

Geospatial Analytics (Minor)

Students enrolled in this minor will learn to harness location-based data to solve pressing global challenges and tell stories through maps and visualizations relevant to a wide range of disciplines. Students can expect to learn how to employ Geographic Information Systems in combination with fundamental spatial data science principles in order to understand where things happen and why they happen where they do. This minor requires a minimum of 15 credit hours, consisting of a geospatial core, data science core, and spatial electives. Students are encouraged to declare the minor no later than first semester junior year. The minor is housed in the Center for Geospatial Analytics and is open to any undergraduate major.

For more information about academics in the Center for Geospatial Analytics, visit cnr.ncsu.edu/geospatial (<https://cnr.ncsu.edu/academics/>).

Contact

Dr. Eric Money
919.513.0408
esmoney@ncsu.edu

Center of Geospatial Analytics
Jordan Hall 5108 | Campus Box 7106
North Carolina State University
2800 Faucette Dr.
Raleigh, NC 27695 USA

The GIS and Spatial Data Science minor consists of a geospatial core of 9 credit hours that every student in the minor must take, in addition to a Data Science core, consisting of 3 1-credit Data Science and AI Academy courses of the student's choosing. A flexible spatial elective (of at least 3 credits) rounds out the minor requirements. Substitutions need the approval of the minor coordinator prior to taking the course.

Special Course Notes:

- Students should start taking courses for the minor by Sophomore/Junior year and students are encouraged to declare the minor no later than second semester Junior year.
- Courses in the minor are a mixture of online and in-person.
- GIS 205 Spatial Thinking with GIS and GIS 280 Introduction to GIS can potentially be taken in the same semester (when offered)
- GIS 280 Introduction to GIS is a prerequisite for the higher level GIS courses in the minor
- GIS 411 Coding for Geospatial Applications is a 2-credit 8-week course
- GIS 450 GIS and Spatial Data Science in Practice is a 1-credit course and should typically be the final course taken to complete the minor; it can potentially be taken in the same semester as GIS 411 Coding for Geospatial Applications (when offered)
- Special topics courses cannot be counted towards the minor
- None of the 'geospatial core' courses can be taken as S/U

- Students may double-count minor courses with their major, GEP, or free elective requirements as determined by their academic advisor
- Only grades of C or better will earn credit towards the minor

Plan Requirements

Code	Title	Hours
Geospatial Core (Required)		9
GIS 205	Spatial Thinking with GIS	
GIS 280	Introduction to GIS	
GIS 411	Coding for Geospatial Applications	
GIS 450	GIS and Spatial Data Science in Practice	
Data Science Core (Choose 3)*		3
DSA 201	Introduction to R/Python for Data Science	
DSA 205	Data Communication	
DSA 225	Data Science for Social Good	
DSA 202	Introduction to Data Visualization	
DSA 405	Data Wrangling and Web Scraping	
DSA 406	Exploratory Data Analysis for Big Data	
Spatial Electives (Choose 1)*		3
ES 113	Earth from Space	
SOC 220	Cultural Geography	
PRT 240	Geospatial Applications for Parks, Recreation, Tourism and Event Management	
NR 300	Natural Resource Measurements	
GC 320	3D Spatial Relations	
BAE 325	Introductory Geomatics	
ENG 342	Literature of Space and Place	
FOR 353	GIS and Remote Sensing for Environmental Analysis and Assessment	
SSC 440	Geographic Information Systems (GIS) in Soil Science and Agriculture	
CSC 442	Introduction to Data Science	
Total Hours		15

* Course restrictions and pre-requisites still apply. Alternative data science and spatial electives can be used upon consultation and approval by the coordinator of the minor.