

# GIS Technical Certificate Program

Geographic information systems (GIS) is one of the top emerging industries in the 21st century. It combines cartography, spatial analysis, and data management to support research and inform decision making. The Geography Department offers a one-year GIS Certificate that combines GIS concepts, technology, and real-world experience.

## Are you...

1. A student who wishes to acquire technical and topical knowledge to support your major or professional field?
2. A student who wishes to acquire specialized training to meet current or future job requirement calling for GIS knowledge?
3. Spending hours looking at maps to better understand the world you live in?

## What is GIS?

GIS is a framework to acquire, store, manage, analyze and visualize spatial data. Traditional paper maps are able to display just one view of data, at one point in time. Using GIS allows the display of information in various spaces and times. GIS provides a suite of tools used to support decision-making, as well as statistical and spatial analysis.

## GIS Program

The GIS Certificate prepares students to apply GIS with a solid theoretical foundation. A diverse range of GIS skills are covered including data capture, spatial & statistical analysis, modeling and cartography.

The GIS courses take a practical, hands-on approach. Students will not only learn how to use a specific software – they will apply GIS using a variety of projects and methodologies. With a combination of lab exercises, individual projects, and a community-based, collaborative long-term project, students will learn how to plan, design, and execute GIS projects.



### Required Coursework

GEO 170. Maps & Geospatial Concepts  
GEO 265. Introduction to GIS  
GEO 266. GIS Analysis  
GEO 267. GIS Applications  
GEO 270. Creating a Map Portfolio

### Electives

(A total of 24 elective credits are required)

#### GIS Electives - 16 credits

Geo 221. The Local Landscape  
Geo 223. Field Geography, GPS & GIS  
Geo 240. Cartography  
Geo 242. GIS Programming  
Geo 244. Interactive Map Design  
Geo 246. Remote Sensing  
Geo 248. Unmanned Aerial Systems (UAS)  
Geo 252. UAS Data Integration  
Geo 280. Cooperative Education

#### Geography Electives - 4 credits

Geo 105. Human Geography  
Geo 106. World Regional Geography  
Geo 110. The Natural Environment  
Geo 202. Geography of Europe  
Geo 204. Geography of Middle East  
Geo 206. Geography of Oregon  
Geo 209. Weather & Climate  
Geo 212. Geography of Global Issues  
Geo 215. Geography of Latin America  
Geo 230. Geo of Race & Ethnic Conflict  
Geo 250. Geography of Africa  
Geo 298. Independent Study

#### Technical Electives - 4 credits

Various courses offered through the CAS, CIS, and MTH departments. Check the current course catalog for specific course.

