Graduate Certificate: Geospatial Data Science

About the Certificate

Data science is an emerging interdisciplinary field with roots in computer science, mathematics and statistics. Spatial data are common and high value, including government administrative data, remotely sensed images, smartphone and vehicle location data, and volunteered geographic information (VGI). Our courses introduce students to big data handling, data mining, geosimulation, geospatial analytics and machine learning. The Department of Geography and Urban Studies faculty have expertise in cartography, GIS, machine learning, remote sensing, spatial data science, spatial statistics and urban analytics.

This graduate certificate complements our Professional Science Master’s in Geospatial Data Science and may serve as a gateway into the program. Students in the certificate program pursue a curriculum that provides training in geospatial data science that also complements graduate programs offered in the College of Education and Human Development, College of Liberal Arts, College of Public Health, College of Science and Technology, Fox School of Business and Management, and the Lew Klein College of Media and Communication.

Time Limit for Certificate Completion: 4 years

Campus Location: Main

Full-Time/Part-Time Status: The graduate certificate can be completed on a part-time basis. NOTE: International students may not be eligible to apply for a student visa based on admission to the certificate program. Please contact the certificate program's administrator for more information.

Job Prospects: Combined training in GIS and data science prepares individuals to take on lead data science teams in technology-based companies, governmental agencies and nonprofit organizations who regularly work with big geospatial data and undertake projects that require geospatial skills and a spatial perspective.

Non-Matriculated Student Policy: Courses are available to non-matriculated graduate students with approval from the Graduate Chair or Assistant Director. Non-matriculated students may take up to 9 credits prior to matriculation, but an exception can be made to accept all 12 certificate credits for those who want to pursue the Professional Science Master’s in Geospatial Data Science. For more information, please email psmgis@temple.edu about registering as a non-matriculated student.

Admission Requirements and Deadlines

Application Deadline:
Fall and Spring: Admission is on a rolling basis. Interested students should contact psmgis@temple.edu for permission to enroll in coursework. Students are processed by the Office of Continuing Studies.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Certificate Requirements

Number of Credits Required to Complete the Certificate: 12

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Core Courses</td>
<td></td>
</tr>
<tr>
<td>GUS 5161</td>
<td>Statistics for Urban Spatial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>or GUS 5073</td>
<td>Geovisualization</td>
<td>3</td>
</tr>
<tr>
<td>GUS 8061</td>
<td>Big GeoSpatial Data</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select two from the following:¹</td>
<td>6</td>
</tr>
<tr>
<td>GUS 5031</td>
<td>GIS Programming</td>
<td></td>
</tr>
<tr>
<td>GUS 5032</td>
<td>Geosimulation</td>
<td></td>
</tr>
<tr>
<td>GUS 5062</td>
<td>Fundamentals of Geographical Information Systems</td>
<td></td>
</tr>
<tr>
<td>GUS 5063</td>
<td>Remote Sensing</td>
<td></td>
</tr>
</tbody>
</table>
Graduate Certificate: Geospatial Data Science

- GUS 5065 Urban Geographical Information Systems
- GUS 5066 Environmental Applications of GIS
- GUS 5067 GIS and Location Analysis
- GUS 5068 Census Analysis with Geographical Information Systems
- GUS 5069 GIS for Health Data Analysis
- GUS 5072 Advanced Remote Sensing
- GUS 5162 Advanced Statistics for Urban Applications
- GUS 8066 Application Development for Geographic Information Systems
- GUS 8069 GIS Ethics and Professional Practice

Total Credit Hours: 12

Electives are selected from any of the required or elective courses for the Geospatial Data Science PSM, as identified above.

GPA Required to be Awarded the Certificate: 3.0 minimum

Contacts

Certificate Program Web Address:
https://www.temple.edu/academics/degree-programs/geospatial-data-science-certificate-graduate-la-gsds-grad

Admissions Information:
Dept. of Geography and Urban Studies
308 Gladfelter Hall (025-27)
1115 W. Polett Walk
Philadelphia, PA 19122-6089
psmgis@temple.edu
215-204-7692

Department Contacts:
Senior Manager, Administration:
Vicki Giammarco
vicki.giammarco@temple.edu
215-204-7692

Program Coordinator:
Liz Janczewski
psmgis@temple.edu
215-204-3386

Assistant Director:
Lee Hachadoorian, PhD
lee.hachadoorian@temple.edu
215-204-3331

Graduate Chairperson:
Hamil Pearsall, PhD
hamil.pearsall@temple.edu
215-204-3074

Chairperson:
Melissa Gilbert, PhD
mgilbert@temple.edu
215-204-7692