



GEOGRAPHIC INFORMATION SCIENCE - GISc

Graduate Certificate

- 12 credits
- 1 year to complete
- 100% online semester-based courses
- In-state tuition regardless of residency

Course Offerings

Geographic Information Science (GISc) is the foundation of mapping technologies used by education, government and business, and integrates spatial data sets in the form of:

- Digital maps
- Digital aerial photos
- Remotely sensed imagery
- Global positioning system (GPS) coordinates

These technologies are used to assess, plan and manage many facets, including:

- Agriculture
- Air and water pollution
- Access to medical care
- City planning
- Building design
- Population growth
- Urban infrastructure
- Economic development
- Natural resource management
- Energy production and transmission
- Business marketing and site location

The 100% online GISc Graduate Certificate gives you a solid theoretical foundation in GISc and the state-of-the-art technical skills needed for a successful career, including how to:

- Understand the foundational theory and principles of cartography and geographic information systems
- Develop a critical eye when designing and interpreting maps
- Appropriately model landscape features to analyze spatial relationships among them
- Conduct applied research projects using geospatial technology tools

Curriculum

This certificate program requires a total of 12 credits. You'll take three core classes, and then choose one of the following:

- Quantitative Applications in Geography & Spatial Analysis
- Digital Image Processing
- Selected Topics in GIS
- Seminar in Remote Sensing
- Directed Study in Geographical Problems

Career Information

Geographic Information Systems have become an integral tool for surveyors, surveying and mapping technicians, cartographers and photogrammetrists. GIS can be used to create maps and information used in:

- Security
- Marketing
- Public health
- Emergency planning
- Urban planning and construction
- Natural resource exploration and conservation

With a GISc Graduate Certificate, you'll obtain the necessary mix of theoretical knowledge and technical skills needed to be highly competitive in the job market. The program emphasizes the development of graduate-level GISc professionals who are highly qualified to work in:

- Education
- Government
- Private industry

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How Online Certificates Work

The entire program is offered online; you're **not required** to come to campus at any time. As an online student, you'll participate in class activities at the time and place of your choice. You'll use web-based tools to:

- Access course materials
- Submit assignments
- Take tests
- Receive grades
- Communicate through message boards
- Participate in discussions through threaded discussion tools

Who Should Apply?

The part-time, online program is designed for non-degree seeking professionals who are unable to complete a full-time, on-campus program.

The Graduate Certificate provides the skills and tools needed to model landscapes digitally and to enable the mathematical characterization of spatial and temporal processes. GISc students can have educational backgrounds in any field, and commonly have undergraduate degrees in a wide range of areas, including:

- Anthropology
- Atmospheric sciences
- Biology
- Computer science
- Criminal justice
- Geography
- Geology
- History
- Physical or social science education
- Public health
- Sociology
- Space studies

Tuition

Regardless of your residency, you'll be charged the **in-state resident tuition rate** for this online program.

For information on tuition, military and veterans tuition assistance, employer-provided tuition assistance or scholarship opportunities, visit [UND.edu/online/graduate-certificates/geographic-information-science/tuition](https://www.und.edu/online/graduate-certificates/geographic-information-science/tuition).

Admissions

- Bachelor's degree from a regionally accredited college or university
- An undergraduate GPA of 2.75 overall or a GPA of 3.00 in the last 2 years of your undergraduate program

All non-native speakers of English are required to submit their scores from the Test of English as a Foreign Language (TOEFL) or equivalent.

See the UND School of Graduate Studies website (graduateschool.und.edu) for details on TOEFL details, admission requirements and the application process.

** If you do not meet the admission standards, you may be admitted on a provisional basis. Please contact UND Online & Distance Education for more information.*



DEPARTMENT OF GEOGRAPHY & GEOGRAPHIC INFORMATION SCIENCE

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