Master of Science in Geography

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 or a closely related field.
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 in Geography degree (on-campus, thesis or non-thesis option) 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 Department of Geography and Geographic Information Science.

1. Three required courses:

Code	Title	Credits
GEOG 500	Graduate Studies in Geography (Repeatable with different topics)	3
GEOG 576	Field Methods and Analysis in Geography	3
GEOG 578	Geographic Research and Writing	3
Total Credits		**9**

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

Thesis (on-campus)

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 (on-campus)

1. A minimum of 30 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 program emphasizes the 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.

Professional Science Master's (PSM) in GISc (online)

This online, non-thesis program integrates the technical skills of the Geographic Information Science (GISc) Master's degree with the professional workplace skills – professional writing, budgeting, project management, data analytics, among others – necessary to thrive and advance in the workplace. The GEOG 597 Graduate Internship course also provides a practical-oriented workplace relevant capstone/internship experience. This program is recognized by the National Professional Science Master's Association.
The degree requirements for this program option are different from those for the on-campus options (thesis and non-thesis).

Total number of credits required: 30

1. Eighteen (18) Credits in Geography and GISc

Code	Title	Credits
Required courses (12-15 credits)*		
GEOG 471 & 471L	Cartography and Visualization and Cartography and Visualization Laboratory	3
GEOG 474 & 474L	Introduction to Geographic Information Systems (GIS) and GIS Laboratory	3
GEOG 574	Advanced Techniques in Geographic Information Systems	3
GEOG 597	Graduate Internship (*repeatable to 6 credits)	3
Elective courses (3-6 credits)		
GEOG 475	Digital Image Processing	3
GEOG 476	Selected Topics in Geographic Information Systems (Python Programming)	3
GEOG 476	Selected Topics in Geographic Information Systems (Web GIS)	3
GEOG 575	Seminar in Remote Sensing	3

2. Six (6) Credits in Core PSM Quantitative/Analytic Skills Courses

3. Six (6) credits in Core PSM Professional Skills Courses; COMM 516 Principles of Professional Communication

Code	Title	Credits
Quantitative/Analytic Skills Courses:		
EFR 513	Large Dataset Management and Analysis	3
EFR 515	Statistics I	3
EFR 516	Statistics II	3
EFR 518	Multivariate Analysis	3
EFR 535	Data Analytics and Visualization with R	3
ENE 530	Applied Engineering Business Analysis	3
PSYC 540	Foundations of Behavioral Data Analytics	3
Professional Skills Courses:		
COMM 516	Principles of Professional Communication	3
COMM 524	International/Intercultural Communication for Professionals	3
COMM 527	Persuasion & Persuasive Communication	3
COMM 529	Science Communication	3
ENGL 408	Advanced Public and Professional Writing	3
ENGL 540	Science Writing	3
ENGR 554	Applied Project Management	3
ESSP 562	Environmental Economics, Policy and Management	3
ESSP 570	Communicating Environmental Information	3
ENE 533	Project Dynamics & Strategy Modeling	3

POLS 532	Public Policy	3
POLS 533	Administrative Ethics in the Public Sector	3