Oregon State University offers an undergraduate and graduate certificate in Geographic Information Science. Geographic Information Science (GIScience) is a discipline that combines theory and principles underlying:

- geospatial data collection (remotely sensed imagery from satellites, aircraft, and drones, social media, telemetry, GPS, etc.),
- technologies to manage, analyze, and visualize geospatial data (geographic information systems);
- computational, statistical, and mathematical methods to analyze and model geospatial data (machine learning, Big Data, spatial statistics, spatial modeling, geovisual analytics, etc.);
- digital cartography and geovisualization (the science and practice of creating maps); and
- cognitive, social and environmental implications of GIScience (professional ethics, privacy, digital divide, etc.).

The OSU GIScience certificate can help lead to certification as a nationally-recognized geographic information systems (GIS) professional (GISP). GIS professionals are in high demand for jobs in government, NGOs, and the private sector, and have rewarding careers in natural resource management, online and interactive mapping, business, planning, and many others.

Students must have completed the following background course or have equivalent experience: introductory cartography (GEOG 370 GEOVISUALIZATION: CARTOGRAPHY). This course can either be completed prior to starting the certificate program or pursued in tandem with the other courses in the certificate.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>GEOG 370</td>
<td>GEOVISUALIZATION: CARTOGRAPHY (EC)</td>
<td>4</td>
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<tr>
<td>GEOG 550</td>
<td>GISCIENCE I: INTRODUCTION TO GEOGRAPHIC INFORMATION SCIENCE (EC)</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 580</td>
<td>REMOTE SENSING I: PRINCIPLES AND APPLICATIONS (EC)</td>
<td>4</td>
</tr>
</tbody>
</table>

Select 11 credits of the following:

- CE 513 GIS IN WATER RESOURCES

The following courses may count towards elective credits after consulting with and receiving approval from the program director.

- CE 501 RESEARCH
- CE 560 SELECTED TOPICS IN GEOMATICS ENGINEERING
- CS 519 SELECTED TOPICS IN COMPUTER SCIENCE
- CS 549 SELECTED TOPICS IN INFORMATION-BASED SYSTEMS
- GEO 501 RESEARCH
- GEO 501 RESEARCH
- GEOG 599 SPECIAL STUDIES
- GEOG 699 SPECIAL STUDIES

EC= Delivered via Ecampus

Major Code: CG03