

MINOR IN GEOGRAPHIC INFORMATION SCIENCE AND GEOGRAPHIC ANALYSIS

The Geographic Information Science and Geographic Analysis minor has a broad interdisciplinary application. The analytical methods introduced and the technologies used in the different courses and applied lab work are relevant to many disciplines including: urban and regional planning, marketing and business, archaeology, agriculture, conservation and engineering. This minor is designed for all students desiring to gain a background in the geographic theory, methods, tools and technical skills that will increase their employment potential in any number of applied fields where geographic analysis is a valuable skillset.

Learning Objectives

After successfully completing this minor, students will be able to:

1. Address spatial thinking and spatial problem-solving across a range of disciplines and applied fields.
2. Appropriately and accurately make use of different digital data sources, and apply geographic information science tools and analysis to these data in order to analyze and recommend actions related to real world problems.
3. Understand and appropriately apply geographic analysis principles and methods, including spatial modelling, to real-world problem solving.
4. Use state-of-the-art geographic information system software and computer cartography software to implement spatial analysis of geographic problems faced by managers, planners, and employees across a range of fields and disciplines.
5. Master concepts of spatial data collection, spatial data entry, and spatial analysis/geographic analysis for real-world problem solving.
6. Utilize geographic analysis methods and analytical procedures to produce cartographically sound thematic maps from geographic information.

Requirements Effective Spring 2021

Additional coursework may be required due to prerequisites.

Students must satisfactorily complete the total credits required for the minor. Minors and interdisciplinary minors require 12 or more upper-division (300- to 400-level) credits.

Code	Title	Credits
Required Lower Division		
GR 220	Mapping, Cartography, and Spatial Thinking	3
Required Upper Division		
GR 323/NR 323	Remote Sensing and Image Interpretation	3
GR 420	Spatial Analysis with GIS	4
GR 430	Land Change Science and Remote Sensing	3
GR 431	Land Change Science Lab	1
Required Upper Division (Quantitative - choose one)		
ANTH 365	Quantifying Anthropology	3
GR 315	Quantitative Geographical Methods	3

Upper Division / Lower Division (Select a minimum of 4 credits)		4
CS 152	Python for STEM	
GR 305	Geography of Global Health	
GR 311	GIS for Social Scientists	
GR 495	Independent Study ¹	
HIST 475	Methods in Digital History	
NR 426	Programming for GIS I	
NR 427	Programming for GIS II	
Program Total Credits:		21

¹ Variable credit course which must have a geospatial component. The appropriateness for the Independent Study to count for the minor will be determined by the instructor leading the Independent Study and the Geography Program Director or Department Chair.