**LANDSCAPE ANALYSIS OPTION**

This option is offered within the following major(s):

- Natural Resources - College of Forestry (http://catalog.oregonstate.edu/college-departments/forestry/forest-ecosystems-society/natural-resources-bs-hbs/)

**Also available via Ecampus.**

This option prepares students to work with Geographic Information Science technology in a natural resource field such as wildfire ecology, land use planning, forestry, ecological restoration, and more. The pairing of the technical skills of GIScience with a disciplinary knowledge in a natural resource area will prepare students for the practical application of technical skills in the real world.

In addition, this specialty option will allow students to earn the GIScience Undergraduate Certificate through the College of Earth, Ocean, and Atmospheric Sciences concurrently with their BS degree through the College of Forestry. The student will apply to the GIS Certificate Program as well as the Natural Resources Program.

Students should contact Kuuipo Walsh (kuuipo.walsh@oregonstate.edu), GIScience Certificate Program Director, to enroll in the GIScience Certificate Program.

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No S/U grades are accepted for the GEO courses that are counted for the GIS Certificate.

A minimum of 40 credits with 20 upper-division credits are required.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>FE 208</td>
<td>FOREST SURVEYING</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 201</td>
<td>FOUNDATIONS OF GEOSPATIAL SCIENCE AND GIS</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 360</td>
<td>GISCIENCE I: GEOSPATIAL INFORMATION SYSTEMS AND THEORY</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 370</td>
<td>GEOVISUALIZATION: CARTOGRAPHY</td>
<td>4</td>
</tr>
<tr>
<td>GEOG 480</td>
<td>REMOTE SENSING I: PRINCIPLES AND APPLICATIONS</td>
<td>4</td>
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<tr>
<td>or FE 444</td>
<td>FOREST REMOTE SENSING AND PHOTOGRAMMETRY</td>
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**Geographic Information Science Electives (6-8 credits)**

Select two courses from the following:

- CE 413  Gis in water resources
- CROP/HORT 414  Precision agriculture
- FE 209  Forest photogrammetry and remote sensing
- FE 310  Forest route surveying
- FE 423  Unmanned aircraft system remote sensing
- FW 303  Survey of geographic information systems in natural resource
- GEOG 361  Giscience ii: analysis and applications
- GEOG 371  Geovisualization: web mapping
- GEOG 451  Planning principles and practices for resilient communities
- GEOG 462  Giscience iii: programming for geospatial analysis
- GEOG 463  Giscience iv: spatial modeling

* Baccalaureate Core Course (BCC)
^ Writing Intensive Course (WIC)

1 Up to 6 credits of appropriate internships, projects or study abroad may be used to fulfill requirements in this option as approved by petition

2 Students will be required to submit an academic plan for completion of the option which will be approved by the Natural Resources Program Director

**Option Code: 689**