

# GEOGRAPHIC INFORMATION SYSTEMS CERTIFICATE, UNDERGRADUATE

This certificate program is open to all majors and post-degree students.

The Certificate in Geographic Information Systems offers students an intensive, interdisciplinary course of study in the field of Geographic Information Systems (GIS) technology. Candidates must take four required classes and choose three additional classes from a list of options for a total of 24–30 credits. All students study a core of computer mapping and spatial analysis basics and then focus on their own application area (e.g. wildlife biology, wetlands, programming, cartographic design). An internship or similar participation in a 'real world' GIS project is a required component of the certificate program.

**Grade Requirements:** a grade  $\geq$ B must be earned in each course for it to count toward the Certificate.

## Required Introductory Course—choose at least one of the following

GEOG 321	GEOGRAPHIC INFORMATION SYSTEMS I: SPATIAL ANALYSIS FOR SOCIAL SCIENCES	5
or GEOG 323	GEOGRAPHIC INFORMATION SYSTEMS I: SPATIAL ANALYSIS FOR ENVIRONMENTAL SCIENCES	

## Required

GEOG 428	GEOGRAPHIC INFORMATION SYSTEMS II	5
GEOG 429	GEOGRAPHIC INFORMATION SYSTEMS III	5
GEOG 493	GIS PORTFOLIO	2

## Electives—choose three of the following 13-15

GEOG 329	REMOTE SENSING WITH SATELLITE IMAGERY	
GEOG 333	REMOTE SENSING WITH LIDAR	
GEOG 335	REMOTE SENSING WITH DRONES	
GEOG 420	DIGITAL GEOARCHAEOLOGY	
GEOG 426	CRITICAL GIS	
GEOG 427	DESKTOP MAPPING	
GEOG 449	ADVANCED SPATIAL ANALYSIS	
GEOG 458	DIGITAL CULTURAL RESOURCE MANAGEMENT	
GEOG 470	GIS PROGRAMMING	

Total Credits 30-32

## Admission

In order to qualify for admission to the GIS Certificate Program, full-time EWU students must hold a GPA  $\geq$ 3.0 and be entering or past their junior year, or obtain special permission from the certificate program advisor. Post-degree continuing education students who did not graduate from their previous school with a GPA  $\geq$ 3.0 will be admitted on a probationary basis.

## Students who successfully earn a BA in Geography from EWU should be able to do the following:

- demonstrate mastery of foundational concepts of geographic information science;
- demonstrate mastery of foundational concepts of social context of geographic information;
- have the ability to communicate geographic information through well-designed maps;

- have the ability to critically evaluate quality and accuracy of spatial data;
- have the ability to work in teams;
- show demonstrated proficiency with GIS software.