

Geographic Information Systems, Certificate of Proficiency

Requirements

The Certificate of Proficiency in Geographic Information Systems (GIS) provides students with a focused program of study in the fundamentals required to succeed in a wide range of careers in geospatial science. GIS includes the hardware, software, and data required to capture, store, display, and analyze geographically referenced information. Students in the certificate program learn the theory and methodology of geospatial data collection, storage and management, interpretation, and visualization through courses in cartography, remote sensing, GIS theory and applications, and geospatial field methods. In directed class projects students apply geospatial data techniques to real-world problems while gaining firsthand experience in project design and management.

Total Program Credits: 19

Discipline Core Requirements:		19 Credits
	GEOG 3400 Environmental Remote Sensing*	3
or	SURV 1220 Remote Sensing and Photogrammetry (3.0)	
	GEOG 3600 Introduction to Geographic Information Systems	4
or	GIS 3600 Introduction to Geographic Information Systems (4.0)	
	GIS 3620 Advanced Geographic Information Systems	3
or	GEOG 3650 Advanced Geographic Information Systems (4.0)	
	GEOG 4100 Geospatial Field Methods	3
or	EGDT 2400 Surveying Applications and Field Techniques II (3.0)	
Complete 6 credits from the following courses:		6
	CS 1400 Fundamentals of Programming (3.0)	
	GEOG 482R GIS Internship (1.0)	
	GEOG 489R Student Research in Geography (1.0)	
	GIS 3630 Geographic Information Systems Application Development (3.0)	
	SURV 1340 Fundamentals of Boundary Law (3.0)	
	SURV 2030 Geodesy (3.0)	
	SURV 3210 Advanced Photogrammetry (3.0)	
	EGDT 1040 Fundamentals of Technical Engineering Drawing (3.0)	
Or any courses with the following prefix: GEOG, SURV, GIS, EGDT subject to department approval		

Graduation Requirements:

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

Footnotes:

*Earth Science majors are encouraged to take GEOG 3400

Geographic Information Systems, Certificate of Proficiency 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](#).

Milestone courses (pre-requisites for a course in one of the subsequent semesters) are marked in red and italicized.

Semester 1	Course Title	Credit Hours
GEOG 3600	Introduction to Geographic Information Systems	4
Elective		3
	Semester total:	7
Semester 2	Course Title	Credit Hours
GEOG 3400	Environmental Remote Sensing	3
GEOG 3650	Advanced Geographic Information Systems	3
GEOG 4100	Geospatial Field Methods	3
Elective		3
	Semester total:	12
	Degree total:	19