Geography
Master of Science

The Geography Department graduate program includes both thesis and non-thesis options leading to the M.S. and M.A. degrees. The principle areas of concentration are community and urban development, environmental geography, geographic education, and geospatial techniques (cartography, GIS, and remote sensing of the environment). The graduate programs provide close student-faculty interaction, easy access to current computer technology and field equipment, a broad liberal arts academic setting, and an abundant number of research topics within the American Great Plains and Canadian Prairie Provinces. In addition, the department offers an array of courses in geospatial technologies to allow students to build expertise in GIS, remote sensing, cartography and spatial analysis.

The M.S. option in environmental geography reflects a geographic focus on land use, and land-use change, climatology, water resources, human impact, biogeography, geomorphology, and landscape ecology. Students follow a sequence of required and elective courses that reflect an environmental emphasis. The M.S. program prepares students for doctoral study or a professional career in government, industry, or education in a wide variety of environmentally related fields. Students also must take cognate or minor courses in biology, geology, atmospheric sciences, or other related fields.

The mission of the Department of Geography’s Masters of Science graduate degree program is to provide a solid foundation in the concepts and theories of physical geography, and to develop skills in the use of geospatial technologies, which will prepare students for careers in natural resources management, geoscience, federal government service, and geographic information science, or for doctoral work in physical geography.

**Goal 1:** Students will be able to create new knowledge and apply geographic techniques to solve geographic problems related to natural resources management and the geosciences.

**Goal 2:** Students will exhibit a fundamental understanding of the breadth, depth, and integration of geography.

**Goal 3:** Students will be able to integrate their learning in geography to the broader world.

Admission Requirements

The applicant must meet the School of Graduate Studies’ current minimum general admission requirements as published in the graduate catalog.

1. A four-year bachelor’s degree from a recognized college or university.
2. A GPA of at least 3.00 in all undergraduate work.
3. A minimum of 9 semester credits of undergraduate coursework in geography, preferably physical geography. An additional 6 credits in the fields cognate to geography are required.
4. Satisfy the School of Graduate Studies’ English Language Proficiency requirements as published in the graduate catalog.
5. International applicants who have received their bachelor’s or master’s degree in the United States or English speaking Canada are not required to submit the TOEFL or IELTS.
6. Meet all School of Graduate Studies requirements for admission.

Outstanding applicants are evaluated on an individual basis and those with limited background in geography but a distinguished record in another discipline may be accepted in a qualified or provisional status.

Degree Requirements

Students seeking the Master of Science degree at the University of North Dakota must satisfy all general requirements set forth by the School of Graduate Studies as well as particular requirements set forth by the Geography Department.

1. Four required courses:

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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GEOG 500</td>
<td>Graduate Studies in Geography</td>
<td>1</td>
</tr>
<tr>
<td>GEOG 501</td>
<td>Geographic Thought Through Time</td>
<td>2</td>
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</tbody>
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Email: questions@gradschool.und.edu
GEOG 576  Field Methods and Analysis in Geography  3
GEOG 578  Geographic Research and Writing  2
Total Credits  8

2.  A minor or cognate area of study, and a graduate program of study that reflects the student’s focus on physical geography topics (9 credits). Cognate courses must be from at least two academic departments outside Geography.

Thesis
1.  A minimum of 30 semester credits, including 9 semester credits for approved minor or cognate courses.
2.  At least one-half of the credits must be at or above the 500-level.
3.  A maximum of one-fourth (usually 8-9 semester credits) of the credit hours required for the degree may be transferred from another institution.
4.  Preparation and successful defense of a thesis. (A minimum of 6 credits for GEOG 998 Thesis.)

Non-Thesis
1.  A minimum of 36 semester credits, including 9 semester credits for approved minor or cognate courses.
2.  A minimum of 12 credits that focus upon geospatial skills and techniques which include quantitative methods, computer graphics and mapping, geographic information systems, remote sensing, field methods, and cartography. The non-thesis programs emphasize development of geospatial skills that can be applied to specific problems and projects that may or may not involve research.
3.  Two credits of GEOG 997 Independent Study are required.
4.  At least one-half of the credits must be at or above the 500-level.
5.  A maximum of one-fourth of the credit hours required for the degree may be transferred from another institution.
6.  Preparation of a written independent study approved by the faculty advisor.
7.  Comprehensive final examination.

Faculty and Areas of Expertise
•  Christopher Atkinson, Ph.D., historical climatology of blizzards, climate/climate change, hazards, North America
•  Devon A. Hansen, Ph.D., migration, population, gender issues, community development, Great Plains
•  Douglas C. Munski, Ph.D., historical, geographic education, tourism, Canada, North America
•  Michael A. Niedzielski, Ph.D., commutes, land use, and policy; rail transit, world cities, and sustainability; the impact of socio-economic factors on segregation indices
•  Bradley C. Rundquist, Ph.D., Chair, remote sensing, digital image processing, geographic information systems, biogeography
•  Paul E. Todhunter, Ph.D., climatology, hydrology, natural hazards, human impacts
•  Gregory S. Vandeberg, PhD, fluvial and glacial geomorphology, heavy metals in the environment, disturbed land reclamation, geographic information systems, remote sensing
•  Enru Wang, Ph.D., economic, regional development, urban, China, GIS

Contact Information
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