

Geographic Information Sciences (GISc) Graduate Certificate

The Geography department offers a graduate certificate in Geographic Information Science (GISc). GISc is the foundation of Geographic Information Systems (GIS), which integrate spatial data sets in the form of digital maps, digital aerial photos, satellite imagery, and global positioning system (GPS) coordinates. The goal of GISc is to model landscapes digitally and to enable the characterization of spatial and temporal processes.

Certificate students must be admitted to UND as either full or part-time graduate students. Application for admission must be made to the UND School of Graduate Studies. The certificate is designed to serve:

1. non-geography graduate students currently pursuing a graduate degree from UND, and
2. non-degree-seeking professionals already holding a graduate and/or baccalaureate degree who seek to “re-tool.”

The courses taken in a previously completed GISc certificate program may be applied to a Master’s degree in Geography.

Admission Requirements

1. A baccalaureate degree from an accredited university.
2. A GPA of at least 2.75 in all undergraduate work.

Certificate Requirements

Successful completion of the 12-credit GISc Certificate requires the following:

1. Completion of the nine credits of core courses (see below).
2. Completion of at least three credit hours of elective courses (see below).
3. A minimum grade point average of 3.00.
4. Completion time of no more than five years.

5. Required Core Courses		
<u>GEOG 471</u> & <u>471L</u>	Cartography and Visualization and Cartography and Visualization Laboratory	3
<u>GEOG 474</u> & <u>474L</u>	Introduction to Geographic Information Systems (GIS) and GIS Laboratory	3
<u>GEOG 574</u>	Advanced Techniques in Geographic Information Systems	3
Elective Courses		
Select one of the following:		3
<u>GEOG 377</u> & <u>377L</u>	Quantitative Applications in Geography and Spatial Analysis Laboratory	
<u>GEOG 475</u>	Digital Image Processing	
<u>GEOG 575</u>	Seminar in Remote Sensing	
<u>GEOG 591</u>	Directed Study in Geographical Problems	
Total Credits		12

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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The Department of Geography also offers an MS and an MA degree in Geography.