of department.

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): MRTS MA or MFA status and consent of department.

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): MRTS MFA status, MRTS 5760 and consent of department.

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): MRTS MFA status, MRTS 5790 and consent of department.

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): MRTS MFA status and consent of 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.

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): MRTS MA or MFA status and consent of department.

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): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

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): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

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): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

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): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

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): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

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): MRTS MA or MFA status and consent of department.

May be repeated for credit as topics vary for a maximum of 6 hours.

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): MRTS MA or MFA status and consent of 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.

Merchandising

MDSE 5010 - Merchandising Foundations

3 hours

Functional analysis of merchandising principles and concepts and their importance in fashion markets in the retail sector. Stresses the importance of margin to the profit function of the enterprise.

Prerequisite(s): None.

Meets the deficiency requirement for MS in Merchandising and may be counted as part of a graduate program in a field other than merchandising.

MDSE 5080 - Merchandising Ventures

3 hours

Study of entrepreneurship skills and strategies resulting in application to a business plan that establishes a new venture with fashion and/or home furnishings products. Additionally, students independently identify and investigate innovative entrepreneurial ventures that culminate in a comprehensive research product.

Prerequisite(s): MDSE 5010 or consent of instructor.

Meets with RETL 4080.

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

Prerequisite(s): DRTL 2090 or HFMD 2400 or MDSE 2490; DRTL 3090; MKTG 4620; or consent of instructor.

Meets with DRTL 4090.

MDSE 5230 - Home Furnishings Industry

3 hours

Introduction and overview of components and processes associated with the furniture and home furnishings industry and their function within the overall merchandising process. Examination of topics related to materials, product development, sourcing, manufacturing, merchandising and sales of these products.

Prerequisite(s): None.

MDSE 5240 - Global Retailing

3 hours

Strategic perspective of fashion-oriented products in a dynamic marketplace. Included are case analyses of merchandising principles practiced by representative companies. Interpretations of global trends and issues affecting multi-channel distribution.

Prerequisite(s): None.

MDSE 5500 - Merchandising Strategies

3 hours

Merchandising theory, principles and practice applied to the strategic planning, developing and presenting of textile, apparel and home furnishings product lines. How consumer driven markets motivate product sourcing, pricing, assortment, styling and timing in the global distribution pipeline.

Prerequisite(s): None.

MDSE 5510 - Advanced Buying, Planning and Allocation

3 hours

In-depth study of planning, buying and distributing merchandise to retail stores. Focuses on maximizing profit and decision-making strategies and principles.

Prerequisite(s): MDSE 3510 or MDSE 5010 with a grade of C or better, or consent of instructor.

Meets with MDSE 4510.

MDSE 5560 - Sustainable Strategies in Merchandising

3 hours

Examines fundamental business tools for the pursuit of sustainable development to business operation in apparel and home furnishings enterprises.

Prerequisite(s): None.

MDSE 5620 - Socio-Cultural Analysis of Dress

3 hours

Explores the social, psychological and cultural theories of dress and appearance.

Prerequisite(s): None.

MDSE 5650 - International Sourcing

3 hours

Critical analysis of merchandising principles and practices in a global context with emphasis on economic, political, environmental, cultural and social issues; geographic distribution; trade theory; trade data; and technological developments. Contrast the global dominance of textile, apparel and home furnishings industries on world trade and on consumer-driven markets by country and geo-political regions.

Prerequisite(s): None.

MDSE 5660 - Advanced Merchandising Applications

3 hours

Using the case study method, students apply merchandising theory, principles, and practices to industry scenarios. Emphasis on problem solving, creative thinking, fact-finding, data analysis, and data interpretation involved in business operations. Focus on the development of leadership skills while functioning in small and large groups.

Prerequisite(s): MDSE 3510 or MDSE 5010.

Meets with MDSE 4660.

MDSE 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.

Prerequisite(s): Basic knowledge and understanding of statistical terminologies and proficiency in Excel are required for customer data analysis.

MDSE 5750 - Digital Retailing

3 hours

Analysis and application of digital information exchange technology related to textile, apparel, home furnishings and other fashion-oriented products. Emphasis on distribution, merchandising, e-commerce and sales.

Prerequisite(s): None.

MDSE 5770 - Digital Channel Strategies

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.

Prerequisite(s): None.

MDSE 5790 - Field Experience in Merchandising

3 hours

Arranged.

Prerequisite(s): None.

MDSE 5850 - Brand Development

3 hours

Students understand the role of brand, the concept of brand equity, and importance of creating strong brands. Application of brand knowledge to brand portfolio development. Students integrate theoretical frameworks through case study analyses.

Prerequisite(s): HFMD 2400, MDSE 2490, MDSE 5010 or consent of instructor.

Meets with MDSE 4850.

MDSE 5900 - Special Problems in Merchandising

1–3 hours

Arranged.

Prerequisite(s): Consent of instructor.

MDSE 5910 - Special Problems in Merchandising

1–3 hours

Arranged.

Prerequisite(s): Consent of instructor.

MDSE 5920 - Problem in Lieu of Thesis

3 hours

No credit given until problem in lieu of thesis is completed.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): Basic knowledge and understanding of statistical terminologies and proficiency in Excel are required for customer data analysis.

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.

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.

Prerequisite(s): None.

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.

Prerequisite(s): CMHT 5100 (may be taken concurrently).

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.

Prerequisite(s): None.

CMHT 5400 - Research Applications in Merchandising and Hospitality Management

3 hours

Research projects with implications for marketers in textile, apparel, home furnishings or hospitality industries. Emphasis is on conceptualizing problems, analyzing and interpreting data, and writing for industry and/or scholarly dissemination.

Prerequisite(s): CMHT 5100 and CMHT 5300; or consent of instructor.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

CMHT 5800 - Seminar in Various Areas of Concentration

3 hours

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

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.

Prerequisite(s): None.

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.

CMHT 6500 - Big Data Implementation in Social Network Analysis

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.

Prerequisite(s): Familiarity with the basics of multivariate analysis (i.e., correlation/regression/structural equation modeling) and a statistical software package such as SPSS or SAS, and consent of instructor.

CMHT 6600 - Network Analysis and Visualization (NAV): Big Data Approach to Digital Retailing

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.

Prerequisite(s): CMHT 6500 or consent of instructor.

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.

Music Applied Private Lessons (Concentration)

MUAC 5501 - Piano

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5502 - Organ

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5503 - Voice

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5504 - Violin

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5505 - Viola

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5506 - Cello

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5507 - Double Bass

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5508 - Flute

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5509 - Oboe

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5511 - Clarinet

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5512 - Saxophone

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5513 - Bassoon

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5514 - French Horn

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5516 - Trumpet

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5517 - Trombone

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5518 - Euphonium

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5519 - Tuba

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5521 - Percussion

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5522 - Harp

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5526 - Jazz Guitar

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5527 - Guitar

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5528 - Harpsichord

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5532 - Early Instruments

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5534 - Collaborative Piano

1–3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 5535 - Instrumental Collaborative Piano

1-3 hours

Master's-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6501 - Piano

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6502 - Organ

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6503 - Voice

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6504 - Violin

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6505 - Viola

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6506 - Cello

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6507 - Double Bass

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6508 - Flute

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6509 - Oboe

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6511 - Clarinet

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6512 - Saxophone

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6513 - Bassoon

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6514 - French Horn

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6516 - Trumpet

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6517 - Trombone

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6518 - Euphonium

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6519 - Tuba

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6521 - Percussion

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6522 - Harp

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6527 - Guitar

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6528 - Harpsichord

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6534 - Collaborative Piano

1–3 hours

Doctoral-level applied music, private lessons. Variable credit for concentrations.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAC 6535 - Instrumental Collaborative Piano

1-3 hours

Doctoral-level applied music, private lessons. Variable credit for concentration.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for concentrations are 2 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

Music Applied Private Lessons (Major)

MUAM 5501 - Piano

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5502 - Organ

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5503 - Voice

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5504 - Violin

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5505 - Viola

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5506 - Cello

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5507 - Double Bass

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5508 - Flute

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5509 - Oboe

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5511 - Clarinet

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5512 - Saxophone

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5513 - Bassoon

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5514 - French Horn

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5516 - Trumpet

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5517 - Trombone

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5518 - Euphonium

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5519 - Tuba

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5521 - Percussion

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5522 - Harp

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5527 - Guitar

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5528 - Harpsichord

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5533 - Conducting

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5534 - Collaborative Piano

1–5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 5535 - Instrumental Collaborative Piano

1-5 hours

Master's-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3-4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6501 - Piano

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6502 - Organ

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6503 - Voice

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6504 - Violin

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6505 - Viola

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6506 - Cello

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6507 - Double Bass

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6508 - Flute

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6509 - Oboe

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6511 - Clarinet

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6512 - Saxophone

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6513 - Bassoon

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6514 - French Horn

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6516 - Trumpet

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6517 - Trombone

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6518 - Euphonium

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6519 - Tuba

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6521 - Percussion

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6522 - Harp

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6527 - Guitar

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6528 - Harpsichord

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6533 - Conducting

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3–4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAM 6534 - Collaborative Piano

1–5 hours

Doctoral-level applied music, private lessons. Variable credit for majors.

Prerequisite(s): None.

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.

MUAM 6535 - Instrumental Collaborative Piano

1-5 hours

Doctoral-level applied music. Variable credit for majors.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for majors are 3-4 hours per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

Music Applied Private Lessons (Secondary)

MUAS 5501 - Piano

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5502 - Organ

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5503 - Voice

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5504 - Violin

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5505 - Viola

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5506 - Cello

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5507 - Double Bass

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5508 - Flute

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5509 - Oboe

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5511 - Clarinet

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5512 - Saxophone

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5513 - Bassoon

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5514 - French Horn

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5516 - Trumpet

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5517 - Trombone

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5518 - Euphonium

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5519 - Tuba

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5521 - Percussion

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5522 - Harp

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5523 - Functional Piano

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5524 - Vocal Coaching

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5525 - Baroque Harp

1-2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5527 - Guitar

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5528 - Harpsichord

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5529 - Improvisation at the Organ

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5531 - Keyboard Continuo Playing

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 5532 - Early Instruments

1–2 hours

Master's-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6501 - Piano

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6502 - Organ

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6503 - Voice

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6504 - Violin

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6505 - Viola

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6506 - Cello

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6507 - Double Bass

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6508 - Flute

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6509 - Oboe

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6511 - Clarinet

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6512 - Saxophone

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6513 - Bassoon

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6514 - French Horn

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6516 - Trumpet

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6517 - Trombone

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6518 - Euphonium

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6519 - Tuba

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6521 - Percussion

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6522 - Harp

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6524 - Vocal Coaching

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6525 - Baroque Harp

1-2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6527 - Guitar

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

MUAS 6528 - Harpsichord

1–2 hours

Doctoral-level applied music, private lessons. Variable credit for secondaries.

Prerequisite(s): None.

Curriculum requirements in Music Applied Private Lessons for secondaries and electives are 1 hour per term/semester. Exceptions must have the consent of the dean of the College of Music. May be repeated for credit. Fee required.

Music Composition

MUCP 5080 - Composition Seminar

3 hours

Exploration of current compositional practices, including analysis of contemporary repertoire, discussion of the composer's role in contemporary society, and survey of resources available to composers. Creation of individual composition projects and class presentations.

Prerequisite(s): Acceptance into the graduate composition program as a major or concentration.

MUCP 5180 - Secondary Composition

2–3 hours

Development of contemporary compositional techniques and styles.

Prerequisite(s): 6 hours of undergraduate composition or consent of division.

For non-composition majors. May be repeated for credit.

MUCP 5185 - Concentration Composition

2–3 hours

Composition in larger forms for various media.

Prerequisite(s): 6 hours of undergraduate composition or equivalent; acceptance to the composition program as a related field or concentration.

For students with a related field or concentration in composition. May be repeated for credit.

MUCP 5190 - Master's Composition

2–3 hours

Composition in larger forms for various media.

Prerequisite(s): MUCP 5080. Bachelor's degree in composition or equivalent.

Restricted to students who have been admitted to the MM in composition. May be repeated for credit.

MUCP 5320 - Orchestration

3 hours

Historical survey of orchestrational practices, with emphasis on contemporary approaches. Creation of original works or transcriptions for orchestra. Score study and rehearsal attendance required.

Prerequisite(s): MUCP 4310 or equivalent; consent of division.

Same as MUCP 4320.

Primarily for composition majors.

MUCP 5460 - Contemporary Music

3 hours

Study of recent music emphasizing experimental compositional trends. Listening, score study and analysis.

Prerequisite(s): Consent of division.

Same as MUCP 4460.

MUCP 5580 - Contemporary 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.

Prerequisite(s): MUCP 5460, MUMH 5343, or equivalent.

MUCP 5590 - Intermedia Performance Arts

2 hours (2;2)

Introduction to intermedia performance art through class performance, repertoire analysis, historical context and readings of critical texts. Production of and performance in individual and group projects in the presentation of intermedia compositions, emphasizing computer music media and utilizing the resources of the Merrill Ellis Intermedia Theater.

Prerequisite(s): None.

Corequisite(s): Must be taken concurrently with MUEN 5595.

Open to graduate students in music and other relevant fields in the arts, humanities and sciences.

MUCP 5670 - Introduction to Electroacoustic Music

3 hours

Theory, principles and practice of electroacoustic composition. Includes weekly studio time.

Prerequisite(s): 6 hours of composition or consent of division.

Same as MUCP 4670.

MUCP 5685 - Topics in Composition

3 hours

Advanced projects in composition focusing on compositional techniques, practices and analytical approaches.

Prerequisite(s): MUCP 3190, MUCP 4080, or equivalents.

Meets with MUCP 4685.

May be repeated for credit as topics vary.

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.

Prerequisite(s): MUCP 4670/MUCP 5670 or equivalent.

Meets with MUCP 4690.

May be repeated for credit as topics vary.

MUCP 5695 - Topics in Contemporary Music

3 hours

Advanced research in contemporary music focusing on repertoire, contemporary practices and analytical approaches.

Prerequisite(s): MUTH 2500 and MUMH 3510, or equivalents.

Meets with MUCP 4695.

May be repeated for credit as topics vary.

MUCP 5700 - Composer/Choreographer Collaboration

3 hours

A hands-on course exploring collaboration between composers and choreographers, which provides a framework for the creation of new music/dance collaborative projects.

Prerequisite(s): Consent of department.

MUCP 5900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUCP 5910 - Special Problems

1–3 hours

Prerequisite(s): None.

MUCP 6190 - Doctoral Composition

2–3 hours

Composition project of substantial scope.

Prerequisite(s): MUCP 5080. Master's degree in composition or equivalent.

Restricted to students who have been admitted to the DMA program in composition. May be repeated for credit.

MUCP 6195 - Advanced Research in Composition

3 hours

Individually directed research in composition, including analytical and historical perspectives.

Prerequisite(s): 12 hours of MUCP 6190 and/or MUCP 6200; approved research topic proposal and consent of division.

May be repeated for credit as topics vary.

MUCP 6200 - Advanced Research in Computer Music

3 hours

Individually directed computer music research project, including such topics as algorithmic composition, software design, advanced synthesis and interactive systems.

Prerequisite(s): MUCP 5080. Approved research topic proposal and consent of division.

May be repeated for credit.

MUCP 6900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUCP 6910 - Special Problems

1–3 hours

Prerequisite(s): None.

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.

Prerequisite(s): Acceptance to the summers-only MMEd program (teaching emphasis).

MUED 5010 - Music in Special Education

3 hours

Examination of issues and pedagogical techniques related to teaching music to students with mental and physical disabilities within P-12 classrooms.

Prerequisite(s): None.

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.

Prerequisite(s): Acceptance to the summers-only MMEd program (teaching emphasis).

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.

Prerequisite(s): Acceptance to the summers-only MMEd program (teaching emphasis).

MUED 5070 - Orff Techniques

3 hours

Overview and application of Orff-Schulwerk teaching techniques with a focus on the elementary general music classroom.

Prerequisite(s): Acceptance to the summers-only MMEd program (teaching emphasis).

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.

Prerequisite(s): Acceptance to the summers-only MMEd program (teaching emphasis).

MUED 5100 - Music Supervision

3 hours

Organization and duties; improving instruction; demonstration teaching; public department curricula. Supervisor's relation to community; ethics.

Prerequisite(s): None.

MUED 5120 - Applied Research in Music Education

3 hours

Theories, techniques and procedures for conducting and understanding research related to human musical behaviors.

Prerequisite(s): None.

Open to students in fields other than music. Required for all master's degree students in music education.

MUED 5150 - Pedagogy in Practice

3 hours

Music teaching skills and characteristics of effective teachers; critique teacher practices and abilities.

Prerequisite(s): None.

MUED 5280 - Current Issues in Music Education

3 hours

Survey of current topics in education and music education. Current issues and trends are connected to the core knowledge of major events in music education.

Prerequisite(s): None.

Required for all master's degree students in music education.

MUED 5500 - History of Music Education in the United States

3 hours

From 1620 to present; leading personalities, indigenous and black music, musical trends and concepts in music education.

Prerequisite(s): None.

MUED 5510 - Philosophical Foundations and Principles of Music Teaching

3 hours

Analysis of education objectives in music as related to practical concerns of the music teacher; justifications and rationales for music instruction in public schools.

Prerequisite(s): None.

MUED 5520 - Psychology of Music

3 hours

Physical factors that constitute musical sound and how these factors are perceived; methods and techniques for measuring musicality in individuals; psychology of learning as applied to music and musical behavior.

Prerequisite(s): None.

MUED 5880 - Teaching Strategies in General Music at Pre-School, Elementary and Middle School Levels of Instruction

3 hours

For each term/semester this organized class is offered, one topic from this list is studied in depth: instructional methodologies, materials and activities in vocal music for the pre-school, elementary and middle school student; general music at the middle school level; instrument study for the general music student; curriculum development and instruction to meet the needs of the disabled, mentally challenged and gifted students.

Prerequisite(s): None.

May be repeated for credit when topics vary.

MUED 5890 - Project Practicum

1–2 hours

Guided project course to plan a specific, pragmatic project in the student's respective area of general music, band, orchestra or choir that covers: an introduction to the content covered in the project, an extensive review of the research literature on the content covered in the project, and lesson plans or some other real world application of the knowledge gained through the review of the research literature. Students complete the project practicum over two semesters where they propose the project in the first semester (2 credits) and defend the final project in the second semester (1 credit).

Prerequisite(s): None.

Pass/no pass only.

MUED 5900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUED 5910 - Special Problems

1–3 hours

Prerequisite(s): None.

MUED 6430 - Principles of Music Learning

3 hours

Principles of music learning with specific attention to the process of learning musical skills and concepts. Included are the application of such learning theories as behaviorism and developmentalism to music, and such specific musical learning theories as those of Gordon, Orff, Kodaly and Suzuki.

Prerequisite(s): None.

MUED 6440 - Systematic Measurement of Music Behaviors

3 hours

Measurement with specific applications to the field of music, including music achievement, attitude preference, aptitude, perception, interaction, and music teacher behavior and effectiveness. Principles of measure creation, administration and analysis.

Prerequisite(s): MUED 5120 or consent of college.

Required of all doctoral candidates in music education.

MUED 6450 - Qualitative Research in Music

3 hours

Provides the knowledge and skills necessary for conducting naturalistic research in music settings, and focuses on design, sampling, observation, interviewing, analysis, interpretation and reporting. Includes the concepts and procedures related to case studies, ethnographies, grounded theory and other forms of qualitative inquiry.

Prerequisite(s): MUED 5120, EPSY 5210 or MUMH 5010.

MUED 6470 - Sociology of Music

3 hours

Interrelationship of music and society in the United States. Current uses of music; musical professions; economic aspects of music; research in the sociology of music.

Prerequisite(s): None.

MUED 6480 - Doctoral Seminar in Music Education

1 hour

Current trends, concepts, programs and practices.

Prerequisite(s): None.

Two terms/semesters required of all doctoral candidates in music education. Pass/no pass only.

MUED 6520 - Analysis and Criticism of Research Studies

3 hours

Critical investigation of selected research studies in music and music education for purposes of evaluating research techniques, studying research designs and establishing validity of conclusions.

Prerequisite(s): MUED 5120 or MUMH 5010.

Required of all doctoral candidates in music education.

MUED 6580 - College Teaching of Music Courses

3 hours

Principles of organization and instruction for courses in music theory, music education, music literature and history, and applied music. Taught by specialists in each of the fields.

Prerequisite(s): None.

MUED 6590 - Practicum, Field Problem or Internship

3 hours

Supervised professional activities in music teaching, conducting, supervision and administration in public departments, junior colleges or senior colleges. Allows for experimentation in the classroom or rehearsal hall during on-the-job or in-service training periods.

Prerequisite(s): None.

MUED 6900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUED 6910 - Special Problems

1–3 hours

Prerequisite(s): None.

Music Ensembles

MUEN 5040 - Graduate Opera Theater

1 hour (0;6)

Techniques of preparing and performing major roles.

Prerequisite(s): Consent of college.

May be repeated for credit.

MUEN 5530 - Early Music Ensembles

1 hour (0;3)

Performance of 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.

MUEN 5585 - NOVA Ensemble

1 hour (0;3)

Performance of contemporary chamber works for mixed ensembles.

Prerequisite(s): Consent of college; audition required.

May be repeated for credit.

MUEN 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.

Prerequisite(s): Acceptance to the related field in contemporary music.

May be repeated for credit.

MUEN 5595 - Intermedia Performance Arts

1 hour (0;1)

Performance component of MUCP 5590, to be taken concurrently.

Prerequisite(s): None.

Corequisite(s): MUCP 5590.

May be repeated for credit.

MUEN 5602 - Brass Ensembles

1 hour (0;3)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5605 - Chamber Wind Ensemble

1 hour (0;3)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5611 - Jazz Ensembles

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5616 - Chamber Orchestra

1 hour (0;3)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5617 - Percussion Ensembles

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5621 - String Ensembles

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5624 - Vocal Ensembles

1 hour (0;3)

Prerequisite(s): None.

May be repeated for credit.

MUEN 5625 - Wind Ensembles

1 hour (0;2)

Prerequisite(s): None.

May be repeated for credit.

MUEN 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.

Prerequisite(s): None.

Meets with MUEN 2626.

May be repeated for credit.

MUEN 5630 - Harp Ensemble

1 hour (0;3)

Prerequisite(s): None.

May be repeated for credit.

Music Entrepreneurship

MUCE 5000 - Music Business and Entrepreneurship

3 hours

Provides students with a hands-on experience in planning and launching a musical venture. Upon completion, students will have compiled a professional portfolio, created or improved their own web sites, and will have implemented a plan of action for a music business plan based on their specific interests and needs. Students may also be referred to other UNT faculty and alumni for more information and potential networking opportunities to support their ventures. Through readings, lectures, case studies, assignments, classroom and guest presentations, students become acquainted with the entrepreneurial strategies and diverse trends used to embark in professional music careers.

Prerequisite(s): None.

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.

Prerequisite(s): MUCE 5000.

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.

Prerequisite(s): MUCE 5000.

MUCE 5030 - Music Entrepreneurship Practicum/Internship

1-3 hours

Practicum with an arts organization, music business or other relevant institution as approved by area coordinator in music entrepreneurship.

Prerequisite(s): 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.

MUCE 5040 - Music Law and Finance

3 hours

Topics include basics of music law, music copyright issues, contract negotiation, funding opportunities, and financial management for music business and entrepreneurship.

Prerequisite(s): MUCE 5000

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.

Prerequisite(s): MUCE 5000

MUCE 5060 - Beginning Digital Audio Production for Music Entrepreneurs

3 hours

Basic introduction to concepts and techniques of song production using industry standard DAW (Digital Audio Workstation) software. Real-life individual and team projects provide an experiential overview of MIDI sequencing, audio recording, editing, mixing and mastering. Professional producers invited as guest speakers. Field trips to outside professional studios.

Prerequisite(s): MUCE 5000

MUCE 5070 - Business of Media in Music

3 hours

Practical study of music industry around visual-music media production discussing career options, roles and responsibilities, sources of revenue, copyright, publishing, recording and production, contracts, business strategies, and evolving paradigms (business and creative) affecting producers of music for media.

Prerequisite(s): MUCE 5000

Music History and Literature, Musicology

MUMH 5010 - Introduction to Research in Music

3 hours

Introduction to research techniques and application.

Prerequisite(s): None.

MUMH 5020 - Introduction to Musicology

3 hours

Critical assessment of current issues, methodologies and themes in musicological research.

Prerequisite(s): MUMH 5010 or consent of college.

MUMH 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.

Prerequisite(s): Leveling and review course requirements satisfied; MUMH 5010 or equivalent or consent of instructor.

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.

MUMH 5331 - Western Music History, 750–1400

3 hours

Current historical, analytical and methodological issues regarding music, 750–1400. Combination of lectures, source study and writing.

Prerequisite(s): Leveling and review course requirements satisfied, or consent of instructor.

MUMH 5332 - Western Music History, 1400–1600

3 hours

Current historical, analytical and methodological issues regarding music, 1400–1600. Combination of lectures, source study, and writing.

Prerequisite(s): Leveling and review course requirements satisfied, or consent of instructor.

MUMH 5333 - Western Music History, 1600–1700

3 hours

Current historical, analytical and methodological issues regarding music, 1600–1700. Combination of lectures, source study, and writing.

Prerequisite(s): Leveling and review course requirements satisfied, or consent of instructor.

MUMH 5341 - Western Music History, 1700–1800

3 hours

Current historical, analytical and methodological issues regarding music, 1700–1800. Combination of lectures, source study, and writing.

Prerequisite(s): Leveling and review course requirements satisfied, or consent of instructor.

MUMH 5342 - Western Music History, 1800–1900

3 hours

Current historical, analytical and methodological issues regarding music, 1800–1900. Combination of lectures, source study, and writing.

Prerequisite(s): Leveling and review course requirements satisfied, or consent of instructor.

MUMH 5343 - Western Music History, 1900 to the Present

3 hours

Current historical, analytical and methodological issues regarding music, 1900 to the present. Combination of lectures, source study and writing.

Prerequisite(s): Leveling and review course requirements satisfied, or consent of instructor.

MUMH 5430 - Music in Latin America

3 hours

Examination of selected topics in the history of music by Latin American composers. Topics vary by term/semester.

Prerequisite(s): Leveling and review course requirements satisfied, or consent of instructor.

MUMH 5440 - Music in the United States

3 hours

Examination of selected topics in the history of music in the United States. Topics vary by term/semester.

Prerequisite(s): Leveling and review course requirements satisfied, or consent of instructor.

MUMH 5500 - Music History and Literature to 1750

3 hours

Comprehensive coverage of stylistic developments, genres and creative figures in Western art music from the Middle Ages to the mid-18th century.

Prerequisite(s): None.

Meets with MUMH 3500.

May not be applied to the degree plan.

MUMH 5510 - Music History and Literature Since 1750

3 hours

Comprehensive coverage of stylistic developments, genres and creative figures in Western art music from the Classic period to the present.

Prerequisite(s): None.

Meets with MUMH 3510.

May not be applied to the degree plan.

MUMH 5610 - Ornamentation and Improvisation 1500–1800

3 hours

Improvisation and ornamentation practices of the Renaissance, baroque and classical periods. Students write and perform ornamentations weekly.

Prerequisite(s): Admittance to MM in musicology, DMA or MM related fields in early music or consent of instructor.

MUMH 5620 - Performance Practice: Medieval/Renaissance

3 hours

Comprehensive study of medieval and Renaissance performance practices.

Prerequisite(s): MUMH 5010 or equivalent.

May be repeated for credit.

MUMH 5630 - Performance Practice: Baroque

3 hours

Comprehensive study of baroque performance practices.

Prerequisite(s): MUMH 5010 or equivalent.

May be repeated for credit.

MUMH 5640 - Performance Practice: Classic/Romantic

3 hours

Comprehensive study of classical and romantic performance practices.

Prerequisite(s): MUMH 5010 or equivalent.

May be repeated for credit.

MUMH 5711 - Proseminar in Musicology

3 hours

Practical application of musicological techniques to selected research.

Prerequisite(s): Leveling and review course requirements satisfied; MUMH 5010 or equivalent or consent of instructor.

May be repeated for credit.

MUMH 5900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUMH 5910 - Special Problems

1–3 hours

Prerequisite(s): None.

MUMH 6000 - Seminar in Musicology

3 hours

Seminar on a selected topic in musicology.

Prerequisite(s): Leveling and review course requirements satisfied; MUMH 5010 or equivalent or consent of instructor.

May be repeated for credit.

MUMH 6010 - Seminar in Historical Performance Practices

3 hours

Advanced study of performance practice before 1900.

Prerequisite(s): Leveling and review course requirements satisfied; MUMH 5010 or equivalent; or consent of instructor.

MUMH 6900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUMH 6910 - Special Problems

1–3 hours

Prerequisite(s): None.

Music Laboratories

MULB 5171 - Large Ensemble: Choir

1 hour (0;4)

Prerequisite(s): None.

May be repeated for credit.

MULB 5172 - Large Ensemble: Orchestra

1 hour (0;4)

Prerequisite(s): None.

May be repeated for credit.

MULB 5173 - Large Ensemble: Band

1 hour (0;4)

Prerequisite(s): None.

May be repeated for credit.

MULB 5174 - Large Ensemble: Jazz Lab Band

1 hour (0;4)

Prerequisite(s): None.

May be repeated for credit.

MULB 5175 - Large Ensemble: Accompanying

1 hour (0;4)

Prerequisite(s): None.

May be repeated for credit.

Music Theory

MUTH 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.

Prerequisite(s): None.

May not be applied to the degree plan.

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.

Prerequisite(s): Satisfactory score on Graduate Placement Examination, or MUTH 5010.

MUTH 5110 - Score Reading at the Keyboard

1 hour

Practical application of figured bass and score reading at the keyboard from two parts (C and Bass and Treble clefs) to the classic period symphony.

Prerequisite(s): None.

MUTH 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.

Prerequisite(s): None.

MUTH 5355 - Analytical Techniques I (Ars Antiqua–1700)

3 hours

Application of appropriate analytical approaches and methodologies in music written 900–1700.

Prerequisite(s): Satisfactory score on Graduate Placement Examination, or MUTH 5010.

MUTH 5360 - Analytical Techniques II (1700–1900)

3 hours

Application of appropriate analytical approaches and methodologies in music written 1700–1900.

Prerequisite(s): Satisfactory score on the Graduate Placement Examination, or MUTH 5001 , MUTH 5002 and MUTH 5003 .

MUTH 5370 - Analytical Techniques III (Post 1900)

3 hours

Application of appropriate analytical approaches and methodologies in music written after 1900.

Prerequisite(s): Satisfactory score on Graduate Placement Examination, or MUTH 5010. MUTH 5360 recommended. MUTH 4520 or consent of instructor.

MUTH 5375 - Analytical Techniques for Popular Music

3 hours

Analysis of materials and techniques in popluar music and related musical genres.

Prerequisite(s): Satisfactory score on Graduate Placement Examination, or MUTH 5010 .

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.

Prerequisite(s): None.

Meets with MUTH 4370.

MUTH 5400 - Invertible Counterpoint and Fugue

3 hours

Advanced techniques in contrapuntal writing in 18th-century style.

Prerequisite(s): MUTH 3420. Satisfactory score on Graduate Placement Examination, or MUTH 5010.

MUTH 5410 - 16th Century Counterpoint

3 hours

Contrapuntal procedures of 16th-century composers. Writing motets and madrigals in two to four voices.

Prerequisite(s): None.

Meets with MUTH 3410.

May not be applied to the degree plan.

MUTH 5420 - 18th Century Counterpoint

3 hours

Contrapuntal procedures of 18th century composers. Writing inventions, chorale preludes and other 18th century forms.

Prerequisite(s): None.

Meets with MUTH 3420.

May not be applied to degree plan.

MUTH 5470 - Advanced Schenkerian Analysis

3 hours

Advanced analysis of tonal music according to the theory of structural levels and methods of graphic analysis developed by Heinrich Schenker.

Prerequisite(s): MUTH 4370. Satisfactory score on the Graduate Placement Examination, or MUTH 5001 , MUTH 5002 and MUTH 5003 .

MUTH 5510 - Form Analysis

3 hours

Structural principles of 18th- and 19th-century music determined by analysis of major composers' works, larger instrumental and vocal forms.

Prerequisite(s): None.

Meets with MUTH 3510.

May not be applied to the degree plan.

MUTH 5520 - Harmonic Analysis

3 hours

Harmonic structure of compositions representative of different schools and composers.

Prerequisite(s): None.

Meets with MUTH 3520.

May not be applied to the degree plan.

MUTH 5550 - Professional Writing in Music Theory

3 hours (0;3)

Practicum for writing and submitting professional conference proposals, presentations and journal articles.

Prerequisite(s): MUTH 5355 or MUTH 5360 or MUTH 5370.

MUTH 5680 - Proseminar in Music Theory

3 hours

Investigation and research; subject matter variable to meet needs of students.

Prerequisite(s): Satisfactory score on Graduate Placement Examination, or MUTH 5010.

May be repeated for credit as topics vary.

MUTH 5900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUTH 5910 - Special Problems

1–3 hours

Prerequisite(s): None.

MUTH 6660 - History of Music Theory I

3 hours

Theoretical systems and treatises from antiquity to the late 15th century and analysis of related compositions.

Prerequisite(s): MUMH 5010 or MUMH 5020 (concurrent enrollment is acceptable), or equivalent; satisfactory score on the Graduate Placement Examination, or MUTH 5010.

MUTH 6670 - History of Music Theory II

3 hours

Theoretical systems and treatises from the 16th to early 18th century and analysis of related compositions.

Prerequisite(s): MUMH 5010 or MUMH 5020 (concurrent enrollment is acceptable), or equivalent; satisfactory score on the Graduate Placement Examination, or MUTH 5010.

MUTH 6680 - Proseminar in Music Theory

3 hours

Investigation and research; subject matter variable to meet needs of students.

Prerequisite(s): Satisfactory score on Graduate Placement Examination, or MUTH 5010.

May be repeated for credit as topics vary.

MUTH 6700 - Analytical Systems I (1700–1900)

3 hours

Examination of analytical systems from the middle works of Rameau to the harmonic theories of Riemann, Schenker and Schoenberg.

Prerequisite(s): MUTH 5360, and MUMH 5010 or MUMH 5020 (concurrent enrollment is acceptable), or equivalent.

MUTH 6710 - Analytical Systems II (Post 1900)

3 hours

Examination of analytical systems in the 20th century.

Prerequisite(s): MUTH 5370, and MUMH 5010 or MUMH 5020 (concurrent enrollment is acceptable), or equivalent.

MUTH 6900 - Special Problems

1–3 hours

Prerequisite(s): None.

MUTH 6910 - Special Problems

1–3 hours

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

MUPH 5012 - Musculoskeletal Health in Performing Arts Health

3 hours

Primary theories and concepts of musculoskeletal health as applied to performing arts health.

Prerequisite(s): MUPH 5000 and consent of instructor.

MUPH 5014 - Hearing Conservation in Performing Arts Health

3 hours

Primary theories and concepts of hearing conservation as applied to performing arts health.

Prerequisite(s): MUPH 5000 and consent of instructor.

MUPH 5016 - Psychology in Performing Arts Health

3 hours

Primary theories and concepts of psychology as applied to performing arts health.

Prerequisite(s): MUPH 5000 and consent of instructor.

MUPH 5018 - Voice in Performing Arts Health

3 hours

Primary theories and concepts of vocal health as applied to performing arts health.

Prerequisite(s): MUPH 5000 and consent of instructor.

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.

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.

Prerequisite(s): MUPH 5000, MUPH 5012, MUPH 5014, MUPH 5016, MUPH 5018 and consent of instructor.

May be repeated for credit as topics vary.

MUPH 6100 - Performing Arts Health Research Methods

1 hour

Research techniques and their application to the research process in performing arts health.

Prerequisite(s): MUPH 5000 and consent of instructor.

May be repeated for credit as topics vary.

MUPH 6200 - Performing Arts Health Practicum

1 hour

Experiential training in performing arts health research and practice.

Prerequisite(s): MUPH 5000 and consent of instructor.

May be repeated for credit.

Philosophy

PHIL 5000 - Environmental Ethics

3 hours

Examines the philosophical origins of environmental philosophy and the basic positions in the field of environmental ethics. Key authors in environmental philosophy are surveyed, as well as topical considerations with an emphasis on theories of environmental value, legal and moral rights for nature, animal liberation, and Western philosophical and religious traditions.

Prerequisite(s): None.

PHIL 5010 - Seminar in the Philosophy of Ecology

3 hours

Traces the evolution of ecology from its roots in 19th-century natural history to the present with an emphasis on the prominent paradigms and conceptual trends, such as organicism, community ecology, ecosystem ecology, disturbance and flux. Also explores the sociocultural contexts in which ecology emerged and now exists, including the so-called second scientific revolution and the two-culture split.

Prerequisite(s): None.

PHIL 5050 - Professional Development Seminar

3 hours

Examination of philosophies of education and pedagogical techniques and problems. Includes instruction, advising and preparation for professional development for academic careers, troubleshooting in the classroom, course preparation, university policies on teaching and student responsibilities, and teaching demonstrations.

Prerequisite(s): None.

PHIL 5100 - Ancient Philosophy

3 hours

Concentrated examination of some major problem areas in ancient Western philosophy. For example, concepts of nature, concepts of the character and function of knowledge, concepts of the nature and extent of value. Major thinkers normally covered include the historiographical study of pre-Socratic figures, Plato and Aristotle.

Prerequisite(s): None.

PHIL 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.

Prerequisite(s): None.

PHIL 5200 - Modern Philosophy

3 hours

Concentrated examination of some major problem areas in modern Western philosophy. For example, concepts of nature, concepts of the character and function of knowledge, concepts of the nature and extent of value. Major thinkers covered may include Descartes, Spinoza, Locke, Hume and Kant.

Prerequisite(s): None.

PHIL 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.

Prerequisite(s): None.

May be repeated for credit as topics vary for a maximum of 9 hours.

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.

Prerequisite(s): None.

PHIL 5300 - Social and Political Philosophy

3 hours

Focused examination of the relation between philosophical ideas and democracy, rights, justice, political freedom, authority and community. Exploration of historical and contemporary figures and schools of thought, may include Locke, Rousseau and Marx, as well as Rawls and his critiques, feminist political thought, and critical race theory.

Prerequisite(s): None.

PHIL 5400 - Seminar in Ethical Theory

3 hours

Focused examination of a variety of metaethical and normative theories of moral philosophies, such as virtue ethics, utilitarianism, deontology, emotivism and care ethics. Explorations of historical and contemporary philosophical ethics may include feminist ethics and canonical figures, such as Aristotle, Kant, and Mill.

Prerequisite(s): None.

PHIL 5500 - Philosophy of Science and Technology

3 hours

Focused examination of the relationship between science and technology, the role of experiment and instrumentation in scientific practice, the social construction of scientific knowledge and technical artifacts, the nature of technology in human perception and experience, and the broader social impacts of science and technology.

Prerequisite(s): None.

PHIL 5600 - Philosophy of Religion

3 hours

Focused examination of the concepts, belief systems and practices of religions. Topics might include arguments for God's existence, the problem of evil, the nature of religious experience, religious language, and faith and reason.

Prerequisite(s): None.

PHIL 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

PHIL 5900 - Special Problems

1–3 hours

Prerequisite(s): Consent of department.

PHIL 5910 - Special Problems

1–3 hours

Prerequisite(s): Consent of department.

PHIL 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school.

Prerequisite(s): None.

Continuous enrollment required once work on the thesis has begun. May be repeated for credit.

PHIL 5960 - Seminar in Problems of Philosophy

3 hours

Intensive analysis of major philosophical issues against the background of classical and contemporary investigations.

Prerequisite(s): None.

May be repeated for credit.

PHIL 6110 - Epistemology

3 hours

Examines the nature of knowledge and justification. Issues typically include the relationship between knowledge and opinion, truth and meaning, social construction, and gender and ethnicity in knowing and believing.

Prerequisite(s): None.

PHIL 6150 - Metaphysics

3 hours

Examination of problems that arise from attempts to give an account of reality and its manifestations: possibility and necessity, causality, the nature of events, mind-body and universals.

Prerequisite(s): None.

PHIL 6200 - Existentialism

3 hours

Examination of the place of humanity in the world and its relations to problems of self, authenticity, freedom and anxiety; Kierkegaard, Nietzsche, Heidegger and Sartre. Seminar may be a survey of philosophers or single-philosopher oriented.

Prerequisite(s): None.

PHIL 6250 - Aesthetics

3 hours

Examination of the theories of the beauty and art in the history of philosophy. Topics may include aesthetics experience, artistic expression, the sublime, literature, art and morality, and environmental aesthetics.

Prerequisite(s): None.

PHIL 6300 - Seminar in Symbolic Logic and Metamathematics

3 hours

Review of the history, development and present status of symbolic logic and metamathematics, including a consideration of the problems encountered in the philosophical interpretation of logical concepts.

Prerequisite(s): None.

PHIL 6360 - American Philosophy

3 hours

Examination of the development of pragmatism and American philosophy in the central philosophical works of Pierce, James, Dewey, and Mead; as well as philosophical contributions of later pragmatism.

Prerequisite(s): None.

PHIL 6400 - Philosophy of Technology

3 hours

Examination of the nature of technology and the effects of technologies upon human knowledge, activities, societies and environments. Topics might include technological determinism, autonomous technology, social constructivism, STS, techno-science, converging technologies, ethics and politics of technology, and technology and the environment.

Prerequisite(s): None.

PHIL 6450 - Bioethics

3 hours

Examines the historical development and contested nature of bioethical inquiry in relation to the history of philosophic ethics more generally. Topics include clinical ethics, ethics of research and emerging technologies, the relationship with policy and politics, and the relationship with environmental ethics.

Prerequisite(s): None.

PHIL 6500 - Cultural Criticism

3 hours

Transdisciplinary analysis of culture, popular culture, politics, subjectivity and everyday life. Topics may include Marxism and critical theory, power and knowledge, deconstruction and literary theory, semiotics and psychoanalytic theory, post-colonial discourse, and globalization theory.

Prerequisite(s): None.

PHIL 6550 - Religion and Science

3 hours

Examination of the historical and contemporary relationship between sciences and religions. Issues include the rise of modern science in Europe, evolution and intelligent design, religion and ecology, and science and non-Western religious tradition.

Prerequisite(s): None.

PHIL 6560 - Judaic Religion and Philosophy

3 hours

Philosophical examination of a wide range of Judaic texts—biblical, medieval and modern—which address Jewish law, history and thought from diverse points of view. Topics may include contemporary controversies over Judaism's teachings concerning environmental ethics.

Prerequisite(s): None.

PHIL 6600 - Philosophy and Theory of Religion

3 hours

Intensive inquiry into versions of theism, panentheism and naturalism. Explores relevant epistemological and postmodern issues.

Prerequisite(s): None.

PHIL 6650 - Philosophy of Water 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.

Prerequisite(s): None.

PHIL 6710 - Ecofeminism: Women's Studies and Environmental Ethics

3 hours

Examines the merger of feminism with environmental ethics and its subsequent evolution. Subject matter includes the analysis of patriarchy, gender issues, and multicultural perspectives within the larger framework of ethical and philosophical responses to ecocrises.

Prerequisite(s): None.

PHIL 6720 - Religion and Ecology

3 hours

Exploration of resources for environmental philosophy and philosophy of ecology in world religions, focusing on South and East Asian traditions.

Prerequisite(s): None.

PHIL 6730 - Christianity and the Environment

3 hours

Historic and contemporary overview of Christian philosophy and theology concerning the environment.

Prerequisite(s): None.

PHIL 6740 - Environmental Ethics, Science and Public Policy

3 hours

Investigates the policy turn in environmental philosophy, exploring ways to make environmental ethics and environmental philosophy more relevant to scientists and engineers, decision-makers, public agencies, and stakeholders groups.

Prerequisite(s): None.

PHIL 6750 - Environmental Justice

3 hours

Examination of the histories, concepts, philosophical implications, and the struggles of people in shaping the environmental justice movement. Examines the underlying notions of environmental goods and harms, the perspectives of environmental law and policy, and the politics of environmental identities.

Prerequisite(s): None.

PHIL 6760 - Topics in Environmental Philosophy

3 hours

Focused examination of the perennial or emerging topics in environmental philosophy, such as the intrinsic value of nature, monism versus pluralism, ecophenomenology, holism versus individualism, and non-Western explorations of environmental ethics and philosophy.

Prerequisite(s): None.

May be repeated for credit as topics vary.

PHIL 6780 - Subantarctic Biocultural Conservation

3 hours

In-depth study of the relationship between subantarctic ecosystems and cultures of southern South America including geography, climate, ethnography, history and ecology, which exposes students to both the practical and theoretical aspects of biocultural conservation, including its interdisciplinary character integrating the sciences and humanities.

Prerequisite(s): None.

Same as BIOL 5053.

Meets with BIOL 4053/PHIL 4053.

PHIL 6781 - Tracing Darwin's Path

3 hours

Annual in-depth field course that explores subantarctic biota, geography, history, cultures and ecosystems of the Cape Horn Biosphere Reserve, integrating ecological science and field environmental ethics approaches to the study and conservation of biocultural diversity.

Prerequisite(s): Consent of instructor; BIOL 5053 or PHIL 6780 recommended.

Same as BIOL 5054.

PHIL 6900 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest.

Prerequisite(s): Consent of department.

PHIL 6910 - Special Problems

1–3 hours

Research by doctoral students in fields of special interest.

Prerequisite(s): Consent of department.

PHIL 6950 - Doctoral Dissertation

3, 6, 9 hours

To be scheduled only with consent of department. 12 hours required. No credit assigned until dissertation has been completed and filed with the graduate school.

Prerequisite(s): None.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for administration for admission to candidacy. May be repeated for credit.

PHIL 6960 - Seminar in Problems in Philosophy

3 hours

Intensive analysis of major philosophical issues against the background of classical and contemporary investigations.

Prerequisite(s): None.

May be repeated for credit as topics vary.

Physics

PHYS 5450 - Survey of Solid State Physics

3 hours

Acquaints students with the major areas of solid state physics. Simple models and physical insight to solid state phenomena are stressed. Intended for physics students of all specializations. Topics include crystal structure, crystal symmetry, reciprocal lattice, X-ray diffraction, crystal binding, phonons and lattice vibrations, thermal properties, free electron theory, semiconductors, superconductivity and magnetic properties.

Prerequisite(s): PHYS 4110.

PHYS 5500 - Quantum Mechanics I

3 hours

Fundamentals of quantum theory. Foundations of wave mechanics, wavepackets and the uncertainty principles. Schroedinger equation, one-dimensional problems, operators and eigenfunctions, three-dimensional problems, angular momentum and spin.

Prerequisite(s): None.

PHYS 5510 - Quantum Mechanics II

3 hours

Scattering theory; spin, angular momentum; WKB and variation method; time-independent and time-dependent perturbation theory; identical particles; applications; relativistic waves equations.

Prerequisite(s): PHYS 5500.

PHYS 5610 - Selected Topics in Modern Physics

3 hours

Selected topics of contemporary interest in physics.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary with consent of department chair.

PHYS 5700 - Computational Physics

3 hours

Symbolic and numerical solutions to single and multiple, single-variable and multi-variable, linear and nonlinear, integral and differential equations. Finite-differences method for solving a partial differential equation. Solution visualization techniques, including multidimensional plots. Matrix manipulation. Data analysis. Monte Carlo methods. Random walk simulations. Classical trajectory simulations.

Prerequisite(s): None.

PHYS 5710 - Advanced Classical Mechanics I

3 hours

Variational principles and Lagrange's equations. Central force problem. Rigid body motion. Hamilton's equations; canonical variables and transformations; action-angle variables; Hamilton-Jacobi theory.

Prerequisite(s): PHYS 3220 or consent of department.

PHYS 5720 - Electromagnetic Theory I

3 hours

Maxwell's equations, vector, scalar potentials; gauge transformations; wave equation; conservation theorems; boundary conditions; statics. Non-dissipative media and dispersion; dissipative media; reflection and refraction; guided waves.

Prerequisite(s): PHYS 4210 and PHYS 6000 (concurrent), or consent of department.

PHYS 5750 - Selected Topics in Materials Physics

3 hours

Topics from specialized areas of materials science, physics, chemistry. Integrated circuit fabrication and materials. Transmission electron microscopy.

Prerequisite(s): None.

May be repeated for credit as topics vary.

PHYS 5900 - Special Problems

1–6 hours

Special problems in advanced physics for graduate students. Problem chosen by the student with the approval of the supervising professor and the department chair.

Prerequisite(s): None.

Pass/no pass only.

PHYS 5910 - Special Problems

1–6 hours

Special problems in advanced physics for graduate students. Problem chosen by the student with the approval of the supervising professor and the department chair.

Prerequisite(s): None.

Graded course.

PHYS 5920 - Research Problems in Lieu of Thesis

3 hours

An introduction to research; may consist of an experimental, theoretical or review topic.

Prerequisite(s): None.

PHYS 5930 - Research Problems in Lieu of Thesis

3 hours

An introduction to research; may consist of an experimental, theoretical or review topic.

Prerequisite(s): None.

PHYS 5941 - Colloquium

1 hour

Weekly lectures by faculty and invited guests on topics of current interest in contemporary physics.

Prerequisite(s): None.

May be repeated for credit for a maximum of 10 hours. Pass/no pass only.

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.

Prerequisite(s): None.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

PHYS 5960 - Science Institute

1–6 hours

For students accepted by the university as participants in special institute programs.

Prerequisite(s): None.

May be repeated for credit, not to exceed a total of 6 hours in each course. Laboratory fee required.

PHYS 5970 - Science Institute

1–6 hours

For students accepted by the university as participants in special institute programs.

Prerequisite(s): None.

May be repeated for credit, not to exceed a total of 6 hours in each course. Laboratory fee required.

PHYS 5980 - Special Problems

1–3 hours

Special problems in advanced physics for graduate students. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): None.

PHYS 5990 - Special Problems

1–3 hours

Special problems in advanced physics for graduate students. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): None.

PHYS 6000 - Mathematical Methods of Physics I

3 hours

Complex variables, Laurent series, contour integration, dispersion relations, ordinary differential equations. Sturm-Liouville theory, Fourier series, Legendre functions, Green's functions.

Prerequisite(s): PHYS 3310.

PHYS 6001 - Mathematical Methods of Physics II

3 hours

Bessel functions, Hermite functions, Laguerre functions, hypergeometric functions, confluent hypergeometric functions, integral transforms, integral equations, calculus of variations.

Prerequisite(s): PHYS 6000.

PHYS 6010 - Advanced Classical Mechanics II

3 hours

Non-linear dynamics; chaos; fractals; classical field theory; hydro-dynamics and non-linear waves.

Prerequisite(s): PHYS 5710.

PHYS 6030 - Electromagnetic Theory II

3 hours

Waves in plasma; waves in inhomogeneous, anisotropic and non-linear media. Radiation and diffraction; particle radiation and energy loss in matter. Scattering. Multipole fields. Covariant formulation and classical field theory.

Prerequisite(s): PHYS 5720.

PHYS 6110 - Statistical Mechanics I

3 hours

Equilibrium classical and quantum statistical mechanics and thermodynamics with applications to real gases, liquids, solids, spin systems and phase transitions.

Prerequisite(s): PHYS 4110, PHYS 5510.

PHYS 6120 - Statistical Physics

3 hours

Non-equilibrium classical and quantum statistical mechanics, including Boltzmann equations, BBGKY hierarchy, transport theory and dielectric properties of systems; fluctuations and irreversible processes.

Prerequisite(s): PHYS 6110 or consent of department.

PHYS 6155 - Communication in Scientific Teaching and Research

3 hours

Basics of technical writing; techniques for seeking and obtaining research funding; research proposal writing; research presentations; research publications; job applications and interviewing; the workings and organization of academic institutions, government agencies and private industry.

Prerequisite(s): None.

PHYS 6160 - Introduction to Scattering Theory I

3 hours

Partial waves; effective range theory; integral equation approach; resonances; bound states; variational and R-Matrix methods. Emphasis on applications.

Prerequisite(s): PHYS 5510.

PHYS 6161 - Introduction to Scattering Theory II

3 hours

Time-dependent potential scattering, the general theory of collisions, electron-ion collisions, resonances, ion-ion collisions, ion-atom collisions, density matrix formulation and atoms in intense fields. Emphasis on applications.

Prerequisite(s): None.

PHYS 6330 - Atomic and Molecular Physics I

3 hours

Atomic, molecular structure; construction of periodic table. Experimental basis. One-, few- and many-electron systems; Hartree-Fock, Thomas Fermi methods; inner and outer shell phenomena.

Prerequisite(s): PHYS 5510.

PHYS 6340 - Atomic and Molecular Physics II

3 hours

Applications of scattering theory. Born approximation, phase shifts, effective range theory; density operator; scattering and transition matrices. Interaction of large and weak EM fields with matter. Laser spectroscopy.

Prerequisite(s): PHYS 6330.

PHYS 6450 - Advanced Solid State Physics

3 hours

Two-course sequence designed to prepare graduate students for research in several areas of current interest in solid state physics. Topics include lattice vibration and phonon spectra; band theory, including calculational schemes, symmetry considerations and application to metals and semiconductors; optical and magnetic properties of solids.

Prerequisite(s): PHYS 5450 and PHYS 5510, or consent of department.

PHYS 6460 - Advanced Solid State Physics

3 hours

A two-course sequence designed to prepare graduate students for research in several areas of current interest in solid state physics. Topics include lattice vibration and phonon spectra; band theory, including calculational schemes, symmetry considerations and application to metals and semiconductors; optical and magnetic properties of solids.

Prerequisite(s): PHYS 5450 and PHYS 5510, or consent of department.

PHYS 6500 - Advanced Quantum Theory

3 hours

Dirac and Heisenberg formalisms, second quantization and quantum theory of radiation. Dirac equation and its applications.

Prerequisite(s): Consent of department.

PHYS 6510 - Advanced Quantum Theory

3 hours

Quantization of Dirac, Klein-Gordon fields, interactions, S-matrix theory, perturbation theory and applications.

Prerequisite(s): PHYS 6500 or consent of department.

PHYS 6750 - Selected Topics in Theoretical Physics

3 hours

Advanced topics selected from areas of theoretical and mathematical physics, including relativity, field theory, elementary particles and the many-body problem.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

PHYS 6800 - Selected Topics in Solid State Physics

3 hours

Advanced topics selected from specialized areas of solid state physics.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

PHYS 6900 - Special Problems

1–3 hours

Special problems in experimental or theoretical physics for advanced graduate students. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): None.

Pass/no pass only.

PHYS 6910 - Special Problems

1–3 hours

Special problems in experimental or theoretical physics for advanced graduate students. Problem chosen by the student with the approval of the supervising professor.

Prerequisite(s): None.

Graded course.

PHYS 6940 - Individual Research

1–12 hours

To be scheduled by the doctoral candidate engaged in research.

Prerequisite(s): None.

May be repeated for credit.

PHYS 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school.

Prerequisite(s): None.

Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy. May be repeated for credit.

Political Science

PSCI 5020 - Proseminar in American Government and Politics

3 hours

Concepts, research, analytical methods and literature drawn from the leading scholars in the various areas of the field.

Prerequisite(s): None.

PSCI 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

PSCI 5050 - Seminar in American Government and Politics

3 hours

Analysis of pertinent government and political problems confronting the American people on the national, state and local levels.

Prerequisite(s): None.

May be repeated for credit as topics vary.

PSCI 5220 - Proseminar in Public Law

3 hours

Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

Prerequisite(s): None.

PSCI 5310 - Proseminar in Political Theory

3 hours

Explores the variety of concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

Prerequisite(s): None.

PSCI 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.

Prerequisite(s): None.

An undergraduate introductory statistics course would be useful prior to registering for this course.

PSCI 5340 - Seminar in Political Science Scope and Methods

3 hours

Concepts, trends and research design in political science.

Prerequisite(s): None.

PSCI 5420 - Proseminar in Public Administration

3 hours

Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

Prerequisite(s): None.

PSCI 5610 - Proseminar in Comparative Government

3 hours

Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

Prerequisite(s): None.

PSCI 5810 - Proseminar in International Relations

3 hours

Concepts, research, analytical methods and literature drawn from leading scholars in various areas of the field.

Prerequisite(s): None.

PSCI 5900 - Special Problems

1–3 hours

Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Consent of department chair.

PSCI 5910 - Special Problems

1–3 hours

Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Consent of department chair.

PSCI 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s):

May be repeated for credit.

PSCI 6000 - Research Seminar

3 hours

Specialized study and research in the field of political science.

Prerequisite(s): None.

May be repeated for credit.

PSCI 6100 - Political Science Teaching and Research

3 hours

Classroom methods for political science instruction, as well as basic research and job-hunting skills.

Prerequisite(s): None.

Pass/no pass. May be repeated for credit as topics vary. Hours may not count toward graduate degree plans.

PSCI 6150 - The American Presidency

3 hours

Analysis of the theories and scholarly findings of the American presidency.

Prerequisite(s): None.

PSCI 6151 - The U.S. Congress

3 hours

Analysis of the scholarly theories and empirical works on the U.S. Congress.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

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.

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.

Prerequisite(s): PSCI 5320.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

PSCI 6625 - Democracy and Democratization

3 hours

Examines process, structural, and cultural theories of the transition to democracy and the consolidation of democracy.

Prerequisite(s): PSCI 5610.

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.

Prerequisite(s): PSCI 5610.

PSCI 6650 - Seminar in Comparative Politics

3 hours

Study of selected theories or issues of comparative politics.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

Prerequisite(s): PSCI 6810.

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.

Prerequisite(s): PSCI 6810.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

PSCI 6900 - Special Problems

1–3 hours

Conference courses for doctoral students. Directed reading and research in fields of special interest.

Prerequisite(s): Consent of department.

PSCI 6910 - Special Problems

1–3 hours

Conference courses for doctoral students. Directed reading and research in fields of special interest.

Prerequisite(s): Consent of department.

PSCI 6930 - Individual Research

1–12 hours

Independent doctoral research prior to comprehensive examinations.

Prerequisite(s): Approval of graduate advisor.

May be repeated for credit. Pass/no pass only.

PSCI 6940 - Practicum

3–6 hours

Pre-dissertation independent research, under faculty supervision.

Prerequisite(s): Must be near completion of course work.

May be repeated for credit up to 6 hours. Partially fulfills the tool requirement.

PSCI 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 12 hours credit required. No credit assigned until dissertation has been completed and filed with the graduate school. Doctoral students must maintain continuous enrollment in this course subsequent to passing qualifying examination for admission to candidacy.

Prerequisite(s): None.

May be repeated for credit.

Psychology

PSYC 5010 - Human Development

3 hours

Integrated rather than specialized view of the biophysical, sociocultural, psychoemotional and intellectual development of human beings in Western culture. Development is viewed as a product of the interaction of genetic endowment with the environment.

Prerequisite(s): None.

PSYC 5022 - Interviewing

3 hours

Application of different interview theories to counseling and psychotherapy in mental health settings.

Prerequisite(s): None.

Open only to graduate students in psychology.

PSYC 5040 - Cultural Aspects of Health

3 hours

Conceptual frameworks to understand factors influencing patterns of health (psychological, biological and social) across cultures and subcultures. Behavioral medicine perspective of health and disease; illustration of their unique and common elements in sociopolitical and environmental contexts.

Prerequisite(s): None.

PSYC 5050 - Seminar in Psychology: Current Issues

1–4 hours

Issues and topics of current interest to students in the various graduate programs but not covered by course offerings.

Prerequisite(s): None.

May be repeated for credit.

PSYC 5060 - History and Systems

3 hours

Philosophical and physiological roots of psychology; traditional historical systems, including structuralism, functionalism, behaviorism, Gestalt and psychoanalysis; relevance to major contemporary systems.

Prerequisite(s): None.

PSYC 5070 - Foundations of Clinical Health Psychology

3 hours

Core topics in clinical health psychology. Emphasizes the biopsychosocial model of understanding health and illness. How personal characteristics (e.g., personality, behavior, coping, biological reactivity) and environments (e.g., stress, social support, poverty,

discrimination) influence health outcomes at individual and population level. Examines potential of clinical health psychology to explain population-level health problems and to ameliorate public health problems through group/community-based interventions.

Prerequisite(s): Consent of department.

PSYC 5090 - Social Psychology

3 hours

Survey of the constructs, methodologies and theories of social psychology including social perception, attitudes, aggression, prejudice, prosocial behavior, conformity, leadership, groups and communication.

Prerequisite(s): Enrollment in a graduate program in psychology or consent of department.

PSYC 5100 - Psychopathology of Childhood

3 hours

Normal and psychopathological development in children, focusing on intellectual, emotional and behavioral deviations and their recognition, as well as background in their etiology, dynamics and prognoses.

Prerequisite(s): PSYC 5010 or its equivalent, or consent of department.

PSYC 5200 - Psychology of Women and Gender

3 hours

Theories and research on women and gender; psychological, situational, cultural, environmental and biological influences; the influence of gender biases on research methods and interpretation of results; application of theory and research to problems affecting women.

Prerequisite(s): Minimum of 6 hours of undergraduate psychology.

PSYC 5300 - Psychosocial Issues in HIV/AIDS

3 hours

Examines the psychosocial factors that are related to health-related behaviors in both healthy people and people living with HIV/AIDS. Prepares students who expect to pursue careers in health service fields (e.g., psychologists, physicians, biologists, dentists, etc.) to be conscious of issues that HIV positive people face daily. Students interested in HIV/AIDS as a social phenomenon are encouraged to enroll.

Prerequisite(s): None.

Same as PSYC 4300.

PSYC 5340 - Life-Span Developmental Psychology

3 hours

Examination of developmental behavioral change across the human life span. Special concern is given to the conceptual and empirical bases for such change, with an emphasis on measurement and antecedents. More specific treatments of content areas (e.g., learning, memory, intelligence, personality, stress and coping, mental illness, and death and dying) constitute an integral part of the course.

Prerequisite(s): None.

PSYC 5350 - Counseling for Sexual Dysfunction and Other Psychosexual Disorders

3 hours

Study of the origins and treatment of sexual dysfunctions and other psychosexual disorders. The study includes physical and psychological considerations in etiology, diagnosis and treatment.

Prerequisite(s): None.

PSYC 5420 - Assessment I

4 hours (3;3)

Introduction to and an overview of psychological assessment models, techniques and data collection systems for individuals, groups and organizations with a focus on the assessment of individuals. Emphasis on interviews, behavioral observation and tests of intelligence (Wechsler Scales, Stanford-Binet, Illinois Test of Psycho-linguistic Abilities and group intelligence tests), including administration, scoring, interpretation and report writing.

Prerequisite(s): Admission to a graduate degree program in psychology.

Students who have had a similar course without laboratory credit are required to enroll in a special problems laboratory. Offered fall term/semester only.

PSYC 5430 - Assessment II

4 hours (3;3)

Focuses on methods of assessing an individual's achievement, aptitude, interests and personality. Considers objective and projective techniques as well as individual and group approaches. Includes interviewing, administration, scoring, interpretation and report writing.

Prerequisite(s): PSYC 5420.

Students who have had a similar course without laboratory credit are required to enroll in a special problems laboratory. Offered spring term/semester only.

PSYC 5470 - Vocational Psychology: Developmental Aspects

3 hours

Explores theories of career development and work adjustment, history of vocational psychology, and contemporary issues.

Prerequisite(s): None.

PSYC 5580 - Introduction to Marriage and Family Therapy

3 hours

Survey of methods and techniques used in the treatment of marital and family problems, and a professional orientation with particular emphasis on legal and ethical implications in the practice of marriage and family counseling.

Prerequisite(s): PSYC 5590 or equivalent, or consent of department.

PSYC 5590 - 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.

Prerequisite(s): None.

PSYC 5640 - Cognitive and Affective Bases of Behavior

3 hours

Theories of research on social, psychological and biological dimensions of learning, cognition, affect, memory and motivation (e.g., culture, self-concept, perception, cognition, emotion, genotype and maturation).

Prerequisite(s): PSYC 4690 or PSYC 4800 or equivalent, or consent of department.

PSYC 5670 - Behavioral and Biopsychosocial Challenges within LGBT Communities

3 hours

Understanding the health-related behaviors and psychosocial factors associated with sexual minorities (LGBT: lesbian, gay, bisexual and transgendered), primarily in the U.S. Designed for healthcare workers, educators, service providers and individuals who work with or are interested in LGBT communities.

Prerequisite(s): None.

Meets with PSYC 4670.

PSYC 5680 - Foundations of Counseling Psychology

3 hours (3;2)

Introduction to counseling psychology theories, models of counseling and psychotherapy, and counseling methods.

Prerequisite(s): None.

PSYC 5690 - Legal and Ethical Issues in Professional Practice

3 hours

Intensive overview of legal procedures, state regulations and ethical guides relevant to professional practice.

Prerequisite(s): Consent of department.

PSYC 5700 - Quantitative Methods I

4 hours (3;1)

Graduate-level introduction to statistical methods of data analysis including introduction to robust methods, effect size estimation, correlational methods (e.g., regression), ANOVA. Assumes knowledge from undergraduate course. In lab, students learn to use computer programs for quantitative data exploration and analysis.

Prerequisite(s): An introductory course in statistics.

PSYC 5710 - Quantitative Methods II

4 hours (3;1)

Builds on statistical methods of analysis begun in 5700 with more advanced techniques (e.g., repeated measures, ANOVA, contrasts, mixed design and logistic regression, outliers, factorial design). In lab, students learn to use computer programs for quantitative data analysis.

Prerequisite(s): PSYC 5700 or equivalent.

PSYC 5780 - Psychopathology

3 hours

Critical analysis of the classificatory systems, etiology and treatment of psychopathological behavior, with a view toward a sophisticated appreciation of the contemporary status and prospectus of this subject domain.

Prerequisite(s): PSYC 4610 and PSYC 5010 or equivalents, or consent of department.

PSYC 5790 - Physiological Psychology

3 hours

Fundamentals of physiological psychology, including basic neurophysiological laboratory techniques and a survey of current research with an in-depth study in one research area by each student.

Prerequisite(s): PSYC 4640 or its equivalent, or consent of department.

PSYC 5820 - Assessment Practicum

1–3 hours

Administer, synthesize, evaluate and communicate the results of psychological tests under supervision in various assessment settings approved by faculty.

Prerequisite(s): Grade of B or better in PSYC 5420 and PSYC 5430 (or consent of department); cumulative B average; no deficiencies; approved degree plan.

Open only to graduate students in psychology. May be repeated for credit.

PSYC 5831 - Psychological Methods Practicum

1–3 hours

Supervised practicum in a mental health services delivery agency. Experiences vary with mission and population served by the agency.

Prerequisite(s): B or better in at least 6 hours of PSYC 5820 and/or recommendation of program committee.

Open only to graduate students in psychology. May be repeated for credit.

PSYC 5832 - Psychological Methods Practicum

1–3 hours

Supervised practicum in a mental health services delivery agency. Experiences vary with mission and population served by the agency.

Prerequisite(s): B or better in at least 6 hours of PSYC 5820 and/or recommendation of program committee.

Open only to graduate students in psychology. May be repeated for credit.

PSYC 5850 - Sport and Exercise Pathology Practicum

1–3 hours

Supervised active participation in sport and exercise psychology activities within a sport or health-related agency/organization.

Prerequisite(s): Consent of department.

PSYC 5860 - Seminar on the Psychology of Aging

3 hours

Theoretical and research literature concerned with the psychological aspects of aging. Age-related changes in sensation, perception, learning, cognition and personality are considered from both a conceptual and methodological perspective as they bear on adjustment to late adulthood.

Prerequisite(s): PSYC 5010 or advanced study in developmental psychology.

Same as AGER 5860.

May be repeated for credit as topics vary.

PSYC 5890 - Psychological Counseling for Late Maturity and Old Age

3 hours

Study of the predictable and normal dependencies of aging; techniques of individual, family and group counseling applied to later life, with emphasis on problems of retirement, health and bereavement.

Prerequisite(s): None.

Same as AGER 5890.

PSYC 5900 - Special Problems

1–4 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor.

Prerequisite(s): None.

Open only to resident students.

PSYC 5910 - Special Problems

1–4 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor.

Prerequisite(s): None.

Open only to resident students.

PSYC 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school.

Prerequisite(s): None.

Pass/No Pass.

PSYC 6000 - Introduction to Psychotherapy

3 hours

Major models of therapy that emphasize an emotional or cognitive approach to corrective experience. Emphasis on analytic and humanistic theories and techniques, as well as the empirical evidence underlying them.

Prerequisite(s): Consent of department.

PSYC 6020 - Child Psychotherapy

3 hours

Theories, techniques and methods of psychotherapy with children. Emphasis on working with a child within the context of the family system.

Prerequisite(s): None.

Open only to doctoral students in clinical and counseling psychology.

PSYC 6022 - Application of Counseling Methods

2 hours

Preparation for applied work in counseling psychology, emphasizing specific theoretical orientations to interviewing in counseling and psychotherapy.

Prerequisite(s): None.

Open only to graduate students in psychology.

PSYC 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.

PSYC 6060 - Group Psychotherapy

3 hours

Overview of the use of group psychotherapy. Involves experience as the leader of a therapeutic or "quasi-therapeutic" group.

Prerequisite(s): PSYC 6000.

For doctoral candidates in clinical and counseling psychology.

PSYC 6100 - Psychopharmacology

3 hours

Review of basic principles of pharmacology, major classes of psychoactive drugs, drug side effects, drug interactions and risk-benefit considerations in the use of prescription medications. Practical and ethical issues for the health professional are addressed.

Prerequisite(s): Consent of instructor.

PSYC 6110 - Ethics in Clinical Health Psychology Consultation

3 hours

Ethical issues facing clinical health psychologists in health care settings. Malpractice risks related to health services (e.g., managed health care; privacy, consent, hospital record access; quality and review related to issues; interdisciplinary relationships, hospital privileges, multiple codes of ethics/legal constraints and hierarchical responsibility for medical regimes; medical liaison consultation with under-served populations).

Prerequisite(s): Consent of department.

PSYC 6120 - Advanced Psychotherapy Techniques

3 hours (2;1)

Demonstrations and experiential exercises intended to help the student develop proficiency in a wide range of intervention techniques, including Socratic dialogue, imagery, free recall, role playing, therapeutic writing, relaxation training, dream work and self-awareness exercises.

Prerequisite(s): Consent of instructor.

PSYC 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.

PSYC 6130 - Assessment and Treatment of Substance Abuse

3 hours

History of alcohol and drug use across cultures and the emergence of distinctions, sanctions and prohibitions. The major categories of psychotropic substances are reviewed, along with their chemical and behavioral effects. Characteristics of users and abusers are discussed. Various treatment approaches and their effectiveness are evaluated.

Prerequisite(s): Consent of instructor.

PSYC 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.

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.

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.

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.

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.

PSYC 6200 - Advanced Topics Seminar in Psychology

1–3 hours

Issues and topics of current interest and importance in psychology not covered by current course offerings.

Prerequisite(s): Consent of department.

May be repeated for credit.

PSYC 6300 - Theory and Application of Multicultural Counseling

3 hours

Focuses on increasing understanding and appreciation of human diversity. Survey of different world views, cultural values and treatment strategies for addressing needs of individuals from unique racial/ethnic backgrounds, religious affiliations and sexual orientations.

Prerequisite(s): Consent of instructor.

PSYC 6350 - Pediatric Psychology

3 hours

Medical and psychological issues related to childhood illnesses with intervention strategies, sample protocols and case examples of disorders in pediatric psychology settings. Advances, research and strategies for early childhood diseases, chronic conditions, suicide,

consultation/liaison services, assessing and developing interventions; treatment adherence and compliance; educating and supporting the patient, family and staff.

Prerequisite(s): None.

PSYC 6400 - Research 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.

PSYC 6410 - Psychopathology and Treatment of Adolescents and Young Adults

3 hours

Intensive program, designed primarily for advanced students in clinical or counseling psychology, concerning the nature and causes of psychopathology in adolescents and young adults, as well as current theories and treatments.

Prerequisite(s): Consent of department.

PSYC 6420 - Neuropsychological Assessment

4 hours (3;1)

Assessment of brain-behavior relationships frequently encountered in clinical settings, with particular emphasis on the Halstead-Reitan test battery for adults and the Reitan-Indiana test battery for children.

Prerequisite(s): PSYC 5420 or equivalent, and consent of department.

PSYC 6450 - Psychodiagnostic Assessment

4 hours (3;3)

Advances in psychodiagnostic assessment emphasizing the core personality battery to evaluate diagnosis, indicate prognosis and inform treatment, especially recommendations for psychotherapy. Includes scientific basis for selection and use of instruments given their different psychometric properties. Emphasizes consolidation of competence with projective methods and integration of findings across assessment techniques.

Prerequisite(s): PSYC 5430.

PSYC 6460 - Structured Interviews and Advanced Assessment Methods

4 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.

PSYC 6480 - Ethics in Clinical Psychology

3 hours

Intensive seminar of professional ethics and legal issues confronting clinical psychology. In addition to a theoretical grounding, students are asked to grapple with ethical quandaries via training experiences that include analysis of clinical and legal cases; role playing of ethical and professional-practice dilemmas; and participation in a mock oral examination of ethical and legal issues.

Prerequisite(s): PhD student in psychology and consent of instructor.

PSYC 6520 - Forensic Psychology: Theory and Practice

3 hours

Combined theoretical and applied emphasis provides specialization in forensic psychology. Seminar includes criminal (e.g., insanity and sentencing) and civil (e.g., malpractice and personal injury) topics.

Prerequisite(s): PSYC 5430 or consent of department.

PSYC 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.

Prerequisite(s): None.

PSYC 6570 - Developmental Health Psychology

3 hours

Health and illness are explored from a developmental perspective. Psychological symptoms are discussed from a cause/effect perspective along with contributions of psychosocial variables. Medical and behavioral interventions are discussed.

Prerequisite(s): None.

PSYC 6610 - Independent Research

4 hours

Initiation and conduct of advanced research projects and the dissemination of the results. The purposes are to engender appreciation for scholarship and engage students in research projects with a high probability of journal publication.

Prerequisite(s): Doctoral standing in psychology.

May be repeated for credit.

PSYC 6620 - Supervision

3 hours

Survey of the literature and best practices for supervision in a psychotherapy context. Definitions, theory-based approaches, supervision formats, and research are reviewed. Emphasis on helping students develop supervision skills through supervised experiences.

Prerequisite(s): PSYC 6820, PSYC 6830. Consent of department.

PSYC 6630 - Series on Psychotherapy Theory, Research and Practice

3 hours

Intensive examination of theory, research findings, and techniques of a specific current model of psychotherapy. The goal is to further in-depth understanding and proficiency in application of the approach. A rotating series of psychotherapy models is covered (e.g., cognitive-behavioral approaches, psychodynamic approaches, treatment of trauma, etc.).

Prerequisite(s): PSYC 6820, PSYC 6830. Consent of department.

May be repeated for credit as topics vary.

PSYC 6640 - Theoretical Basis of Counseling Practice

3 hours

Advanced examination of underlying theory of counseling practice, including review of cultural, analytic and brief therapy influences on treatment applications.

Prerequisite(s): Consent of department.

PSYC 6650 - Psychoneuroimmunology

3 hours

Combines information from psychology, endocrinology, immunology and physiology, and the way these relate to disease and/or health. Emphasis is placed on human psychological stress, distress, and immunity and related neuroendocrine pathways.

Prerequisite(s): PSYC 5790 or equivalent.

PSYC 6700 - Psychodynamics

3 hours

Development of intrapsychic processes and patterns of behavior as a part of adjustment to the stresses of life. Emphasis on defensive mechanisms and learned modes of coping with day-to-day problems. Both conscious and unconscious forces in motivation are considered.

Prerequisite(s): Consent of department.

PSYC 6710 - Behavioral Toxicology

3 hours

Examination of a range of environmental determinants that may be toxic to the human condition. Considers the implications of chemical exposure, overcrowding, nutrition, radiation and various pollutants to neuropsychological, behavioral, cognitive-emotional, other psychopathological processes and health risks.

Prerequisite(s): None.

PSYC 6760 - Psychotherapy Methods and Behavioral Medicine

4 hours (3;2)

Systematically reviews theories of psychotherapy and related research. Special attention is given to the mind/body relationship and the role of biopsychosocial factors when developing treatment strategies for individuals confronting psychological and medical problems. Laboratory work includes supervised practice in the design and implementation of behavior change paradigms.

Prerequisite(s): Consent of department.

PSYC 6810 - Multivariate Procedures in Psychology

3 hours

Multiple regression and factor analysis as applied to psychological research, theory and practical applications using statistical software.

Prerequisite(s): None.

Background in statistics and statistical software desirable.

PSYC 6820 - Practicum

1–3 hours

Readings, lectures and discussion to develop an appropriate level of knowledge (e.g., relationship of psychological science and practice, ethics, APA). Teaches technical skills necessary for a scientist-practitioner in the student's specialty. (e.g., empirically-based and evidence-based evaluation and intervention, assessment and consultation).

Prerequisite(s): None.

Open only to students admitted to a graduate program in psychology. May be repeated for credit.

PSYC 6830 - Practicum

1–3 hours

Readings, lectures and discussion to develop an appropriate level of knowledge (e.g., relationship of psychological science and practice, ethics, APA). Teaches technical skills necessary for a scientist-practitioner in the student's specialty. (e.g., empirically-based and evidence-based evaluation and intervention, assessment and consultation).

Prerequisite(s): None.

Open only to students admitted to a graduate program in psychology. May be repeated for credit.

PSYC 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.

PSYC 6840 - Predoctoral Internship

1–3 hours

Required year-long, full-time field placement for all doctoral students in APA accredited programs. Internship is consistent with objectives of student's program and current professional practices in a variety of agencies, hospitals, medical schools or other internship sites.

Prerequisite(s): Completion of all course work (except PSYC 6950) and passage of the specialty exam.

Open only to PhD candidates. Pass/no pass only.

PSYC 6850 - Predoctoral Internship

1–3 hours

Required year-long, full-time field placement for all doctoral students in APA accredited programs. Internship is consistent with objectives of student's program and current professional practices in a variety of agencies, hospitals, medical schools or other internship sites.

Prerequisite(s): Completion of all course work (except PSYC 6950) and passage of the specialty exam.

Open only to PhD candidates. Pass/no pass only.

PSYC 6900 - Special Problems

1–3 hours

Prerequisite(s): None.

PSYC 6910 - Special Problems

1–3 hours

Prerequisite(s): None.

PSYC 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 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): None.

Pass/no pass.

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.

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.

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.

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.

PADM 5040 - Nonprofit Management

3 hours

Characteristics of and leadership in nonprofit organizations, with emphasis on the chief executive, the board and volunteers in activities such as governance, planning and fund raising.

Prerequisite(s): None.

PADM 5050 - Legal Issues in Public Administration

3 hours

Focuses on the relationship between public management and the law. Explores the role of bureaucrats in formulating law and policy through the rule-making process and the control of executive branch agencies by the executive branch, the legislature, and the courts.

Prerequisite(s): None.

PADM 5060 - Seminar in Intergovernmental Relations

3 hours

Analysis of political, administrative and fiscal relationships among governments in the American political system.

Prerequisite(s): None.

May be repeated for credit as topics vary.

PADM 5100 - Local Government Management

3 hours

Organization and management of American local government, including executive leadership, governance structures and service implementation with emphasis on council-manager government.

Prerequisite(s): None.

PADM 5200 - Public Personnel Management

3 hours

Managing human resources in national, state and local governments.

Prerequisite(s): None.

PADM 5210 - 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.

Prerequisite(s): None.

PADM 5220 - Personnel Management in Nonprofit Organizations

3 hours

Examines the uniqueness of personnel management in the nonprofit sector. Emphasis is on the concepts and techniques of, and the laws and ethical standards affecting, nonprofit personnel management. Includes hiring, paying, supervising, motivating, developing, promoting, disciplining and retaining employees (paid or unpaid) in nonprofit and volunteer organizations.

Prerequisite(s): None.

PADM 5300 - Introduction to Planning

3 hours

Examination of state, regional and local government planning. Explores planning theory, the planning process, managing planning, implementing plans and citizen participation.

Prerequisite(s): None.

PADM 5310 - Economic and Community Development

3 hours

Examines the basic role of governance as an instrument of economic and community development in the United States. Focuses on the meaning and application of development primarily on subnational development with particular reference to cities and towns. Topics include economic development tools, politics of development, development financing, and development organizations.

Prerequisite(s): None.

PADM 5400 - Managing Financial Resources

3 hours

Principles of the budgetary process and innovations in budget preparation with emphasis on the role of the budget as a tool for financial control, improving program performance, and policy making. Topics include budget innovation, accounting and financial reporting.

Prerequisite(s): Admission to a program in the Department of Public Administration.

PADM 5410 - Capital Budgeting and Planning

3 hours

Examination of capital budgeting and planning in government. Explores the financial aspects of water and waste water utilities, roads and highways, airports, parks, storm water drainage and other infrastructure. Key dimensions of budgeting, planning and managing public works facilities are detailed through lectures, case studies and papers.

Prerequisite(s): None.

PADM 5420 - Revenue Policy and Administration

3 hours

Examination of the economic, political and administrative issues that governments encounter when making revenue decisions, including how to achieve equity, economic efficiency, and administrative feasibility. Topics include the three principal revenue sources of government – income, sales and property taxes – plus such non-tax sources as user charges, grants-in-aid and lotteries.

Prerequisite(s): Admission to a program in the Department of Public Administration.

PADM 5430 - Financial Accountability in Government

3 hours

Introduction to financial control in government, including fund accounting, financial reporting, internal controls and auditing. Particular emphasis is given to the public manager's use of accounting information in such contexts as budget decision making, pricing government services, cash planning and municipal bond ratings.

Prerequisite(s): None.

PADM 5500 - Administrative Research Methods I

3 hours

Introduction to methods and techniques of applied research and statistical analysis. Topics include probability, descriptive statistics, estimation, hypothesis testing, contingency table analysis and regression analysis.

Prerequisite(s): Admission to a program in the Department of Public Administration.

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.

PADM 5540 - Public Decision Making Techniques

3 hours

Examination of fundamental techniques used to assist public administrators in making decisions. Rationalism, incrementalism, probability models, cost-benefit analysis, forecasting and other methods are explored. The theory and practice of each approach is presented, along with case studies that use each technique.

Prerequisite(s): None.

PADM 5550 - Seminar in Program Evaluation

3 hours

Advanced course in evaluation, performance measurement, and monitoring in the management of government programs. Uses methods of social science to evaluate the effectiveness of government services.

Prerequisite(s): PADM 5510.

PADM 5560 - Performance Measurement in Public and Nonprofit Sectors

3 hours

Overview of the performance measurement process, including benchmarking and performance monitoring in public and nonprofit organizations. The overall objective of the course is to acquaint program administrators and other practitioners with conceptual tools essential to understanding the development of performance measurement systems and the techniques necessary to enable them to apply the concepts in their work environments. Emphasis is on the practical application of the techniques of performance measurement in field settings.

Prerequisite(s): None.

PADM 5700 - Seminar in Public Administration

3 hours

Concepts, problems and processes of public administration.

Prerequisite(s): None.

May be repeated for credit as topics vary.

PADM 5800 - Public Management Internship

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 non-profit 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.

PADM 5900 - Special Problems

1–3 hours

Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Consent of department chair.

PADM 5910 - Special Problems

1–3 hours

Conference courses open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Consent of department chair.

PADM 6010 - Seminar in Public Administration

3 hours

Introduction to the philosophy of science and evaluation of exemplary theoretical and empirical research on public administration. Attention is given to the evolution of public administration theory and practice in relation to historical trends and conditions, including related changes in social, political and management theory. Discussion of emergent trends and conditions relevant to the future development of public administration theory and practice.

Prerequisite(s): None.

PADM 6015 - Public Organization Research and Theory

3 hours

Addresses organizations as units of analysis. Examination of major theoretical and empirical research on the structure and process of public organizations.

Prerequisite(s): None.

PADM 6025 - Institutional Context of Public Administration

3 hours

Examines government bureaucracies and other formal institutional arrangements as key elements in modern social systems. Evaluates the role of society in shaping institutions and how these institutions influence and structure public policy making and administration.

Prerequisite(s): None.

PADM 6035 - Social Science Inquiry

3 hours

Designed to provide a thorough introductory overview of social science research methods. The objectives are to develop understanding of the basic elements of an empirical social science study, how to produce an empirical study, and the major methodological approaches used by contemporary social scientists. Research design and the structure of inquiry, the role of theory in empirical research, argument construction, causal inference, ethics, sampling, approaches to inquiry (quantitative, qualitative, experimental, evaluation) and reporting and reviewing research.

Prerequisite(s): None.

PADM 6110 - Seminar in Public Management I

3 hours

Focus on management theory in the public sector. Includes historical development, major questions in theory and practice, managerial decision making and effectiveness.

Prerequisite(s): PADM 6010, PADM 6015.

PADM 6120 - Seminar in Public Management II

3 hours

Focus on the study of public organization theory. Includes exploration of theoretical and empirical approaches to examining public and nonprofit organizations.

Prerequisite(s): None.

PADM 6310 - Seminar in Public Policy Implementation

3 hours

In-depth study of public policy with emphasis on the role of public administrators in the formation, adoption and implementation of public policy.

Prerequisite(s): None.

PADM 6320 - Seminar in Public Policy Analysis and Program Evaluation

3 hours

Provides an overview of the substance and methodologies of policy research and focuses on the practical application of appropriate methodology to assess the effectiveness of public programs and policies.

Prerequisite(s): PADM 6310.

PADM 6400 - Seminar in Public Financial Policy and Management

3 hours

Examines issues pertaining to the administration of financial resources in the public sector. Study of the issues from the perspectives of different disciplines such as: economics, political science, business administration, planning and public administration.

Prerequisite(s): PADM 5400 and PADM 5420 or equivalents.

PADM 6410 - Seminar in Government Budgeting and Financial Management

3 hours

Examination of the history and development of budgeting and the processes used to manage financial resources at the local, state and federal levels of government in the United States. Topics include the effects of government fiscal affairs, primarily at the federal level, on the economy, and the problems associated with intergovernmental financial management.

Prerequisite(s): None.

PADM 6500 - Analytical Methods for Public Administration Research

3 hours

Emphasizes public-sector applications of decision analysis, queuing theory, projection techniques, mathematical programming, economic base analysis, and simulation.

Prerequisite(s): None.

PADM 6700 - Workshop in Public Administration

1–3 hours

Specialized study on research in public administration. Students learn how to review and critique the relevant literature, how to present work at conferences, and how to write for journal publication.

Prerequisite(s): None.

PADM 6710 - Seminar in Public Administration and Management

3 hours

Concepts, problems and processes of public administration.

Prerequisite(s): Consent of department.

May be repeated for credit as topics vary.

PADM 6900 - Special Problems

1–3 hours

Conference courses for doctoral students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Consent of department.

PADM 6910 - Special Problems

1–3 hours

Conference courses for doctoral students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Consent of department.

PADM 6940 - Directed Research in Public Administration

3 hours

Conference courses for doctoral students. Directed reading and research in fields of special interest.

Prerequisite(s): Consent of department.

PADM 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 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.

Reading

EDRE 5030 - Practicum, Field Problem or Internship

3–6 hours (0;0;3–6)

Supervised professional activities in reading education.

Prerequisite(s): None.

Registration is on an individual basis.

EDRE 5070 - Literacy Development for English Learners

3 hours

Detailed analysis of reading and writing instruction for English language learners. Includes theoretical models, recognition of current issues related to integrated literacy instruction, and delineates best practices for English literacy development in educational settings.

Prerequisite(s): None.

EDRE 5170 - Materials and Recent Developments in Reading

3 hours

Recently developed reading programs, reading techniques and technological advances related to the reading field are examined in light of research.

Prerequisite(s): EDRE 5370 or equivalent.

EDRE 5180 - Advanced Assessment and Evaluation in Reading

3 hours

Exploration of current techniques for assessment and evaluation in reading. Merging assessment and instruction in classrooms is emphasized.

Prerequisite(s): EDRE 5370 or equivalent.

EDRE 5190 - Reading Assessment and Instruction for Special Populations

3 hours

Development, implementation and evaluation of assessment and instructional procedures in reading for special populations. Supervised instruction in a clinic setting is required.

Prerequisite(s): EDRE 5180 or equivalent.

May be repeated once for credit.

EDRE 5200 - Development and Supervision of Reading Programs

3 hours

Analysis of the total reading program, emphasizing specific strategies for improvement of programs.

Prerequisite(s): EDRE 5370 or equivalent.

EDRE 5370 - Advanced Reading Theory/Practice

3 hours

Program designed to provide understanding of the many facets of the reading act, to provide opportunities for evaluation of approaches to teaching reading and to acquaint students with basic research in reading.

Prerequisite(s): EDRE 4820 or equivalent.

EDRE 5510 - Reading Workshop Approaches

3 hours

Provides theory, research and practice related to composition instruction and writing workshop approaches, including classroom organization, the writing process and performance-based assessment practices.

Prerequisite(s): None.

May be repeated for credit with advisor approval for a maximum of 6 hours.

EDRE 5520 - Writing Workshop Approaches

3 hours

Provides theory, research and practice related to composition instruction and writing workshop approaches, including classroom organization, the writing process, and performance-based assessment practices.

Prerequisite(s): None.

May be repeated for credit with advisor approval for a maximum of 6 hours.

EDRE 5550 - Literacy Instruction in Our Culturally Diverse Society

3 hours

Establishes an awareness of the significance of culturally responsive literacy instruction and an understanding of the various components and characteristics of a learning context that support a diverse population. Emphasis on instruction, multicultural children's literature, issues surrounding literacy instruction and assessment of such.

Prerequisite(s): None.

EDRE 5653 - Making the Literacy Connection: Language to Reading

3 hours

Study of the development of literacy in young children through oral language, listening comprehension, alphabetic knowledge, print awareness and reading. Addresses young children's communication, language diversity, age-appropriate characteristics and appropriate instructional techniques to support literacy and reading. Includes techniques for assessment and evaluation of early language development.

Prerequisite(s): None.

Same as EDEC 5653.

EDRE 5800 - Studies in Education

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

EDRE 5810 - Studies in Education

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics are offered on a limited basis, to be repeated only upon demand.

Prerequisite(s): None.

May be repeated for credit.

EDRE 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor.

Prerequisite(s): None.

Open only to resident students.

EDRE 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

Real Estate

REAL 5350 - Introduction to Real Estate and Investment Analysis

3 hours

Advanced survey course on real estate, including topics in urban land economics, appraisal, law, finance, taxes and investments. Emphasis is on investment analysis of commercial property.

Prerequisite(s): None.

REAL 5400 - Advanced Real Estate Valuation

3 hours

In-depth study, application and evaluation of the theory and methods of residential and income property appraisal. Topics include case study analyses of the market comparison approach, the income capitalization approach and the cost approach to estimating value. Graduate students are required to complete group work, as well as a sequence of approximately ten complete case study solutions and presentations.

Prerequisite(s): REAL 5350 or consent of department.

Meets with REAL 4400.

REAL 5440 - Advanced Real Estate Finance and Analysis

3 hours

Emphasis on the financial management of real estate assets in an institutional setting with special attention given to evaluation and control of risk and return trade-off by the decision maker. Additional topics to be included are real estate finance instruments, financing techniques, real estate financing institutions and markets.

Prerequisite(s): REAL 5350 or consent of department.

REAL 5750 - Real Estate Market and Feasibility Analysis

3 hours

Analysis of financial and non-financial factors influencing the investment feasibility of income-producing property.

Prerequisite(s): REAL 5350 or consent of department.

REAL 5760 - Advanced Real Estate Investments and Analysis

3 hours

Analysis of commercial real estate investments. Focus is on the theory and methods of investment analysis in respect to tax and financial consequences.

Prerequisite(s): REAL 5350 or consent of department.

REAL 5780 - Seminar in Real Estate Research

3 hours

Reading and analysis of current real estate literature and research. Topics vary.

Prerequisite(s): REAL 5350, REAL 5440, REAL 5760.

REAL 5800 - Internship

1–3 hours

Supervised work experience in a position related to the student's career objective that meets the department's internship requirements.

Prerequisite(s): Student must meet employer's requirements and have consent of the department's advisor.

Pass/no pass only.

REAL 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

Recreation, 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.

Prerequisite(s): None.

RESM 5050 - Management of Recreation and Sport Organizations

3 hours

The application of management principles and practices as they relate to the successful operations of recreation and sport organizations.

Prerequisite(s): None.

Same as KINE 5050.

RESM 5060 - Areas and Facilities for Recreation and Sport

3 hours

Design, construction and maintenance of recreation and sport areas and facilities.

Prerequisite(s): None.

Same as KINE 5060.

RESM 5070 - Psychosociological Dynamics of Leisure Behavior

3 hours

Examination of the psychosociological dynamics of leisure behavior.

Prerequisite(s): None.

RESM 5080 - Program Design in RESM

3 hours

Theory and techniques for developing recreation, event, and sport programs. Topics include the program development cycle, marketing RESM services, the case study approach to program analysis, program design and planning, applying creativity to the program design process and program supervision and evaluation.

Prerequisite(s): None.

RESM 5100 - Survey Research Design and Analysis

3 hours

Application of survey research design and analysis techniques necessary for scientific investigations in the recreation, event and sport related industries. Emphasis is placed on strategies for designing surveys and data sampling schemes, data analysis techniques, and interpretation of statistical analysis results.

Prerequisite(s): None.

Same as HLTH 5100. Same as KINE 5100.

RESM 5110 - Critical Analysis of Professional 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.

Prerequisite(s): None.

RESM 5120 - Diversity and Inclusion in Recreation, Event and Sport Management

3 hours

The multifaceted needs of diverse clients and participants in recreation, event and sports 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 as well as individuals with disabilities are a thread throughout the course.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

Same as KINE 5140.

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.

Prerequisite(s): None.

RESM 5510 - Revenue Generation and Sales in Sport Organizations

3 hours

Focuses on the unique revenue generating procesess of various professional, amateur and recreational sport organizations. Particularly, students learn about the importance of sponsorship, in-game promotions and ticket sales. Students learn pricing and sales strategies for maximizing revenues for sport organizations and events.

Prerequisite(s): None.

RESM 5520 - Strategic Marketing for Sports and Event Organizations

3 hours

Designed to provide students with opportunities 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. Consists of multiple teaching techniques designed to promote a learning environment that is both theoretically and practically driven.

Prerequisite(s): None.

RESM 5530 - Sport Law and Risk Management

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, recreational and event industries.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

Meets with RECR 4760.

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.

RESM 5850 - Trends and Issues in Recreation, Event and Sport Management

3 hours

Concepts, research, analytical methods and literature drawn from the leading scholars in the various areas of the field.

Prerequisite(s): None.

RESM 5860 - Practicum in Recreation, Event and Sport Management

3 hours

Supervised professional activities and experiences.

Prerequisite(s): Consent of department.

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.

Prerequisite(s): None.

RESM 5900 - Special Problems in Recreation, Event and Sport Management

1–6 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences with the instructor.

Prerequisite(s): Consent of department.

Maybe repeated for credit.

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.

RESM 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): Consent of department.

May be repeated for credit.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

RHAB 5250 - Topics in Rehabilitation

1–3 hours

In-depth analysis and discussion of significant topics in rehabilitation. Topics may include but are not limited to the following: psychiatric rehabilitation; biofeedback/neurofeedback; issues in private rehabilitation.

Prerequisite(s): None.

May be repeated for credit as topics vary.

RHAB 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.

Prerequisite(s): None.

RHAB 5500 - Management and Supervision in Rehabilitation

3 hours

Basic principles and practices of management and supervisory concepts as applied to the operation of a rehabilitation facility or agency.

Prerequisite(s): None.

RHAB 5700 - Introduction to Rehabilitation

3 hours

Introduction to human rehabilitation with emphasis on vocational rehabilitation. Study includes the philosophical legislative and organizational foundations. Reviews rehabilitation practice, professional issues and a broad overview of the context in which rehabilitation occurs.

Prerequisite(s): None.

RHAB 5710 - Rehabilitation in a Multicultural Society

3 hours

Exploration of ethnic and cultural factors influencing the planning and delivery of rehabilitation and related services. Includes examination of disability within various racial and ethnic groups along with ways to work with diverse populations.

Prerequisite(s): None.

RHAB 5715 - Disability Issues in Human Development

3 hours

Covers the effects of disability, chronic illness and addiction on the process of human growth and personality development across the lifespan. Focuses on rehabilitation counseling issues related to physical, emotional, cognitive, behavioral, sexual and moral/spiritual development in persons with disabilities and their families.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

RHAB 5720 - Rehabilitation Counseling Theories

3 hours

Includes the study of major counseling theories and modalities with focus on principles and approaches relevant to rehabilitation counseling and supervision. Covers applications required in counseling people with physical, cognitive or emotional disabilities.

Prerequisite(s): None.

RHAB 5721 - Rehabilitation Counseling Applications

3 hours

Includes the study and application of the counseling process, strategies and techniques used by rehabilitation counselors. Students develop generic counseling skills applicable to work across a spectrum of rehabilitation counseling settings.

Prerequisite(s): Successful completion of RHAB 5720.

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 5721.

RHAB 5723 - Group Work and the Rehabilitation Process

3 hours

Study of group work and theory within rehabilitation practice. Includes group/family dynamics as well as leadership style, team work and skill development with specific application to rehabilitation settings.

Prerequisite(s): None.

RHAB 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

RHAB 5732 - Principles of Psychiatric Rehabilitation and Recovery

3 hours

Primary focus is on the adult diagnosed with psychiatric disabilities. Students explore evidenced based practices for service provision to persons with severe and persistent mental illnesses. DSM V 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.

Prerequisite(s): None.

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-VI, ICD, ICF), treatment interventions that include psychopharmacological interventions, and prognosis for independent functioning among individuals with disabilities.

Prerequisite(s): RHAB 5720, RHAB 5730.

RHAB 5735 - Alcohol and Other Drug 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.

Prerequisite(s): None.

RHAB 5740 - Rehabilitation Assessment

3 hours

Orientation to the process and practice of assessing adults with disabling conditions for rehabilitation plan development and 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 IV, Ecological and Assistive Technology assessment.

Prerequisite(s): None.

RHAB 5741 - Employment and Career Development

3 hours

Involves the investigation and study of theories and other practices associated with successful job placement activities. Includes transferable skills analysis, labor market analysis, job seeking skills training, employer identification, management of a job development campaign, as well as supported employment strategies. Technology related to these areas is explored.

Prerequisite(s): None.

RHAB 5742 - Professional and Ethical Issues in Rehabilitation Case Management

3 hours

Covers professional, ethical and legal principles that guide the practice of case management in the field of rehabilitation counseling.

Prerequisite(s): None.

RHAB 5770 - Rehabilitation Research and Program Evaluation

3 hours

Designed to provide an understanding of research methods used in rehabilitation programs. Rehabilitation program evaluation and basic statistics, research methods, outcome-based research and ethical/legal/cultural issues related to research are explored.

Prerequisite(s): None.

RHAB 5811 - Practicum in Rehabilitation

3 hours

A minimum of 100 clock hours of supervised experiences in the student's area of concentration, to be performed in one of the on-campus DRSWA vocational rehabilitation laboratories and in related community agencies. Course includes 1–3 hours each week of counseling lab, group supervision and seminar in ethical and professional issues in the practice of rehabilitation.

Prerequisite(s): Consent of department.

RHAB 5812 - Internship in Rehabilitation

6 hours

A 600-hour applied experience in the student's area of concentration in a rehabilitation agency or facility external to the university. Course includes a 1-hour-per-week seminar and group supervision meeting.

Prerequisite(s): RHAB 5811. Consent of department.

RHAB 5900 - Special Problems

1–3 hours

Prerequisite(s): None.

May be repeated for credit as topics vary.

RHAB 5910 - Special Problems

1–3 hours

Prerequisite(s): None.

May be repeated for credit as topics vary.

RHAB 5920 - Problems in Lieu of Thesis

3 hours

Prerequisite(s): None.

RHAB 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school.

Prerequisite(s): None.

Continuous enrollment required once work on thesis has begun. May be repeated for credit.

RHAB 6700 - Professional Issues and Disability Policies

3 hours

Highlights key concepts in the field of rehabilitation and disability-related public policies. Enhances the understanding of critical topics in professional issues and disability policy and increases understanding of the interactions between disability, public policy and public health. Provides opportunities to evaluate and understand aspects of disability policy and social issues that affect the lives of persons with disabilities and their families, including state, regional, national and international forces and trends. Topics include, but are not limited to, legislation impacting the field of rehabilitation and individuals with disabilities; ethical issues related to disability rights and rehabilitation; and recent developments in U.S. and international human rights and comparative disability policy.

Prerequisite(s): Consent of instructor.

RHAB 6715 - Advanced Psychosocial Aspects of Disability Across the Lifespan

3 hours

Requires students to review the scholarly literature relevant to psychosocial adaptation to disability, including the application of developmental theories to explain the impact of disability at various life stages in the human developmental process, psychological, social and environmental factors that may facilitate or hinder adjustment to disability, and the application of counseling and other therapeutic strategies which facilitate positive psychosocial adaptation to disability.

Prerequisite(s): Consent of instructor.

RHAB 6730 - Disability, Health and Functioning

3 hours

Discusses theories of disability, functioning, health and wellness, and reviews the historical and contemporary concepts, terms and scholarship associated with rehabilitation and health-related services. Medical and functional implications of disability as it relates to the rehabilitation process is covered, as well as, etiology, treatment, prognosis and vocational implications for persons with disabilities. Conceptualizations of chronic illness and disability as conceptualized from the perspective of WHO, ICF and ICD are examined.

Prerequisite(s): Consent of instructor.

RHAB 6740 - Measurement and Evaluation

3 hours

Offers an introduction to basic concepts and issues in measurement including descriptive statistics, scales of measurement, norms, reliability, and validity. An overview of psychometric theory underlying test construction; classical test theory, item response theory, and applications are included. Advantages and limitations of measurement techniques, their issues and applications are discussed and illustrated. Presents the implications of the theory of program evaluation and related techniques on the standards of quality professional practice.

Prerequisite(s): Consent of instructor.

RHAB 6900 - Special Topics in Rehabilitation Science

1-3 hours

Research by Health Services Research doctoral students with a concentraton in Rehabilitation Science, in an area of special interest. Includes supervised projects, research studies and field-based data collection.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary for a maximum of 6 hours.

RHAB 6950 - Doctoral Dissertation in Rehabilitation Science

3, 6 or 9 hours

To be scheduled only with consent of department. A minimum of 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.

Pass/no pass only. May be repeated for credit.

Risk Management and Insurance

RMIN 5730 - Risk Management Techniques for the Business Executive

3 hours

Designed to acquaint the student with the economic concept of risk; types of risk and techniques for the discovery, evaluation and treatment of pure risk in the business situation. Examination of the nature of insurance and other risk treatment techniques; the role of the risk manager within the firm; industrial accident prevention as related to the risk manager's role; types of loss and their financial impact on the costs of loss prevention versus its benefits; the risk manager's relationship with insurers; and current problem areas for risk management today, as time allows.

Prerequisite(s): None.

RMIN 5770 - Employee Benefits and Other Business Uses of Life and Health Insurance

3 hours

Buy-sell agreements for businesses and life/disability income insurance funding, tax implications, group life, medical expense and disability income insurance plans, health maintenance organizations, pension plans, profit sharing plans, individual retirement accounts, Keogh plans, tax implications and regulation.

Prerequisite(s): None.

RMIN 5780 - Financial and Estate Planning

3 hours

Designed to prepare students to assist individuals with their financial and estate planning. Study of appropriate strategies, the planning process and pertinent statutes as well as selected tools and techniques utilized in the acquisition, conservation, management and disposition of property. Covers insurance and investment programs, buy-sell agreements, tax planning and shelters, wills, trusts, powers of appointment and other related topics in conjunction with applicable income, gift and estate tax provisions.

Prerequisite(s): None.

RMIN 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problem chosen by the student and developed through conferences and activities under the direction of the instructor.

Prerequisite(s): Approved applications for special problems/independent research/dissertation credit must be submitted to the CoB Graduate Programs Office prior to registration.

Sacred Music

MUSM 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

Secondary Education

EDSE 5001 - Public Education and the Teaching Profession

3 hours

Provides an overview of the teaching profession and an understanding of the history, structure, purposes, organization and management of the American education systems.

Prerequisite(s): None.

EDSE 5003 - Successful Teaching in the Secondary School

3 hours

Provides preparation for successful teaching in the contemporary secondary school. Focus on instructional planning, teaching strategies, classroom management and other teacher competencies necessary in today's diverse classrooms.

Prerequisite(s): EDSE 5001, EDCI 5010.

EDSE 5004 - Literacy for All

3 hours

Provides a brief overview of relevant theory with emphasis on practical applications. Designed to help prospective and practicing middle and secondary school teachers in all content areas increase and enhance students' learning, especially from printed materials. Also helps secondary teachers recognize and compensate for the variety of students' ability levels. Includes cognition related to reading, Metacognition, schemata, constructivism, vocabulary learning, writing to learn, literacy strategy instruction, assessment of literacy, text analysis, academic diversity and the use of resources other than textbooks to enhance learning.

Prerequisite(s): None.

EDSE 5030 - Field Experiences in Secondary Schools

3 hours

Supervised professional activities in secondary schools.

Prerequisite(s): Bachelor's degree.

EDSE 5310 - Pedagogical Content Knowledge for Teachers of Algebra

3 hours

Research-based practices in the teaching of algebra. Focuses on the nature of algebraic thinking and reasoning as well as the overarching algebraic concepts.

Prerequisite(s): Certification in middle or secondary mathematics or consent of instructor.

EDSE 5320 - Pedagogical Content Knowledge for Teachers of Geometry

3 hours

Research-based practices in the teaching of geometry. Focuses on the nature of geometric thinking and reasoning as well as the overarching geometric concepts.

Prerequisite(s): Certification in middle or secondary mathematics or consent of instructor.

EDSE 5330 - Assessment of Learning in Mathematics Education

3 hours

Emphasis on alternatives for evaluating mathematical thinking. Attention is given to concept mapping and clinical interviewing from a constructivist perspective.

Prerequisite(s): Certification in middle or secondary mathematics or consent of instructor.

EDSE 5340 - Innovations in Mathematics Teaching and Learning

3 hours

Knowledge and skills for adopting innovations in mathematics teaching and learning. Attention is given to situated learning and to equitable learning opportunities for students.

Prerequisite(s): Certification in middle or secondary mathematics or consent of instructor.

EDSE 5400 - Curriculum Development in the Middle School

3 hours

Analysis of the bases and techniques for curriculum development in the middle school with particular emphasis on the nature of the early adolescent learner and salient elements of middle school theory. Includes practical problems in developing curricula for middle schools and implementation of innovation in the middle school setting.

Prerequisite(s): None.

Same as EDEE 5400.

EDSE 5440 - Curriculum Development in the Secondary School

3 hours

Practical problems in developing courses of study and curricula for the secondary school according to accepted psychology, sound education theory and national objectives.

Prerequisite(s): None.

EDSE 5460 - Improvement of Secondary Teaching

3 hours

Derivation of appropriate methods and techniques from basic principles of learning. The development of working skills needed in cooperative planning, selecting and organizing teaching materials, utilization of the environment, individual and group guidance, and evaluation activities for the secondary school.

Prerequisite(s): None.

EDSE 5710 - Basic Research and Evaluation for Secondary Teachers

3 hours

Basic skills in reading and interpreting research are developed. Students are introduced to elementary statistical concepts in measurement and evaluation. Should be taken upon first registration for the master's degree. Admission procedures are completed and a degree plan is prepared.

Prerequisite(s): None.

EDSE 5720 - Evaluation Seminar

3 hours

Demonstration on the part of candidates, through oral and written examination and completion of certain projects, of competency in special field and related areas of the degree program.

Prerequisite(s): None.

Scheduled during last resident registration in the Master of Education degree program.

EDSE 5800 - Studies in Education

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics organized on a limited-offering basis, to be repeated only upon demand.

Prerequisite(s): None.

Same as EDCI 5800. Same as EDEE 5800.

May be repeated for credit.

EDSE 5810 - Studies in Education

1–3 hours

Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by the regular offerings. Short courses and workshops on specific topics organized on a limited-offering basis, to be repeated only upon demand.

Prerequisite(s): None.

Same as EDCI 5810. Same as EDEE 5810.

May be repeated for credit.

EDSE 5900 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor.

Prerequisite(s): None.

Open only to resident students.

EDSE 5910 - Special Problems

1–3 hours

Open to graduate students who are capable of developing a problem independently. Problems chosen by the student and approved in advance by the instructor.

Prerequisite(s): None.

Open only to resident students.

EDSE 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

Social Work

SOWK 5100 - Seminar in Social Welfare Policies and Issues

3 hours

Selected social welfare policies and issues in the United States, their history and development, and their significance in the delivery of social welfare services.

Prerequisite(s): None.

SOWK 5103 - Human Behavior in the Social Environment I

3 hours

Examines the dynamics of human behavior in society, families and groups, from a wide range of perspectives including biological, psychological, systems and social/environmental. With an emphasis on strengths, focuses on developmental theories and practical knowledge covering populations from birth to young adulthood.

Prerequisite(s): None

SOWK 5113 - Human Behavior in the Social Environment II

3 hours

Analyzes bio-psycho-social developmental theories and practical knowledge of people from young adulthood 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.

Prerequisite(s): SOWK 5103.

SOWK 5203 - Social Work Practice I Individuals and Systems

3 hours

Promotes competence in micro practice skills with individuals. Covers engagement at each stage of the intervention process. Focuses on solution focused, cognitive behavioral and task-centered approaches. Introduction to assessment of individuals in family and environmental contexts.

Prerequisite(s): Formal admission to the MSW program.

SOWK 5213 - Social Work Practice II 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.

SOWK 5223 - Social Work Practice III Groups

3 hours

Focuses on developing knowledge, skills and competency in facilitating small groups in a variety of practice settings. Covers theoretical approaches and each stage of the group process, including group dynamics and impact of member characteristics. Analyzes ethics and confidentiality issues in relation to group practice. Experiential learning includes role-playing and simulation exercises.

Prerequisite(s): SOWK 5203, SOWK 5213.

SOWK 5233 - Social Work Advanced Practice I

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.

SOWK 5243 - Social Work 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.

Prerequisite(s): Formal admission to the MSW program.

SOWK 5253 - Social Work Advanced Practice II Interventions

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.

Prerequisite(s): SOWK 5233.

SOWK 5303 - Social Work History and Social Welfare Policy

3 hours

Examination 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. Emphasis upon the mutual relationships among policy, practice and research. Investigation of the impact of social policy upon diverse and vulnerable groups.

Prerequisite(s): None.

SOWK 5313 - Social Work Policy Practice

3 hours

Introduces foundational knowledge and skills in policy practice, including the policy-making process and intervention techniques aimed at impacting and changing social welfare and public policies. Analysis of contemporary social issues, public policy and social welfare programs. Examination of global influences that affect U.S. social policy.

Prerequisite(s): SOWK 5303.

SOWK 5323 - Social Work Administration and Management

3 hours

Addresses administration and management leadership across a variety of human service settings with an emphasis on managing competing and limited resources. Examines organizational theory, knowledge and skills for effective administration and management including planning, supervision, developing agency policy and procedure, working with boards, budgeting, fund raising and grant writing.

Prerequisite(s): Formal admission to the MSW program.

SOWK 5333 - Social Work Advanced Policy Analysis

3 hours

Builds upon policy practice skills and knowledge and macro community practice techniques. Presents frameworks for policy research and analysis. Advanced analysis and critique of social welfare policies that affect families and diverse and oppressed populations. Advocacy and intervention techniques aimed at positively impacting social welfare and public policies. Focus upon legislative research and written and verbal persuasion skills.

Prerequisite(s): SOWK 5323.

SOWK 5403 - 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.

Prerequisite(s): None.

SOWK 5413 - Social Work Program and Practice Evaluation

3 hours

Builds upon quantitative and qualitative methods and analysis in order to gain knowledge and skills about practice and program accountability and effectiveness. Focuses upon evaluation of social work practice and programs including single system design, needs assessments, and process and outcome evaluation. Covers use of logic models in program design and evaluation.

Prerequisite(s): Formal admission to the MSW program

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.

Prerequisite(s): None.

SOWK 5503 - 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.

Prerequisite(s): None.

SOWK 5513 - 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.

Prerequisite(s): None.

SOWK 5533 - 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.

Prerequisite(s): None.

SOWK 5543 - 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.

Prerequisite(s): None.

SOWK 5553 - 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.

Prerequisite(s): None.

SOWK 5803 - Social Work Foundation Field Seminar and Field Practicum I

3 hours

Facilitates integration of foundation field practicum 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. Includes a supervised social work field practicum in a community agency or program related to current course work. Practice experience and demonstration of foundation social work skills in an applied setting. Requires a minimum of 200 clock hours at the agency.

Prerequisite(s): Acceptance into practicum and satisfactory completion of SOWK 5103, SOWK 5203, SOWK 5213, SOWK 5303 and SOWK 5403.

Corequisite(s): SOWK 5113, SOWK 5223 and SOWK 5313.

SOWK 5813 - Social Work Foundation Field Seminar and Field Practicum II

3 hours

Facilitates integration of foundation field practicum and all foundation level classroom learning through processing and discussion of field issues and situations. Students gain knowledge of and apply evaluation of practice. Includes practice in a community agency or program related to current course work, which is a supervised social work field practicum in an agency setting. Practice experience and demonstration of foundation social work skills in an applied setting. Requires a minimum of 200 clock hours at the agency.

Prerequisite(s): SOWK 5803.

SOWK 5833 - Social Work Advanced Field Seminar and Field Practicum I

3 hours

The seminar facilitates integration of advanced field practicum and classroom learning through processing and discussion of field issues and situations. Assignments based upon advanced field social work topics. Supervised social work field practicum in an agency setting. Includes practice in a community agency or program related to current course work. Practice and demonstration of advanced year social work skills in an applied setting. Requires a minimum of 250 clock hours in the agency.

Prerequisite(s): Acceptance into practicum.

SOWK 5843 - Social Work Advanced Field Seminar and Field Practicum II

3 hours

The seminar facilitates integration of advanced field practicum and classroom learning through processing and discussion of field issues and situations. Assignments based upon advanced field social work topics. Supervised social work field practicum in an agency setting. Includes practice in a community agency or program related to current course work. Practice and demonstration of advanced year social work skills in an applied setting. Requires a minimum of 250 clock hours in the agency.

Prerequisite(s): Acceptance into practicum and satisfactory completion of SOWK 5233, SOWK 5323, SOWK 5413 and SOWK 5833.

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.

Prerequisite(s): None.

May be repeated for credit as topics vary.

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.

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.

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.

SOWK 5973 - Advanced Integrative Seminar

3 hours

Advanced seminar course in which students integrate concepts from across the curriculum and demonstrate cumulative knowledge gained from all areas of the program in one focused assignment, within the context of the student's chosen concentration. Required of all non-thesis students in their final semester of course work.

Prerequisite(s): SOWK 5833.

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.

Sociology

SOCI 5010 - Social and Cultural Foundations of Human Behavior

3 hours

Intensive study of the conceptual framework of sociology and its application to contemporary society. Topics include social change, ethnic groups, sex roles, urban and rural societies, population patterns, culture, differing lifestyles and the role of sociology in influencing individual and group behavior.

Prerequisite(s): Consent of department or instructor.

SOCI 5030 - Complex Organizations

3 hours

Structure and process in large-scale organizations; theories of bureaucracy and related types of organizations; interrelationships of formal and informal organizations.

Prerequisite(s): 6 hours of advanced sociology or consent of department or instructor.

SOCI 5050 - 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.

SOCI 5100 - Social Psychology

3 hours

Comparative analysis of the major sociological theories of social psychology.

Prerequisite(s): None.

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 4870 or equivalent, or consent of program chair or instructor.

SOCI 5210 - Introduction to Social Statistics

3 hours

Probability theory, descriptive statistics, nonparametric statistics and the general linear model, including multiple regression analysis, and their application in sociological research.

Prerequisite(s): SOCI 4880 or equivalent.

SOCI 5260 - Topics in Sociology

3 hours

Graduate seminar devoted to investigation, analysis and discussion of significant problems in contemporary sociology.

Prerequisite(s): None.

May be repeated for credit.

SOCI 5300 - Social Stratification

3 hours

Types of stratification; theories of stratification and its function in society; the methodology of stratification studies.

Prerequisite(s): None.

SOCI 5305 - Sociology of Gender

3 hours

Explores sociological theories of gender. Presents foundational debates in the study of gender.

Prerequisite(s): None.

SOCI 5310 - Seminar on Occupations and Professions

3 hours

Hierarchies of occupational status; work roles in relation to other social identities, power configurations and cultural norms; problems in measurement and theory of professionalization.

Prerequisite(s): None.

SOCI 5320 - Seminar on the Family

3 hours

Advanced studies of family roles, structures and cycles.

Prerequisite(s): SOCI 3000 or consent of department or instructor.

SOCI 5330 - Seminar on Race and Ethnicity

3 hours

Historical and institutional theories of race relations; contemporary forms of racism; and exploration into possible social, institutional and policy solutions to the social problems linked to racism.

Prerequisite(s): None.

SOCI 5350 - Seminar on Urbanization

3 hours

Application of ecological and demographic methods to the study of urban and metropolitan development; sociological aspects of urban and metropolitan problems and planning.

Prerequisite(s): SOCI 3300 or consent of department or instructor.

SOCI 5410 - Sociology of Health

3 hours

Analysis of social factors in health and illness focusing on children and non-aged adults; organization of health care and the health professions for children and non-aged adults.

Prerequisite(s): None.

SOCI 5450 - Population and Society

3 hours

Evaluation of demographic concepts and methods for the study of society; comparative analysis of population characteristics in various stages of socioeconomic development.

Prerequisite(s): Consent of department or instructor.

SOCI 5600 - Advanced Criminological Theory

3 hours

Examination of the major theoretical explanations of criminality, the distribution of crime and the behavior of justice agencies.

Prerequisite(s): None.

Same as CJUS 5600.

SOCI 5650 - Sociology of Education

3 hours

Interrelationships of schools and communities in American society; application of sociological concepts to the study of schools as social systems.

Prerequisite(s): None.

SOCI 5700 - Seminar on Social Gerontology

3 hours

Analysis of sociological and sociopsychological approaches to the study of aging with emphasis on consideration of current research.

Prerequisite(s): SOCI 4550 or consent of program chair.

Same as AGER 5700.

May be repeated for credit.

SOCI 5900 - Special Problems

1–3 hours

Open to advanced students capable of doing independent research under the direction of the instructor. To be registered for only on recommendation of the instructor and with the consent of department.

Prerequisite(s): None.

SOCI 5910 - Special Problems

1–3 hours

Open to advanced students capable of doing independent research under the direction of the instructor. To be registered for only on recommendation of the instructor and with the consent of department.

Prerequisite(s): None.

SOCI 5940 - Sociology Internship

1–6 hours

Supervised work in an approved setting designed to maximize student's learning and application of professional skills.

Prerequisite(s): Consent of department or instructor.

SOCI 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

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.

Prerequisite(s): None.

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).

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

SOCI 6202 - Qualitative Research Methods and Design

3 hours

Theory and application of advanced qualitative methods to sociological data.

Prerequisite(s): Consent of department.

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.

Prerequisite(s): Experience with social science research methods.

SOCI 6301 - Intermediate Statistics- Multiple Regression Analysis and Related Methods in Sociology

3 hours

Application of regression and related methods to analyze data in sociology and related disciplines. Topics include bivariate and multiple ordinary least squares linear regression models, diagnostics, moderating and mediating effects, logistic regression, and use of statistical software for conducting these analyses.

Prerequisite(s): Consent of department.

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 6301 or an equivalent multiple regression analysis course.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

SOCI 6500 - Topics in Sociology

3 hours

Intensive analysis of selected topics in specialized areas.

Prerequisite(s): A minimum of 18 hours in sociology, or equivalent.

May be repeated for credit as topics vary.

SOCI 6501 - Social Stratification

3 hours

Advanced analysis on types of stratification; theories of stratification and its function in society; the methodology of stratification studies.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

SOCI 6602 - Health Disparities

3 hours

In-depth investigation of health disparities with an emphasis on historical issues, theories, measurements and empirical data on health disparities in the United States.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

SOCI 6900 - Special Problems

1–3 hours

Prerequisite(s): None.

SOCI 6910 - Special Problems

1–3 hours

Prerequisite(s): None.

SOCI 6940 - Individual Research

1–12 hours

Prerequisite(s): None.

SOCI 6950 - Doctoral Dissertation

3, 6 or 9 hours

To be scheduled only with consent of department. 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): None.

May be repeated for credit.

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.

SPAN 5019 - Spanish for Graduate Research

3 hours

Spanish readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool.

Prerequisite(s): None.

No prior knowledge of Spanish is required. Evaluation on a pass/no pass basis.

SPAN 5029 - Spanish for Graduate Research

3 hours

Spanish readings and related grammar designed to prepare graduate students for reading examination and to acquaint them with the language as a research tool.

Prerequisite(s): SPAN 5019 or equivalent.

Evaluation on a pass/no pass basis.

SPAN 5150 - Seminar in Spanish

3 hours

Topics include practicum in teaching college Spanish; and theory of teaching methodology and language acquisition in Spanish (open to all graduate students).

Prerequisite(s): None.

May be repeated for credit as topics vary.

SPAN 5200 - Seminar in Spanish

3 hours

Topics include Spanish prose of the Golden Age, the Generation of '98, the 19th-century Spanish novel, the 20th-century Spanish essay, the Spanish-American short story, Spanish-American poetry, Gauchesque literature, the contemporary Spanish-American novel, advanced grammar and advanced civilization and culture.

Prerequisite(s): None.

May be repeated for credit as topics vary.

SPAN 5201 - Cervantes' Don Quijote

3 hours

Analysis of all 126 chapters of Cervantes' masterpiece *Don Quijote de la Mancha*. Students also become acquainted with Cervantes' life and his other works. To better understand Spain's most important literary work, courtly love and novels of chivalry are also a part of the study.

Prerequisite(s): None.

SPAN 5202 - Golden Age Spanish Novel

3 hours

Designed to acquaint students with the most important Spanish novels of the golden age period. Novels include *La Celestina*, *El Lazarillo*, *El Abencerraje y la Hermosa Jarifa*, *Novelas Ejemplares*, and *La Diana*.

Prerequisite(s): None.

SPAN 5203 - Golden Age Spanish Theatre

3 hours

Study of some of the most important Spanish plays of the golden age period. Plays include works by Cervantes, Lope de Vega, Tirso de Molina, Ruiz de Alarcón, Calderón de la Barca and Rojas Zorilla, together with anonymous works such as La Estrella de Sevilla.

Prerequisite(s): None.

SPAN 5205 - Post-Civil War Spanish Novel

3 hours

Study of the main genres, authors and novels in the historical and socio-political context of Post–Civil War Spain, carried out under an analytical and critical perspective.

Prerequisite(s): None.

SPAN 5206 - Spanishness in Contemporary Spanish Peninsular Literature and Cinema

3 hours

Analytical and critical study of the plurilingual and pluricultural situation of the "Spain of the autonomies" in the context of the global era through literature and cinema.

Prerequisite(s): None.

SPAN 5209 - Mexican Short Story

3 hours

Analysis of Mexican short stories from the middle of the 19th century to the late 20th century.

Prerequisite(s): None.

SPAN 5210 - Mexican Novel

3 hours

Chronological study of canonical Mexican novels of the 20th century.

Prerequisite(s): None.

SPAN 5211 - Mexican Civilization and Culture

3 hours

Survey of Mexican civilization and culture intended to develop a critical awareness of the writing of history and its consequences for the present and future. The politics, social structures and traditions of the Mexican world from the pre-Columbian period until today are studied with a special focus on their contemporary life in order to build a foundation for a more in-depth study of the life, literature and culture of Mexico.

Prerequisite(s): None.

SPAN 5212 - Spanish Civilization and Culture

3 hours

Survey of Spanish civilization and culture intended to develop a critical awareness of the writing of history and its consequences for the present and future. The politics, social structures, and traditions of the Spanish world from the Paleolithic period until today are studied with a special focus on their contemporary life in order to build a foundation for a more in-depth study of their life, literature and culture.

Prerequisite(s): None.

SPAN 5213 - Latin American Civilization and Culture

3 hours

Survey of Latin American civilization and culture intended to develop a critical awareness of the writing of history and its consequences for the present and future. The politics, social structures, and traditions of Latin America from the indigenous period until today will be studied with a special focus on their contemporary life in order to build a foundation or a more in-depth study of the culture.

Prerequisite(s): None.

SPAN 5215 - Generation 98 Novel

3 hours

Analytical and critical study of the main writers and their novels during the period of Spanish literature known as "generación del 98". Different theories regarding "generación del 98" are explored, including Spanish critics Ortega y Gasset and Angel Ganivet.

Prerequisite(s): None.

SPAN 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.

SPAN 5230 - Advanced Spanish Grammar

3 hours

Introductory course to advanced grammar that explores the grammatical aspects of contemporary Spanish from both theoretical and practical perspectives. The main objectives are to broaden knowledge of Spanish grammar at an advanced level and to develop analytical skills to apply theories to linguistic data.

Prerequisite(s): None.

SPAN 5235 - History of the Spanish Language

3 hours

Examines the evolution of the Spanish language from medieval to modern time. Emphasizes the transformation of Vulgar Latin to medieval Castilian to the consolidation of Spanish as an imperial language.

Prerequisite(s): None.

SPAN 5240 - Spanish Linguistics

3 hours

Survey of the modern linguistic analysis and fundamentals of the phonology, morphology, syntax and semantics of contemporary Spanish. Students explore various aspects of Spanish linguistics as well as the structure and the sound system of Spanish.

Prerequisite(s): Enrollment in a Spanish graduate program or consent of department.

SPAN 5245 - Spanish Dialectology: Varieties of the Iberian Peninsula, Latin America and U.S.

3 hours

Surveys the general field of Spanish dialectology from both synchronic and diachronic perspectives with special attention given to phonetics and phonology. Covers selected books and research articles and students learn to better identify varieties of Spanish.

Prerequisite(s): None.

SPAN 5250 - Spanish Sociolinguistics

3 hours

Sociolinguistic variation of specific Spanish features (phonological, morphosyntactic, discursive) and theoretical and methodological concepts of sociolinguistic research (types of linguistic variation, types of variables, sampling, types of instruments for the collection of data, etc.).

Prerequisite(s): None.

SPAN 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.

Prerequisite(s): None.

SPAN 5290 - Latin American Literature and Film

3 hours

Explores the rich Latin American tradition of literary works and their filmic counterparts. Includes works from Argentina, Colombia, Cuba and Mexico, as well as authors and film makers such as Paz, García, Márquez, Puig, Solas, Gutiérrez Alea and Bemberg. The course is to be held in Spanish; the literary works and films are also in the target language.

Prerequisite(s): Admittance to the MA program in Spanish.

SPAN 5340 - Latin American 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.

Prerequisite(s): None.

SPAN 5342 - Latin American Romanticism and Realism

3 hours

General overview of romantic and realist/naturalist novels in 19th-century Latin America with an emphasis on the efforts to establish political and cultural systems for the newly independent nations, the resistance to dictatorship, and the conflicts between races, genders and social classes. Readings include Echeverría, Sarmiento, Hernández, Isaacs, Cambaceres and Matto de Turner. Nationalist, postcolonial and feminist theories are introduced as major methodological approaches to analyze the novels.

Prerequisite(s): None.

SPAN 5343 - Latin American Indigenous Literature

3 hours

Examines how indigenous culture and history were reshaped during the colonial period and how later creative writers inherited such a reshaped indigenous tradition without taking into consideration colonial influence. Considers new critical perspectives toward indigenous people and their literature.

Prerequisite(s): None.

SPAN 5345 - Latin American Essay

3 hours

Examines the evolution of the essay genre in Latin American literature from the early 19th century to the late 20th century.

Prerequisite(s): None.

SPAN 5380 - The Spanish-American Novel

3 hours

The Spanish-American novel of the 19th and 20th centuries. Readings, lectures and term projects.

Prerequisite(s): None.

SPAN 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

SPAN 5690 - Latin American Short Story

3 hours

Survey of the Latin American short story from the 19th through the 21st centuries.
Prerequisite(s): None.

SPAN 5900 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

SPAN 5910 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only upon recommendation by the instructor and consent of the department chair.

SPAN 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

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.

Prerequisite(s): EDSP 5710.

EDSP 5220 - Learning Strategies for Individuals with Cognitive Disorders

3 hours

Focus on learning strategies designed for individuals with disabilities.

Prerequisite(s): EDSP 5010 , EDSP 5200 and EDSP 5600.

EDSP 5230 - Advanced Seminar in Learning Disabilities: Educational Theories and Practices

3 hours

Focused analysis of the theoretical basis of learning disabilities and the instructional implications and applications of those theories.

Prerequisite(s): EDSP 5710, or equivalent.

EDSP 5240 - Collaboration with Parents, Paraeducators and Professionals

3 hours

Communication and collaboration models and strategies in working with parents, caregivers and professionals concerned about exceptional learners. Emphasis on the changing definition of families and changing demographics and the implications these changes have for effectively involving others in the decision-making for exceptional learners. Analysis made of legal mandates and availability of resources to ensure quality services for exceptional learners.

Prerequisite(s): EDSP 5710 or consent of department.

EDSP 5310 - Introduction to Autism Spectrum 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.

Prerequisite(s): None.

EDSP 5320 - Introduction to Functional Assessment

3 hours

Focuses on various dimensions of functional assessment of behavior and academic performance of children and youth with disabilities and/or at-risk for academic and social failure. Emphasis on a process for conducting functional assessments and gathering information applicable to the development of effective positive behavioral supports and intervention plans.

Prerequisite(s): EDSP 5710; EDSP 5600 or EDSP 5730.

EDSP 5330 - Classroom and Behavior Management Strategies for Exceptional Learners

3 hours

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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

EDSP 5370 - Autism Across the Life Span

3 hours

Examination of the needs of children and youth with autism spectrum disorders across the life span. Numerous issues are examined in depth along with the implications that each issue has for maximizing individual potential.

Prerequisite(s): EDSP 5310.

EDSP 5420 - Field Experience with Children and Youth with Learning Disabilities

3 hours

Supervised field experience with children and youth with learning disabilities. Typically, placement will be within a minimum of two educational settings.

Prerequisite(s): EDSP 5200, EPSY 6168 , EDSP 5220, EDSP 5230. Consent of department.

Students may enroll for 1 to 6 hours credit in any given term/semester; field experience of 2.5 hours per week required for each hour of enrollment. Students must apply for consent to take this course at least six weeks prior to enrollment.

EDSP 5430 - Advanced Practicum: Special Education

3 hours

Demonstration in a special education setting of professional competencies during a minimum 110 hours of supervised practicum experiences. Responsibility for development and implementation of individualized plans for the exceptional learner. Special education teacher role identification and relationships are examined in structured seminars.

Prerequisite(s): Consent of department.

EDSP 5510 - Educational Appraisal of Exceptional Learners

3 hours

Examinations of basic testing procedures and terminology as related to the exceptional learner. Analysis of statistics used in test development and interpretation of test data. Use of test data in developing individual education plans. Examines curriculum-based assessment issues. Focuses on the development and use of knowledge and practical skills necessary for effective administration and interpretation of authentic assessment and documenting student achievement gains among diverse and exceptional learners. Field experiences include administration of academic and teacher-made assessments.

Prerequisite(s): EDSP 5710.

EDSP 5520 - Special Education Law

3 hours

Provides teachers, educational diagnosticians and school administrators the opportunity to examine federal and state laws pertaining to the delivery of special education services. Addresses the legal development of the discipline of special education as well as current requirements for the provision of a free and appropriate education to students with disabilities.

Prerequisite(s): EDSP 5710 or equivalent, or consent of department.

EDSP 5530 - Individualized Diagnostic Assessment I: Practicum

3 hours

Demonstration of competency in developing test batteries for students with different handicapping conditions and in administering and interpreting the batteries. Development of an individual plan for each battery administered.

Prerequisite(s): EDSP 5510.

EDSP 5540 - Individualized Diagnostic Assessment II: Practicum

3 hours

Demonstration of competency in administration, scoring and interpreting test instruments appropriate for students with different types of handicapping conditions. Development of test batteries for students at varying age levels.

Prerequisite(s): EDSP 5510, EDSP 5530.

EDSP 5560 - Assistive Technology

3 hours

Review of recent legislation governing the need and use for assistive technology for individuals with IEP or 504 plans. Issues concerning assessment, ownership, costs and availability are reviewed.

Prerequisite(s): EDSP 5710.

EDSP 5600 - Characteristics of Children/Youth with Emotional and Behavioral Disorders

3 hours

Overview of topics related to children and youth with emotional and behavioral disorders, including characteristics, assessment, diagnosis and evaluation. Investigation of risk factors for the development of severe behavioral problems and classroom-based interventions.

Prerequisite(s): EDSP 5710.

EDSP 5610 - Educational Theories and Practices Relative to Children/Youth with Emotional and Behavioral Disorders

3 hours

Analysis of various theoretical approaches that includes the psychodynamic, ecological and behaviorist theories utilized in designing intervention programs for individuals with emotional and behavioral disorders. Emphasis upon the application and effectiveness of approaches in a variety of educational and therapeutic environments.

Prerequisite(s): EDSP 5600.

EDSP 5615 - Positive Behavioral Interventions in Educational and Related Settings

3 hours

Examination of the positive behavioral interventions and supports (PBIS) philosophy and its underlying assumptions regarding delivery of services to children and youth. Approaches for implementation are highlighted with a focus on school-wide, classroom-wide, and individual interventions, along with the implementation of PBIS for development of systems-of-care, wraparound, and full-service schools.

Prerequisite(s): EDSP 5600, EDSP 5710, or EDSP 5730.

EDSP 5620 - Educational Programming for Children/Youth with Emotional and Behavioral Disorders

3 hours

Emphasis is upon designing effective and efficient intervention programs for children/youth with emotional and behavioral disorders that are applicable to a variety of educational settings to include hospitals, mental health centers, and public and private schools.

Prerequisite(s): EDSP 5600. EDSP 5610 (may be taken concurrently).

EDSP 5630 - Field Experience with Children/Youth with Emotional and Behavioral Disorders I

3 hours

Supervised field experience with children and youth with emotional and behavioral disorders. Placement is in a minimum of two educational settings.

Prerequisite(s): EDSP 5600. Consent of department. Students must apply for consent to take this course at least six weeks prior to enrollment.

Field experience of 2.5 hours per week required for each hour of enrollment.

EDSP 5640 - Field Experience with Children/Youth with Emotional and Behavioral Disorders II

3 hours

Supervised field experience with children and youth with emotional and behavioral disorders. Placement is in educationally related environments.

Prerequisite(s): EDSP 5600, EDSP 5630. Consent of department.

Field experience of 2.5 hours per week required for each hour of enrollment. Students must apply for consent to take this course at least six weeks prior to enrollment.

EDSP 5650 - Special Education in Juvenile Correctional Facilities

3 hours

Overview of the juvenile justice system and correctional education with emphasis on the role of the special educator in meeting the needs of the handicapped juvenile offender.

Prerequisite(s): EDSP 5710.

EDSP 5660 - Transition of Youth with Emotional and Behavioral Disorders

3 hours

Examination of all aspects of the transition of secondary school-aged youth from educational to community-based environments. Includes the rationale for transition programming, practices and procedures, interagency cooperation, school-based vocational preparation and work-study activities. Emphasis is placed on the role of the special education teacher in the transition process.

Prerequisite(s): EDSP 5710 or consent of instructor.

EDSP 5665 - Advanced Transition Planning for Students with Emotional/Behavioral Disorders

3 hours

Focuses on the taxonomy of transition as a model for planning, implementing and evaluating transition-focused education for students with disabilities. Emphasis on student-focused planning, student development, interagency collaboration, family involvement and program structures.

Prerequisite(s): EDSP 5660.

EDSP 5670 - Teaching Social Skills to Children and Youth with Disabilities

3 hours

Examination of theories underlying the acquisition of social skills by children and youth with disabilities. Specific teaching strategies, materials development and program implementation will be emphasized.

Prerequisite(s): EDSP 5710.

EDSP 5710 - Special Education Programs and Practices

3 hours

Presentation of special education roles, placement alternatives, legal implications, current status and trends in special education. Analysis of categories of exceptionality, characteristics and terminology.

Prerequisite(s): None.

EDSP 5740 - Learning Strategies for Promoting Proficiency in Reading and Language Arts for Exceptional Learners

3 hours

Educational strategies and interventions that promote academic performance of individuals with mild to moderate disabilities in English language arts and reading.

Prerequisite(s): EDSP 5710.

EDSP 5750 - Learning Strategies for Promoting Proficiency in Math and Content Area Subjects for Exceptional Learners

3 hours

Educational strategies and interventions that promote academic performance of individuals with mild to moderate disabilities in mathematics and in content areas across a variety of settings and situations.

Prerequisite(s): EDSP 5710.

EDSP 5755 - Adapting Curriculum to Meet Special Learning Needs

3 hours

Instructional strategies and curriculum modifications for working with students with mild/moderate disabilities across educational settings. Topics include curriculum-based assessment, differentiating instruction, effective use of technology in inclusive classrooms. Students implement strategies acquired in clinical settings.

Prerequisite(s): EDSP 5710.

EDSP 6270 - Analysis of Trends, Issues and Research in Special Education

3 hours

Investigation and analysis of recent trends, issues and research in special education. Emphasis on how these will affect special education programs. Special attention to competency-based programs, accountability and individualized programming.

Prerequisite(s): EDSP 5710.

EDSP 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.

Prerequisite(s): None.

EDSP 6280 - Program Analysis in Special Education

3 hours

Focus is upon the role and responsibility of leadership personnel in special education and the issues and trends relative to the administration and supervision of special education programs.

Prerequisite(s): EDSP 5710.

EDSP 6290 - Special Education and Public Policy

3 hours

Examination of the current social, political and economic factors influencing the public policy decisions affecting special education programs and practices. Major historical public policy decisions affecting special education are used to examine current and proposed public policy decisions.

Prerequisite(s): EDSP 6270.

EDSP 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.

Prerequisite(s): None.

EDSP 6300 - Program Development for Providing Quality Services to Children and Youth with Emotional and Behavioral Disorders

3 hours

From the perspective of leadership personnel, emphasis is on examining and designing components required to ensure quality services for children and youth with emotional and behavioral disorders within educational and therapeutic environments. Development of formal proposals for research and practice are a part of the course.

Prerequisite(s): EDSP 5710.

EDSP 6310 - Current Research and Best Practices in the Education and Treatment of Children/Youth with Emotional and Behavioral Disorders

3 hours

Focus on the analysis of current research and best practices in the field of emotional and behavioral disorders.

Prerequisite(s): EDSP 5710.

EDSP 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.

Prerequisite(s): EDSP 5600, EDSP 5620, and consent of the instructor.

EDSP 6410 - Theoretical Issues in Learning Disabilities

3 hours

Analysis of the theoretical issues surrounding a life-span approach to learning disabilities. Emphasis is on the cognitive, social and neuropsychological research applicable to learning disabilities. Educational implications of the research also are addressed.

Prerequisite(s): EDSP 5710.

EDSP 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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).

Prerequisite(s): None.

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.

Prerequisite(s): EPSY 6122.

Studio Art

ASTU 5000 - Topics in Studio Art

3 hours (2;4)

Variable topics course designed to explore concepts and processes in art-making that go beyond the normal curricular parameters of traditional studio disciplines.

Prerequisite(s): Consent of instructor.

May be repeated for credit as topics vary.

ASTU 5001 - Praxis: Rotating Topics

3 hours (3;3)

Readings, discussion and/or studio exploration of various art issues. Praxis graduate seminars are intensive topical or single discipline-based courses which encourage innovation, the development of a new method, idea and results. Seminars vary in structure offering a blend of reading/writing/presentation/discussion and studio practice/group critique.
Prerequisite(s): None.
CVAD MFA or PhD candidate.
May be repeated for credit for a maximum of 42 hours.

ASTU 5010 - Professional Practices for the Studio Artist

3 hours (3;3)

Introduces and examines a wide range of strategies for developing a professional practice as a working visual artist.

Prerequisite(s): None.

ASTU 5015 - MFA Project In Lieu of Thesis Research

3 hours (0;6)

Art research and practice for creative project in lieu of thesis. Typically taken with project in lieu of thesis supervisory committee chair in consultation with the supervisory committee.

Prerequisite(s): Consent of instructor.

Should be taken with major professor.

ASTU 5020 - MFA Project in Lieu of Thesis

3 hours (0;6)

Art research and practice for creative project. Students present project as an exhibition, oral defense, project report, artist statement, portfolio of outcomes. See MFA handbook for details.

Prerequisite(s): Consent of instructor.

Taken with major professor in consultation with supervisory committee.

Technical Communication

TECM 5170 - Grants and Proposals

3 hours

Advanced study of technical writing that provides students with a foundation in grant seeking and persuasive writing. Covers granting in the academy, in business and for nonprofits.

Prerequisite(s): None.

TECM 5175 - 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.

Prerequisite(s): None.

TECM 5180 - Professional Writing

3 hours

Application of the principles of technical style to writing in specialized fields. Topics of special emphasis include writing in the fields of scientific, report and legal writing.

Prerequisite(s): None.

May be repeated for credit as topics vary.

TECM 5185 - Principles of Technical Communication

3 hours

Practical application of technical and professional communication in industry, business and the sciences, using the workshop approach.

Prerequisite(s): None.

TECM 5190 - Style and Technical Writing

3 hours

Study of the principles of technical style with intensive practice in writing and analyzing technical prose.

Prerequisite(s): None.

TECM 5191 - 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): None.

TECM 5195 - Editing Technical Documents

3 hours

Practical application of technical and professional communication in industry, business and the sciences, using the workshop approach.

Prerequisite(s): None.

TECM 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): None.

TECM 5280 - Designing Technical Documents

3 hours

Study of the theory of designing effective technical documents. Intensive practice in applying the theory of designing technical documents in industry, business and the sciences.

Prerequisite(s): None.

TECM 5285 - Technical Presentations

3 hours

Practice in preparing and delivering technical information to technical and lay audiences and readers. Study of the theories that form the basis for preparing and delivering technical presentations.

Prerequisite(s): None.

TECM 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): None.

TECM 5550 - Studies in the Teaching of Technical Communication

3 hours

Survey of current scholarly opinion concerning objectives and methods of instruction in technical communication; supervised planning of the curriculum, with special attention to problems related to teaching technical communication and to developing criteria for evaluating student writing.

Prerequisite(s): None.

TECM 5550 is required for all new teaching fellows. May be repeated for credit as topics vary.

TECM 5580 - Theories in Composition

3 hours

Study of composition theories, leading to the development of research techniques and compositional skills.

Prerequisite(s): None.

TECM 5640 - Practicum in Technical Communication

6 hours

Extensive independent writing project addressing a problem in business or industry. Students must develop the project while working on an internship.

Prerequisite(s): 9 credit hours in technical communication.

TECM 5740 - Research in Technical Communication

3 hours

Examination of the basic materials available for research in technical communication; analysis and application of qualitative and quantitative methods of research in technical communication; evaluation of the application of research results within professional workplace settings; and practice in the conventions of reporting research results for publication.

Prerequisite(s): None.

TECM 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): None.

TECM 5900 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only when other graduate courses are not available and only upon the recommendation of the instructor and the consent of the department chair.

Maximum of 3 semester hours of credit allowed for each course.

TECM 5910 - Special Problems

1–3 hours

Conference course open to advanced students capable of doing independent research under the direction of the instructor.

Prerequisite(s): Registration permitted only when other graduate courses are not available and only upon the recommendation of the instructor and the consent of the department chair.

Maximum of 3 semester hours of credit allowed for each course.

TECM 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

Theatre

THEA 5000 - Research Methods in Dance and Theatre

3 hours

Historical, investigative and empirical methods of research for dance and theatre arts scholars or artists. Quantitative analysis. Survey of dramatic and critical literature.

Prerequisite(s): None.

Required of all majors in theatre arts the first fall term/semester of their graduate enrollment.

THEA 5260 - Asian Theatre

3 hours

Plays, playwrights, actors and other theatre artists in relation to the cultures of Japan, China, Indonesia, Southeast Asia and India. Theatre architecture and the use of environmental spaces for theatrical performances. Emphasis on theory and criticism of dramatic art.

Prerequisite(s): None.

THEA 5300 - World Theatre to 1750

3 hours

Plays, playwrights, actors and other dramatic artists in relation to world cultures. Theatre architecture. Emphasis on the relationship between premodern theories and criticism, and the theories and criticism of the 20th century.

Prerequisite(s): None.

THEA 5310 - World Theatre After 1750

3 hours

Plays, playwrights, actors and other dramatic artists in relation to specific cultures. Theatre architecture. Emphasis on 20th-century theories and criticism as they developed from earlier historical periods.

Prerequisite(s): None.

THEA 5320 - American Theatre

3 hours

History and technical development of the theatre in America.

Prerequisite(s): None.

THEA 5330 - Play Analysis for Design and Production

3 hours (3;2)

Independent planning and production of plays in various styles and modes. Special problems in directing.

Prerequisite(s): 6 advanced undergraduate hours of directing or consent of department.

THEA 5340 - Contemporary Theatre Criticism

3 hours

Experimental and new trends in playwriting, production and criticism.

Prerequisite(s): None.

THEA 5350 - Theatre Management

3 hours

Design, organization and administration of commercial, regional, community, educational and touring theatre programs or companies. Management of fine arts centers.

Prerequisite(s): None.

THEA 5360 - Principles of Stage Design

3 hours (3;2)

History and theory of stage design with emphasis on problems of period and style. Independent production assignments.

Prerequisite(s): None.

THEA 5370 - Principles of Stage Lighting

3 hours (3;2)

History and theory of lighting stage presentations with emphasis on problems of period and style. Independent production assignments.

Prerequisite(s): None.

THEA 5380 - Principles of Stage and Film Performance

3 hours (3;2)

History, theory and practice of acting for theatre, film and television. Emphasis on problems of period and style. Independent production assignments.

Prerequisite(s): None.

THEA 5390 - Theatre for Children, Youth and Teachers

3 hours (3;2)

Improvisation, play production, playwriting and creative dramatics as tools for teaching a variety of subjects. Emphasis on preparing the classroom or laboratory performance.

Prerequisite(s): None.

THEA 5410 - Principles of Theatrical Costume Design

3 hours (3;2)

History, theory and practice of costume design for dance, drama and film. Selected problems in design concept and approach, including modern interpretive development, using written and artistic resources. Practical application with rendering and craft techniques developed.

Prerequisite(s): None.

THEA 5460 - Studies in Playwriting

3 hours (3;2)

Principles and practices governing the art of writing for dramatic presentations. The scriptwriting process from proposal to production. Study of historical and contemporary models. Marketing techniques.

Prerequisite(s): Consent of department.

May be repeated twice for credit.

THEA 5500 - Seminar in Dance and Theatre Arts

3 hours

Rotating topics. Representative topics include dance and theatre arts criticism, playwriting for non-theatrical media, history of theatrical design and classroom performance for teachers.

Prerequisite(s): None.

May be repeated for credit.

THEA 5750 - Practicum in the Teaching of Theatre Arts

3 hours (3;2)

Training in the teaching of dance and theatre arts. Under the supervision of a faculty member the student prepares and presents instructional units, conducts class and laboratory activities, practices interscholastic competition and handles administrative matters peculiar to theatre arts.

Prerequisite(s): None.

No more than 3 hours may be applied to a master's degree. Duties performed for a teaching or technical fellowship or assistantship may not earn credit for, or be part of, this course.

THEA 5900 - Special Problems

1–3 hours

Problems must be approved by department chair.

Prerequisite(s): None.

THEA 5910 - Special Problems

1–3 hours

Problems must be approved by department chair.

Prerequisite(s): None.

THEA 5920 - Research Problems in Lieu of Thesis

1–3 hours

Prerequisite(s): None.

THEA 5930 - Research Problems in Lieu of Thesis

1–3 hours

Prerequisite(s): None.

THEA 5950 - Master's Thesis

3 or 6 hours

To be scheduled only with consent of department. 6 hours credit required. No credit assigned until thesis has been completed and filed with the graduate school. Continuous enrollment required once work on thesis has begun.

Prerequisite(s): None.

May be repeated for credit.

University Courses

UCRS 5000 - Science in Ancient and Modern Times

3 hours

Seminars, guest lectures and readings addressing major advances in science from a technological, philosophical and historical perspective. Course meets concurrently with UCRS 4000 but requires additional readings, papers and discussions for graduate students.

Prerequisite(s): None.

Meets with UCRS 4000.

UCRS 5010 - Interdisciplinary Seminar

1–6 hours

Prerequisite(s): None.

UCRS 5800 - 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

Prerequisite(s): None.

UCRS 5920 - Research Problems in Lieu of Thesis

3 hours

Prerequisite(s): None.

UCRS 5950 - Master's Thesis

3 or 6 hours

To be scheduled by the student who wishes to present a thesis as part of the interdisciplinary degree program.

Prerequisite(s): None.

Women's 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.

Prerequisite(s): None.

WGST 5200 - 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.

Prerequisite(s): None.

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.

Prerequisite(s): None.

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.

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.

WGST 5900 - Special Problems

1–3 hours

Supervised individual or small group study of special problems or topics not otherwise covered by regular offerings.

Prerequisite(s): None.

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.

Teach North Texas

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.

Prerequisite(s): None.

Administration, faculty and librarians

UNT System and university officers

Board of Regents

Laura Wright, Chair (2021), Dallas
Melisa Denis (2025), Southlake
Mary Denny (2023), Aubrey
Daniel Feehan (2025), Fort Worth
Milton B. Lee (2023), San Antonio
A.K. Mago (2021), Dallas
Carlos Munguia (2023), University Park
G. Brint Ryam (2021), Dallas
John Scott Jr. (2025), Keller

Student Regent
Appointed annually

UNT System administration

Lesa B. Roe, MS, Chancellor of the University of North Texas System
Michael R. Williams, DO, MD, MBA, President of the UNT Health Science Center at Fort Worth
Robert Mong, BA, President of UNT Dallas
Rosemary R. Haggett, PhD, Vice Chancellor for Academic Affairs and Student Success, Board Secretary
Jack Morton, JD, Vice Chancellor for Governmental Relations
Alan Stucky, JD, Vice Chancellor and General Counsel
Dan Tenney, MBA, Vice Chancellor for Finance
Steve Maruszewski, BAE, Vice Chancellor for Facilities
Tracy Grunig, MPA, CPA, CFE, CISSP, Chief Audit Executive

UNT administration

Neal J. Smatresk, PhD, President
Jennifer Cowley, PhD, Provost and Vice President for Academic Affairs
Bob Brown, MBA, Senior Vice President for Finance and Administration
Wren Baker, MS, Vice President and Director of Athletics
Jim Berscheidt, MS, Vice President for University Brand Strategy and Communications
Adam D. Fein, PhD, Vice President for Digital Strategy and Innovation
Shannon Goodman, MEd, Vice President for Enrollment
Mark McLellan, PhD, Vice President for Research and Innovation
Debbie Rohwer, PhD, Vice President for Planning and Chief of Staff
Clay Simmons, MBA, JD, Chief Compliance Officer
Elizabeth With, EdD, Vice President for Student Affairs
David Wolf, PhD, Vice President for Advancement
Joanne Woodard, MA, Vice President for Institutional Equity and Diversity

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

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", "Department" or "Courses" from the Browse menu and type in appropriate name.

Graduate faculty of the Graduate School of Bio-medical Sciences and the School of Public Health at the University of North Texas Health Science Center at Fort Worth (UNTHSC) also are members of the graduate faculty of the University of North Texas and thus can serve as mentors or committee members of UNT graduate students appropriate to their graduate appointment. See the *UNTHSC Graduate Catalog* for UNTHSC graduate faculty listings.

Emeritus faculty

Adkison, Judith, Education (1983-2011).
Albarran, Alan, Liberal Arts and Social Sciences (2000-2018).
Albertson, Roxanne, Education (1979-2000).
Allen, John Ed, Arts and Sciences (1963-2011).
Altekruse, Michael, Education (1995-2005).
Anderson, Miles, Arts and Sciences (1950-1992).
Aronson, Harriet, Arts and Sciences (1971-1999).
Austin, Jerry, Visual Arts and Design (1982-2017).
Bahnsen, Kenneth, Education (1955-2003).
Bailey, Don C., Education (1962-1999).
Baird, James, Arts and Sciences (1966-2011).
Bane, Robert, Education (1970-2007).
Beitinger, Thomas L., Arts and Sciences (1976-2011).
Benet, Diana, Arts and Sciences (2001-2012).
Berg, Robert, Education (1968-2006).
Berger, Lorraine, Visual Arts (1964-1995).
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).
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).
Brock, Horace, Business Administration (1959-1992).
Brookshire, William, Education (1970-2003).
Brostow, Witold, Engineering (1989-2019).
Brothers, Lester, Music (1974-2005).
Brown, Newel Kay, Music (1970-1991).
Buckalew, Mary, Arts and Sciences (1965-1998).
Buhler, June, Education (1973-2000).
Bullock, Lyndal M., Education (1978-2017).
Busby, Roy, Journalism (1961-2015).
Bush, Deanna D., Music (1980-2011).
Butt, Harlan, Visual Arts and Design (1976-2017).
Caldwell, Patsy, Education (1959-2000).
Callicott, J. Baird, Arts and Sciences (1995-2015).
Campbell, Lloyd P., Education (1970-2006).
Candelaria, Leonard, Music (1974-2003).
Cheal, Susan, Visual Arts and Design (2000-2017).
Chipman, Donald, Arts and Sciences (1964-2002).
Chisholm, Rose Marie, Music (1995-2012).
Chng, Chwee-Lye, Education (1981-2013).
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).
Coe, Teddy L., Business Administration (1980-2007).
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).
Corbin, John, Library and Information Sciences (1973-1977, 1987-2000).
Cornelius, Bill, Education (1966-2004).
Crader, Jeannine, Music (1970-1997).
Crocker, Betty, Education (1988-2010).
Crowder, Robert, Arts and Sciences (1979-1997).
Cutright, Marc, Education (2007-2017).
Damico, Anthony, Arts and Sciences (1966-2001).
Davis, Addie Nell, Human Resource Management (1951-1981).
Davis, D. Jack, Visual Arts and Design (1971-2011).
Davis, Richard, Visual Arts and Design (1968-2018).
Day, Kaaren, Education (1989–2008).
Deering, William, Arts and Sciences (1965–2008).
DeLaney, Gloria, Education (1960-1999).
Desiderato, Robert, Arts and Sciences (1966-2004).
Detrick, Robert, Arts and Sciences (1969-1996).
Dickenson, Jerry, Hospitality and Tourism Management (1996-2016).
Dickson, Kenneth L., Arts and Sciences (1978–2010).
DiFiori, Linda, Music (1996-2014).
Ditzenberger, Roger, Education (1980–2007).
Dixon, Paul, Education (1992-2006), Dean.
Dobson, Gerard R., Arts and Sciences (1969-1999).
Donahue, Manus, Arts and Sciences (1982-2002).
Dworak, Paul, Music (1979-2017).
Earp, Norman Wesley, Education (1963-1995).
Eaton, Henry, Arts and Sciences (1966–2011).
Eddy, John Paul, Education (1979-2000).
Ellis, Janet, Public Affairs and Community Service (1989-2009).
Engels, Dennis, Education (1976-2011).
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).
Fink, Ron, Music (1964-2000).
Fisher, Vernon, Visual Arts (1978-2006).
Fitzpatrick, Lloyd, Arts and Sciences (1970-2014).
Forde, Steven, Arts and Sciences (1987-2017).
Foster, Phillip, Engineering (1982-2017).
Fox, Norris, Education (1972-2017).
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).
Giese, James William, Business Administration (1966-1985).
Gillespie, James E., Music (1978-2011).
Gleeson, Larry, Visual Arts and Design (1972-2007).
Glick, Edwin, Arts and Sciences (1970-1995).
Golden, David, Arts and Sciences (1985-2004).

Goodwin, Vicki, Business (1991-2014).
Gough, Georgia Leach, Arts and Sciences (1952-1975).
Graves, Finley, Business (2002-2018).
Greenlaw, M. Jean, Education (1978-2005).
Groom, Joan, Music (1973-2011).
Grubbs, Bill, Engineering (1993-2011).
Gunter, Pete, Arts and Sciences (1969–2005).
Haerle, John M. (Dan), Jr., Music (1977-2007).
Hagler, Harland, Liberal Arts and Social Sciences (1966-2017).
Hamilton, Fred, Music (1989-2017).
Hargrove, Eugene, Liberal Arts and Social Sciences (1990-2015).
Harris, Mary, Education (2000-2014).
Harrison, Thomas, Arts and Sciences (1972-2004).
Hartman, David, Public Affairs and Community Service (1992-2011).
Hasty, Ron, Business Administration (1992-2011).
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).
Holman, John, Public Affairs and Community Service (1984-2006).
Homer, Paula, Music (1992-2017).
Hudnall, Margaret, Music (1968-2004).
Hudson, Johnetta, Education (1999-2012).
Huffman, Janie, Education (1996-2016).
Ingman, Stanley, Health and Public Service (1990-2018).
Jacobson, Arminta, Education (1981-2015).
Jeffrey, Lloyd N., Arts and Sciences (1955-1983).
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, J. Keith, Music (1986-2014).
Johnson, Ray W., Arts and Sciences (1965-1999).
Johnson, Karrell, Music (1997-2013).
Johnston, Richard, Arts and Sciences (1968-1984).
Jordan, Ann, Public Affairs and Community Service (1990-2014).
Kamman, William T., Arts and Sciences (1962–2009).
Kemerer, Frank R., Education (1978–2003).
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).
Klammer, Thomas, Business (1970-2007).
Kowalski, Jacek, Arts and Sciences (1989-2014).
Kung, Joseph, Science (1984-2018).
Kuss, Malena, Music (1976-1999).
LaPoint, Thomas, Arts and Sciences (1999-2014).
Landreth, Garry, Education (1966-2001).
Larson, George, Arts and Sciences (1970-2000).
Lee, James Ward, Arts and Sciences (1958-1999).
Leung, Paul, Public Affairs and Community Service (1999-2015).
Levin, Ben, Liberal Arts and Social Sciences (1990-2018).
Lewis, Paul, Arts and Sciences (1970–2005).
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).
Lundsteen, Sara, Education (1977-1999).
Luttrell, H. Dale, Education (1970-2007).

Mackey, 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).
Martin, Charles B., Arts and Sciences (1964-1999).
Martin, Cora, Community Service (1967-1992).
Masaracchia, Ruthann, Arts and Sciences (1990-2002).
Mason, Diana, Arts and Sciences (2001-2012).
Matteson, Samuel, Arts and Sciences (1987-2014).
Mauldin, Richard D., Arts and Sciences (1977-2011).
McCarter, R. William, Visual Arts (1968-2005).
McClung, Alan, Music (2002-2017).
McCoy, Jerry, Music (2000-2015).
McCroskey, Lenora, Music (1982-2009).
McDaniel, Floyd, Science (1974-2018).
McDonald, James, Business (1976-2013).
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).
Morris, William, Business Administration (1971-2001).
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).
Nahrgang, Lee, Arts and Sciences (1965-2007).
Nash, Jerry, Arts and Sciences (1997–2007).
Neeley, Paden, Business Administration (1960-2003).
Neuberger, John, Arts and Sciences (1977–2010).
Newsom, Ron, Education (1977-2011).
Newton, Connie, Visual Arts and Design (1989-2007).
Nordstrom, Lyle, Music (2000-2010).
Norton, Scott, Arts and Sciences (1963-2005).
Olsen, Solveig, Arts and Sciences (1968-2005).
deOnis, Carlos, Arts and Sciences (1968-1995).
O'Rourke-Kaplan, Marian, Visual Arts and Design (1992-2018).
Papich, George, Music (1967-2000).
Patton, Robert, Education (1973-2013).
Paz, Denis, Arts and Sciences (1995-2013).
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).
Poirot, James, Education (1976-2014).
Preston, Thomas R., Arts and Sciences (1982-2006); Dean.
Ramsey, Darhyl, Music (1987-2018).
Reban, Milan, Arts and Sciences (1967–2008).
Renka, Robert, Engineering (1984-2018).
Reynolds, Johnny Sue, Merchandising and Hospitality Management (1990-2006).
Rich, Carroll Y., Arts and Sciences (1959-1995).
Richards, Thomas, Business (1983–2004).
Richardson, Peggy, Education (1970-2001).
Riggs, James, Music (1973-2008).
Riney, Bobye J., Merchandising and Hospitality Management (1973-1991).
Rutherford, Paris, Music (1978-2009).

Sale, Richard B., Arts and Sciences (1965-1995).
Saleh, Farida, Arts and Sciences (1978-2005).
Sandefur, Walter Scott, III, Education (1962-2002).
Schafer, Rollie, Arts and Sciences (1976-2007).
Schamber, Linda, Information (1991-2015).
Scharnberg, William, Music (1983-2018).
Schietroma, Robert, Music (1977-1998).
Schol, Don, Visual Arts and Design (1969-2011).
Scott, James, Music (2001-2018).
Scott, John, Music (1981-2018).
Sears, Ray, Arts and Sciences (1967-2001).
Seward, Rudy, Public Affairs and Community Service (1973-2011).
Shrader, David, Music (1992-2006).
Shuemaker, Ira, Visual Arts (1974-2001).
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).
Smallwood, J. B., Arts and Sciences (1965-2000).
Smith, Don W., Arts and Sciences (1967-2011).
Smith, Howard, Education (1969-1997); Acting President.
Smith, John, Arts and Sciences (1964-1993).
Soph, Edward, Music (1988-2017).
Spence, J. Wayne, Business (1980-2010).
Spencer, Sandra, Liberal Arts and Social Sciences (1996-2017).
Sprague, D. Jack, Visual Arts and Design (1990-2010).
Staples, Donald, Arts and Sciences (1979-2004).
Stephens, Elvis Clay, Business Administration (1963-1999).
Stern, Laura, Arts and Sciences (1994-2014).
Stevens, L. Robert, Arts and Sciences (1963-1998).
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).
van Tassel, Frances, Education (1993-2010).
Taylor, Glen L., Business Administration (1953-1998).
Teeter, C. Russ, Education (1967-2006).
Terrell, Sandra, Arts and Sciences (1979-2011).
Thomas, Jerry, Education (2008-2016).
Thomas, Ruthanne, Arts and Sciences (1981-2016).
Thornton, John H., Business (1971–2006).
Tipps, Steve, Education (1992-2002).
Totten, Herman, Information (1977-2015).
Turner, Elizabeth, Arts and Sciences (2002-2016).
Turner, J. William, Education (1961-1998).
Turner, Philip, Library and Information Sciences (1969-2011).
Vanecek, Michael T., Business Administration (1978-2006).
Vann, J. Don, Arts and Sciences (1964-1999).
Veazey, Charles O., Music (1973-2011).
Vela, Roland, Arts and Sciences (1965-2000).
Vidrine, Donald, Arts and Sciences (1968-1998).
Walker, Myra, Visual Arts and Design (1987-2015).
Waller, William, Arts and Sciences (1989–2009).
Warner, Roger, Music (1976-2006).
Washington, Roosevelt, Jr., Education (1974-1996).
Watson, Hoyt F., Education (1976-1998).
Weinstein, Bernard, Public Affairs and Community Service (1989-2009).
Wells, Richard, Journalism (1979-2009).
Wenrich, Wesley, Arts and Sciences (1970-1993).
Westmoreland, Reginald, Arts and Sciences (1963-1998).
Wheeless, Lawrence, Arts and Sciences (1993-2004).

White, Richard, Business (1990-2016).
Wilhelm, Ronald, Education (1991-2013).
Williams, Fred, Business (1968-2007).
Williamson, John, Education (1968-2006).
Wilson, William, Arts and Sciences (1968-2001).
Wright, Eugene P., Arts and Sciences (1966-2006).
Wu, Fred, Business Administration (1993-2005).
Yeric, Jerry L., Arts and Sciences (1970-2002).
Young, Jon, Education (1977-2015).
Youngblood, Judy, Visual Arts (1976-1997).
Zimmerman, Earl, Arts and Sciences (1970–2009).

Dates indicate years at UNT.

Emeritus librarians

Bradley, Lou Ann (1974–2010).
Galloway, Margaret E. (1967-1997).
***Grose, B. Donald** (1988–2009).
****Kelly, Melody** (1974–2009).
Lavender, Kenneth (1981-2001).
Martin, Morris (1971-2013).

*** Dean Emeritus**
****Associate Dean Emeritus**

Dates indicate years at UNT.

President emeritus

V. Lane Rawlins (2010-2014).

Dates indicate years at UNT.