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, which is also available to current NC State students enrolled in non-GIS graduate programs, forms the basis for the Master of Geospatial Information Science and Technology (https://online-distance.ncsu.edu/program/master-of-geospatial-information-science-and-technology/).

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 contact the Center for Geospatial Analytics for more information on how to apply.

Other relevant 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.

Plan Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
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<tr>
<td></td>
<td>Core Courses</td>
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<tr>
<td>GIS 510</td>
<td>Fundamentals of Geospatial Information Science and Technology</td>
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<tr>
<td>GIS 520</td>
<td>Spatial Problem Solving</td>
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<tr>
<td></td>
<td>Elective Courses</td>
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<td></td>
<td>Choose 6 credit hours of electives from the &quot;Elective Courses&quot; listed below, at least 3 of which must be GIS prefix courses</td>
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Elective Courses

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<tr>
<td>GIS 501</td>
<td>Geospatial Professionalism</td>
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<td>GIS 512</td>
<td>Introduction to Environmental Remote Sensing</td>
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<td>GIS 515</td>
<td>Cartographic Design</td>
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<td>GIS 517</td>
<td>GIS Applications in Landscape Architecture and Environmental Planning</td>
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<td>GIS 521</td>
<td>Surface Water Hydrology with GIS</td>
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<td>GIS 530</td>
<td>Spatial Data Foundations</td>
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<td>GIS 532</td>
<td>Geospatial Data Science and Analysis</td>
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<td>GIS 535</td>
<td>Web and Mobile GIS Protocols</td>
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<td>GIS 595</td>
<td>Special Topics in Geospatial Information Science</td>
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<td>GIS/MEA 582</td>
<td>Geospatial Modeling</td>
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<td>GIS 584</td>
<td>Mapping and Analysis Using UAS</td>
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<td>GIS 609</td>
<td>Geospatial Forum</td>
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<td>GIS 610</td>
<td>Special Topics in Geospatial Information Science</td>
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<td>SSC 540</td>
<td>Geographic Information Systems (GIS) in Soil Science and Agriculture</td>
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<td>SSC 545</td>
<td>Remote Sensing Applications in Soil Science and Agriculture</td>
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<td>BAE 535</td>
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<td>BAE 536</td>
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<td>LAR 517</td>
<td>GIS Applications in Landscape Architecture and Environmental Planning</td>
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<td>MEA 511</td>
<td>Introduction to Meteorological Remote Sensing</td>
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<td>HI 535</td>
<td>Spatial History</td>
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<td>ST 501</td>
<td>Fundamentals of Statistical Inference I</td>
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<td>ST 502</td>
<td>Fundamentals of Statistical Inference II</td>
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<td>Applied Spatial Statistics</td>
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<td>Statistical Programming I</td>
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<tr>
<td>ST 556</td>
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**Total Hours** 0

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

**Faculty**

**Director**

Eric Money, *Director of Graduate Certificate Programs*

**Full Professors**

Ross Meentemeyer

Helena Mitasova

Stacy Nelson

Gary Roberson

**Associate Professor**

Jeffrey White

---

**Teaching Associate Professors**

Eric Money

Stacy Supak

Laura Tateosian

**Teaching Professor**

Perver Baran

**Emeritus Faculty**

Heather Cheshire

Hugh Devine

Siamak Khorram