

GEOGRAPHIC INFORMATION SYSTEMS UNDERGRADUATE CERTIFICATE

Geographic Information Systems (GIS) are now used in fields such as urban planning, environmental monitoring, marketing, business and retail analytics, law enforcement, public health, disaster management, data journalism, among others.

In the GIS Certificate, students will learn to make maps, manipulate and query tabular data, work with GPS data, conduct spatial analysis, and propose, define, and implement GIS projects. Courses integrate lectures and hands-on exercises using ArcGIS at one of three specialized computer lab locations on campus.

The Undergraduate GIS Certificate Program requires 20 credit hours of instruction. It provides a broad education in GIS and serves as a basis for entry-level employment opportunities in the geotechnology industry. Five courses are required to complete the Undergraduate GIS Certificate:

Course	Title	Quarter Hours
GEO 241	GEOGRAPHIC INFORMATION SYSTEMS I: DIGITAL MAPPING	4
GEO 242	GEOGRAPHIC INFORMATION SYSTEMS II: COMMUNITY GIS	4
GEO 243	EARTH OBSERVATION	4
Select two of the following:		8
GEO 343	EARTH OBSERVATION II	
GEO 344	SPATIAL ANALYSIS FOR SUSTAINABILITY	
GEO 345	PROGRAMMING IN PYTHON FOR GIS	
GEO 346	GIS ANALYSIS OF ENVIRONMENTAL AND PUBLIC HEALTH	
GEO 347	WEB GIS AND SPATIAL DATA VISUALIZATION ON THE WEB	
GEO 348	SPATIAL DATA SCIENCE	
GEO 349	CRIME MAPPING & ANALYSIS	
GEO 391	STATISTICAL DATA ANALYSIS FOR GIS	

GEO 241 and GEO 242 must be taken in sequence. GEO 241 is a pre-requisite for all 300-level GIS classes. GEO 243 may be taken at any time, but taking GEO 241 first is recommended. Geography majors with a GIS & Geotechnology Concentration will automatically earn the GIS certificate. Other students interested in pursuing the GIS Certificate should contact the Department of Geography (geography@depaul.edu).

In order to earn a certificate in GIS, a student must:

- Earn at least a grade of C- in each Certificate course.
- Earn at least a cumulative GPA of 2.0 for all courses applied to the Certificate.
- Earn a letter grade. The pass / fail option may not be selected for courses in the Certificate.

A student completing a GIS Certificate is eligible to simultaneously complete a Geography or Urban Geography & Planning minor. No more than two GIS Certificate courses can be applied to a Geography or Urban Geography & Planning minor. A student wishing to complete a GIS Certificate and a Geography or Urban Geography & Planning minor will

complete a minimum of eight Geography courses. Please see a faculty advisor in the Department of Geography for further details.

For Advisors: Approved GIS Certificate Courses include: GEO 241, 242, 243, 343 through 349, 391. Additional GIS courses (e.g., Special Topics; GEO 395) may be approved by the Chair of the Department of Geography & GIS.