Geographic Information Systems (Certificate)

Building on NC State's strengths in technology, computational methods, and geographic information systems (GIS), this program provides professional, graduate-level academic preparation in the advanced application of GIS technologies to a wide spectrum of disciplines, including economics, public health, emergency planning and response, land use planning, environmental resources, etc. The certificate is available as a standalone program and also available to current NC State graduate students enrolled in other Masters and PhD programs.

Please visit our certificate program website (https://online-distance.ncsu.edu/program/graduate-certificate-in-geographic-information-science/) for more information.

Learning Outcomes and Degree Requirements

The Geographic Information Systems Graduate Certificate requires 12 credit hours. Six credit hours are core required courses and 6 hours of electives tailored to student interests. The focus is on theory and applications of GIS and fundamental skill building. A final GPA of 3.0 or greater is required at the time of graduation to receive the certificate. Specific course requirements are listed on the program website (https://online-distance.ncsu.edu/program/graduate-certificate-in-geographic-information-science/courses/).

Careers

The demand for geospatial scientists across a wide range of disciplines and employment sectors continues to increase the options for GIS careers. Our students go on to enter positions as GIS technicians and analysts, consultants, and many other disciplinary positions where GIS skills are highly sought. Students currently working in the geospatial field also have found success transitioning to new positions and/or higher salaries within their current organizations upon completion of the certificate.

Additional Information

Up to 12 credit hours of B or better grades from the Certificate can transfer into the MGIST (https://online-distance.ncsu.edu/program/master-of-geospatial-information-science-and-technology/) program if/when a student applies and is accepted into that program.

Admissions Requirements

Admission to the certificate program requires a baccalaureate degree from an accredited college or university with at least a 3.0 GPA. Students with less than a 3.0 undergraduate GPA may still be considered for admission based on the remaining criteria or may be recommended to take one of our graduate courses as a non-degree student first. These determinations will be made on a case-by-case basis. All applicants must submit:

- Transcript showing Bachelor's degree conferred
- A clear and concise personal statement/statement of interest
- A resume/CV

Current NC State students in other degree programs may also be eligible to earn the certificate. These students should discuss the possibility with their program advisors and contact the Center for Geospatial Analytics to complete an internal application no later than after completing the first course they wish to count towards the program.

Applicant Information

- **Delivery Method:** On-Campus, Online, Hybrid
- **Entrance Exam:** None
- **Interview Required:** None

Application Deadlines

- **Fall:** April 15 (US); March 1 (Intl)
- **Spring:** October 15 (US); July 15 (Intl)

Plan Requirements

Code	Title	Hours
Core Courses		**6**
GIS 510	Fundamentals of Geospatial Information Science and Technology	
GIS 520	Geospatial Data Science and Analysis	
Elective Courses		**6**
Choose 6 credit hours of electives from the "Elective Courses" listed below, at least 3 of which must be GIS prefix courses		
Total Hours		**12**

Elective Courses

Code	Title	Hours
GIS 501	Geospatial Professionalism	
GIS 511	Coding for Geospatial Applications	
GIS 512	Introduction to Environmental Remote Sensing	
GIS 515	Cartographic Design	
GIS 517	GIS Applications in Landscape Architecture and Environmental Planning	
GIS 521	Surface Water Hydrology with GIS	
GIS 530	Spatial Data Foundations	
GIS 535	Web and Mobile GIS Protocols	
GIS 595	Special Topics in Geospatial Information Science	
GIS/MEA 582	Geospatial Modeling	
GIS 584	Mapping and Analysis Using UAS	
GIS 609	Geospatial Forum	
GIS 610	Special Topics in Geospatial Information Science	
SSC 540	Geographic Information Systems (GIS) in Soil Science and Agriculture	
BAE 535	Precision Agriculture Technology	
BAE 536	GIS Applications in Precision Agriculture	
LAR 517	GIS Applications in Landscape Architecture and Environmental Planning	
MEA 511	Introduction to Meteorological Remote Sensing	
HI 535	Spatial History	
ST 501	Fundamentals of Statistical Inference I	
ST 502	Fundamentals of Statistical Inference II	
ST 511	Statistical Methods For Researchers I	

ST 513	Statistics for Management and Social Sciences I	
ST 514	Statistics For Management and Social Sciences II	
ST 533	Applied Spatial Statistics	
ST 555	Statistical Programming I	
ST 556	Statistical Programming II	
Total Hours		**0**

* Other courses not listed can be approved as an elective upon consultation with an advisor.

Faculty

Director

Eric Money

Full Professors

Ross Meentemeyer

Helena Mitasova

Stacy Nelson

Gary Roberson

Associate Professor

Jeffrey White

Associate Teaching Professors

Eric Money

Stacy Supak

Laura Tateosian

Lecturer

Katherine Jones

Emeritus Faculty

Perver Baran

Heather Cheshire

Hugh Devine

Siamak Khorram