

Research Master's

The goal of the Research Master's in Science in Geography program is for students to develop a foundation in the discipline of geography and acquire skills that will allow them to become independent researchers. Four milestones mark progress toward this goal, all of which are achieved in collaboration with the major professor: 1) formalize a degree plan; 2) structure a thesis committee; 3) write, present, and defend a thesis research proposal; and 4) conduct thesis research and write, present, and defend a thesis.

Students are required to take core classes within the first three semesters:

- [GEOG 5160 - Foundations of Geographic Thought](#) 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).
- [GEOG 5800 - Research Design and Geographic Applications](#) Helps students learn systematic research tools, such developing a literature review, framing research questions, and writing a research proposal. The class helps students focus their research agenda and develop their thesis proposal. The course provides a structure and format for developing a research agenda, but the proposal-writing process also requires discussion, deliberation, and primary mentorship from the student's major professor.
- Analytical Methods: There is more than one avenue for meeting the analytical methods requirement. Students must take at least one of the following: fundamentals of statistical research (GEOG 5185), spatial and multivariate statistics (GEOG 5190), and qualitative methods (ANTH 5031).
 - [GEOG 5190 – Advanced Quantitative Techniques](#) Application of advanced statistical procedures, including spatial statistics and multivariate techniques to analysis of point and areal patterns and spatial data.
 - [GEOG 5185 – Statistical Research in Geography](#) Application of fundamental statistical techniques to research in geography, emphasizing the construction of research papers and proposals
 - [ANTH 5031 – Ethnographic and Qualitative Methods](#) Focus on ethnographic and qualitative methods and development of skills necessary for the practice of anthropology. Emphasis is given to qualitative approaches to data collection and analysis, grant writing, and the ethics of conducting qualitative research.

A replacement analytical methods course can be recommended by the major professor and thesis committee; however, such a course must meet goals similar to those listed above. Exception requests will be deliberated by the GC and will not count toward the requirement without approval of the GC.

The rest of the coursework in the MS Geography curriculum consists of a series of electives that are chosen in consultation with the major professor and the thesis committee (see next section).

Milestones

The goal of the Master's in Science in Geography program is for students to develop a foundation in the discipline of geography and acquire skills that will allow them to become independent researchers and project managers. Four milestones mark progress toward this goal, all of which are achieved in collaboration with the major professor: 1) formalize a degree plan; 2) structure a thesis committee; 3) write, present, and defend a thesis research proposal; and 4) conduct thesis research and write, present, and defend a thesis.

The Degree Plan

The degree plan is a strategic plan for student coursework and the research hours they will need to acquire the skills and perspectives they would like to gain from the graduate program. Course selection relates to the goals of the thesis research, and thus the degree plan is developed during the first semester through discussion with the major professor. Individual student degree plans and the composition of the thesis committee are defined by the beginning of the second term/semester of attendance.

The Thesis Committee

During the period in which the major professor and student discuss the degree plan, conversations should also develop concerning planned research and organization of the thesis committee. Through discussion, the major professor and the student will deliberate about which faculty members fit the goals of the developing research and can provide additional guidance. The thesis committee is chaired by the major professor and consists of at least two additional faculty members, one of whom must be a faculty member in the Department of Geography. Thesis committee members from outside UNT must be approved by the Department and Toulouse Graduate school; for outside members, the major professor and student are responsible for soliciting a CV and producing a brief statement (via email to the Graduate Program Coordinator) as to how the external committee members is appropriate for the research project.

The Thesis Proposal

All students should defend a thesis proposal by the end of the second semester. Research topics and objectives should be defined and honed during the first semester of the program in GEOG 5800; that course provides a structure and format for developing a research agenda, but the proposal should be developed through discussion and consultation with the major professor during the first and second semester. The proposal consists of a written document that provides a literature review to contextualize the proposed research, a statement of objectives, and a plan for how the research will proceed. The proposal is constructed and written with the guidance of the major professor who critiques and edits drafts of the document. Upon approval by the major professor, a draft of the proposal is sent to the remaining members of the thesis committee, and if they deem the researcher ready, a proposal defense will be scheduled. The defense is a presentation of the proposal. It is open to faculty members and students. The presentation is

advertised through the Department, and students must provide the administrative assistants with the date, time, and location of the proposal defense. After general discussion from the audience, the thesis committee will meet with the student to offer feedback on the proposed research. The committee will then deliberate to determine whether or not the student passes the proposal defense, if revisions are required, or if the student cannot proceed in the program. Students who do not pass the proposal defense may consider a non-thesis pathway to the Master's degree upon recommendation of the thesis committee and the Department. Students who pass their thesis proposal defense may proceed in their research.

The Thesis Defense

The Master's thesis is the pathway to becoming an independent researcher who can develop/address research problems, conceptualize solutions, generate appropriate data, provide analytical strategies to summarize and make inferences based on those data, and synthesize the importance and meaning of research through writing and presentation. The thesis is constructed and written with the guidance of the major professor who critiques and edits drafts of the document. After approval of the major professor, a draft of the thesis is sent to the remaining members of the thesis committee, and if they deem the researcher ready a thesis defense will be scheduled. The defense is a presentation of the thesis, which is open to faculty members and students. The presentation is advertised through the Department, and students must provide the administrative assistants with the date, time, and location of the thesis defense. After general discussion from the audience, the thesis committee will meet with the student to offer feedback on the research. The committee will then deliberate to determine whether or not the student passes their thesis defense, if there are revisions required, or if the student's work does not warrant completion of the program. Students who do not pass the thesis defense may consider a non-thesis pathway to the Master's degree upon recommendation of the thesis committee and the Department. Students who pass their thesis defense must submit the thesis to the graduate school under their guidelines and deadlines to graduate. Thesis guidelines may be found here: <http://tsgs.unt.edu/new-current-students/theses-and-dissertations>. Graduation information may be found here: <http://tsgs.unt.edu/new-current-students/graduation-information>.

Conference Travel

Faculty members and graduate students regularly travel to a variety of regional, national, and international research conferences to present research findings and to create and maintain professional networks. Students may apply for travel assistance through the Toulouse Graduate School through their Travel Grant Program: <http://tsgs.unt.edu/new-current-students/travel-grants>.

Teaching Assistantships

Applicants to the program are considered for funding through a teaching assistantship. Generally, there are three types of assistantships: 1) TAs teach lab sections of Earth Science (GEOG 1710), Physical Geology (GEOL 1610), or Archaeological Science (ARCH 2800), which entails a load of four lab sections per semester; 2) TAs assist in teaching

specialized courses, such as Foundations of Geographic Research (GEOG 2110), Statistical Research in Geography (GEOG 4185/5185), Advanced Quantitative Techniques (GEOG 5190), or Introduction to GIS (GEOG 3500); or 3) TAs serve as tutors and graders dedicated to multiple lecture and lab sections of Earth Science and/or Physical Geology. Students can read about these courses in the current UNT Undergraduate and Graduate Course Catalogs. During the application process, if selected for a teaching assistantship, the GC will offer a funding commitment to the applicant for the coming academic year, or potentially for two years. This offer is based on a ranking of all graduate applications. Funding may not be renewed for the second year if a student is not making satisfactory progress toward degree milestones by the end of the second semester. Major professors and members of the GC meet at the end of each academic year to review each student's progress in this regard. Typically, students who receive two years of funding, whether from an initial two-year commitment or from two one-year commitments, are unlikely to receive additional semesters of support. If a student's program extends beyond two years, the student can request to be considered in the TA selection pool. New applicants will be prioritized during the selection process over those who have received two years of support.

If a TA is unsuccessful in the classroom, the student can lose funding during or after the semester working with the Department (removal during the semester is exceptionally rare). Significant instances of poor quality teaching can lead to removal between semesters despite a one or two-year commitment from the GC. If a student receives a research assistantship during her/his program, the student is still expected to complete the MS degree in the two-year window. The student may or may not receive TA support after two years in the program and will not be prioritized over new applicants or students who have only received one-year commitments in previous years. In rare instances, the Department will have additional TA positions and may approach former TAs who have been in the program for more than two years with support.

Additional Information

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

At the completion of 30 semester credit hours, students will not be allowed to change their initial decision to choose either the thesis or non-thesis option.

Graduate students who have not graduated within one year after completion of coursework must formally apply for an extension to remain in the program (see www.geog.unt.edu for details). If a student does not demonstrate satisfactory progress toward completion of the thesis or research report within 1.5 years of successfully defending the thesis proposal, a grade of F will be automatically assigned for the thesis. Students have the right to appeal this decision to the graduate committee.

Students may elect to follow one of the specific degree tracks currently offered: applied geomorphology, environmental archaeology, urban environments, water resources management, applied GIS, business geography or medical geography.

Tracks

The following tracks serves as guides for those who wish to have a more focused program. These tracks reflect some of the research areas of faculty members in the department. Students are not required to choose a track.

[Globalization, Development and Cities](#)

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, prejudice, marginalization, terror and conflict. The objective of this track is to train students to understand the complexities of our global society, our cities and our unequal geographies of life and livelihood. Upon graduating, students will find themselves well trained to pursue doctoral degrees, or careers in government, think tanks, non-governmental organizations, teaching, diplomacy and elsewhere.

[Applied Geomorphology](#)

Applied geomorphology emphasizes geomorphological processes that are of societal significance, including the effects of urbanization on the physical environment and hazards such as flooding, coastal erosion and sea-level rise. This track enables students to structure their degree plans around conceptual and technical aspects of applied geomorphology. Students completing this track may continue in higher education or find employment with government research and regulatory agencies, municipalities, planning organizations, water supply districts, or environmental consulting firms.

[Environmental Archaeology](#)

Archaeology faculty in the geography department, in cooperation with the graduate program in anthropology, direct graduate students in pursuit of either the MS in geography or the MS in interdisciplinary studies. The focus of this program is to give students a strong foundation in selected areas of research that will prepare them for entry into research positions or doctoral programs in archaeology. Two principal areas of training are geoarchaeology and zooarchaeology, which derive strength from the faculty and laboratory/collections resources at UNT. In addition to core requirements in geoarchaeology or zooarchaeology, students complete two areas of specialization selected from the following areas: GIS and remote sensing, spatial and quantitative analysis, instrumental techniques (e.g., SEM, EDX, PIXE, stable isotopes, petrography), or zoology and ecology.

[Urban Environments](#)

This 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. Rather than a strictly technical preparation, students acquire the foundation in applied geography that qualifies them to play vital roles in planning, policy and implementation in chosen areas such as urban geography, economic/business development, environmental science and medical geography. Courses for this track are selected from a chosen subset of the following groups: GIS technology, GIS applications, topics/cognate fields, real estate/marketing, public health administration, environmental science and applied economics.

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 urban/economic geography. Participation in a business internship is encouraged. If appropriate, the results of the internship can form the basis for the student's MS thesis or problems in lieu of thesis.

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.