## GEOGRAPHIC INFORMATION SYSTEMS GRADUATE 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, and numerous other careers and professional fields.

In the Graduate 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 Graduate GIS Certificate Program requires 16 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. Four courses are required to complete the Graduate GIS Certificate:

Course	Title	Quarter Hours
Required		
GEO 441	GEOGRAPHIC INFORMATION SYSTEMS (GIS) FOR COMMUNITY DEVELOPMENT	4
Select three of the	e following:	12
GEO 442	GEOGRAPHICAL INFORMATION SYSTEMS (GIS) FOR SUSTAINABLE URBAN DEVELOPMENT	
GEO 443	EARTH OBSERVATION II	
GEO 444	SPATIAL ANALYSIS FOR SUSTAINABILITY	
GEO 445	PROGRAMMING IN PYTHON FOR GIS	
GEO 446	GIS ANALYSIS OF ENVIRONMENTAL AND PUBLIC HEALTH	
GEO 447	WEB GIS AND SPATIAL DATA VISUALIZATION ON THE WEB	
GEO 448	SPATIAL DATA SCIENCE	
GEO 491	STATISTICAL DATA ANALYSIS FOR GIS	

For more information, please contact the Department of Geography: geography@depaul.edu (geography@depaul.edu)