

Geographic Information Systems, Undergraduate Certificate

Visit the Earth Science Department page (<https://www.uvu.edu/college-of-science/earth-science/>) for more information on the program and access to advising.

Program Description

The Undergraduate Certificate in Geographic Information Systems (GIS) provides students with the skills and knowledge needed to collect, process, and manipulate geospatial data from a variety of sources, create maps, analyze spatial relationships, and make informed decisions using GIS technology. It helps students develop expertise in using GIS software and learn how to use GIS in conjunction with other technologies such as GPS, remote sensing, and web mapping. The program enables students to pursue a wide range of industries, including environmental management, urban planning, public health, natural resource management, and transportation.

Program Requirements

Code	Title	Credit Hours
Total Credit Hours		19
Discipline Core Requirements		19 Credits
Complete the following:		
SURV 1220 or GEOG 3400	Remote Sensing and Photogrammetry Environmental Remote Sensing	3
GEOG 3600 or GIS 2800	Introduction to Geographic Information Systems Geographic Information Systems	4
GIS 3620 or GEOG 3650	Advanced Geographic Information Systems ² Advanced Geographic Information Systems	3
SURV 2100 or GEOG 4100	Mapping From Field to Finish Geospatial Field Methods	3
Complete 6 credits from the following courses:		6
CS 1400	Fundamentals of Programming (3)	
GEOG 3440	Geospatial Data Science (undefined)	
GEOG 4820R	GIS Internship (1-3)	
GEOG 4890R	Student Research in Geography (1-4)	
GIS 3630	Geographic Information Systems Application Development (undefined)	
SURV 1340	Fundamentals of Boundary Law (undefined)	
SURV 3210	Advanced Photogrammetry (undefined)	
SURV 3250	Geodesy (undefined)	
EGDT 1040	Fundamentals of Technical Engineering Drawing (3)	
Or any courses with the following prefix: GEOG, SURV, GIS, EGDT subject to department approval		

¹ Earth Science majors are encouraged to take courses with GEOG prefix in the Discipline Core Requirements category

² Surveying and Mapping majors are encouraged to take courses with GIS and SURV prefixes in the Discipline Core Requirements category

Graduation Requirements

- Grade of C- or higher in all courses used to satisfy requirements of the certificate.

Graduation Plan

This graduation plan is a sample plan and is intended to be a guide. Your specific plan may differ based on your Math and English placement and/or transfer credits applied. You are encouraged to meet with an advisor and set up an individualized graduation plan in Wolverine Track (<http://www.uvu.edu/wolverinetrack/>).

First Year

		Credit Hours
Semester 1		
GEOG 3600 or GIS 2800	Introduction to Geographic Information Systems or Geographic Information Systems	4
Elective		3
Credit Hours		7
Semester 2		
SURV 1220 or GEOG 3400	Remote Sensing and Photogrammetry or Environmental Remote Sensing	3
GIS 3620	Advanced Geographic Information Systems	3
SURV 2100 or GEOG 4100	Mapping From Field to Finish or Geospatial Field Methods	3
Elective		3
Credit Hours		12
Total Credit Hours		19

Program Learning Outcomes

1. Demonstrate proficiency in geospatial technologies, software, and approaches to collect, curate, analyze, interpret, visualize quantitative and qualitative geographic data, and provide solutions to environmental and society problems.
2. Execute database design and management using GIS and other tools to undertake GIS projects, both individually and collaboratively in teams.
3. Communicate geospatial analysis methodologies, findings, and visualizations through written reports, presentations, and interactive mapping applications.

Managers, all other

- Total Positions 1,282,500
- Field Growth 5.7%
- Median Salary \$133,560
- Average Openings 105.8

Cartographers and photogrammetrists

- Total Positions 12,900
- Field Growth 6.3%
- Median Salary \$76,210
- Average Openings 1.0

Surveying and mapping technicians

- Total Positions 57,400
- Field Growth 5.6%
- Median Salary \$48,940
- Average Openings 7.6

Geographers

- Total Positions 1,600
- Field Growth 2.5%
- Median Salary \$90,880
- Average Openings 0.1

Geography teachers, postsecondary

- Total Positions 4,300
- Field Growth 4.3%
- Median Salary \$85,600
- Average Openings 0.3