

# Geographic Information Science B.S.

## Geographic Information Science Major

The B.S. Geographic Information Science major requires a minimum of 120 total hours to graduate. This total includes UNIFI/General Education requirements and the following specified major requirements, plus course choices for a focus within the major and electives, needed to complete the minimum of 120 hours.

### Required

Geographic Information Science core:		
GEOG 1120	Peoples, Cultures, and Environments	3
GEOG 1210	Planet Earth	3
GEOG 1211	Planet Earth Laboratory	1
GEOG 2320	Drones for Mapping and Communication	3
GEOG 2410	Geographic Information Systems I	3
GEOG 4370/5370	Remote Sensing of the Environment	3
GEOG 4320/5320	Geographic Information Systems II	3
GEOG 4350/5350	Global Positioning System Field Survey Methods	3
GEOG 4310/5310	GIS Applications: (Variable Topic)	3
GEOG 3598	Research Experience in Geography <sup>@</sup>	1-3
GEOG 4550	Senior Seminar in Geography	3
GEOG 4560	Professional Seminar	1
<b>Statistics (Choose Two)</b>		<b>6</b>
STAT 1772	Introduction to Statistical Methods	
SOC SCI 2020	Social Sciences Statistics	
GEOG 3778/5778	Spatial Data Analysis *	
<b>Computer Science (Choose One)</b>		<b>3</b>
GEOG 4390/5390	GIS Programming	
CS 3140/5140	Database Systems *	
<b>Geography Electives</b>		<b>15</b>
Choose any Geography course in consultation with a Geography faculty advisor. Up to three (3) non-Geography courses can count toward Geography Electives with departmental approval.		
<b>Total Hours</b>		<b>54-56</b>

\* These courses have additional prerequisites as follows:  
 GEOG 3778/5778 has prerequisite of STAT 1772 or SOC SCI 2020.  
 CS 3140/5140 has prerequisites of CS 1520; CS 1800.  
<sup>@</sup>This course meets the Bachelor of Science degree undergraduate research course requirement.

**Note:** Choice of courses and subsequent course prerequisites may increase the length of this program.

## Four-Year Plan

### Geographic Information Science, B.S.

This is a sample plan of study with a suggested sequencing of classes for the major. University electives may be applied to earn additional academic majors, minors, or certificates. Students should regularly meet with their academic advisor to plan their specific semester schedule to include UNIFI/General Education program and/or university elective hours required.

Course	Title	Hour
<b>Freshman</b>		
<b>Fall</b>		
GEOG 1120	Peoples, Cultures, and Environments	3
UNIFI/General Education or University Electives		9
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
GEOG 1210	Planet Earth	3
GEOG 1211	Planet Earth Laboratory	1
GEOG 2410	Geographic Information Systems I	3
UNIFI/General Education or University Electives		6
<b>Hours</b>		<b>13</b>
<b>Sophomore</b>		
<b>Fall</b>		
GEOG 1120	Peoples, Cultures, and Environments	3
GEOG 4370/5370	Remote Sensing of the Environment	3
Statistics Requirement		3
Geography Electives		3
UNIFI/General Education or University Electives		6
<b>Hours</b>		<b>18</b>
<b>Spring</b>		
GEOG 4320/5320	Geographic Information Systems II	3
Statistics Requirement		3
Geography Electives		3
UNIFI/General Education or University Electives		6
<b>Hours</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
GEOG 2320	Drones for Mapping and Communication	3
GEOG 4350/5350	Global Positioning System Field Survey Methods	3
GEOG 4390/5390	GIS Programming (or CS 3140 Database Systems)	3
Geography Electives		3
UNIFI/General Education or University Electives		6
<b>Hours</b>		<b>18</b>
<b>Spring</b>		
GEOG 4310/5310	GIS Applications: (Variable Topic)	3

## Geographic Information Science B.S.

UNIFI/General Education or University or Major Electives		12
<b>Hours</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
GEOG 3598	Research Experience in Geography	1
GEOG 4560	Professional Seminar	1
UNIFI/General Education or University or Major Electives		12
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
GEOG 4550	Senior Seminar in Geography	3
UNIFI/General Education or University or Major Electives		12
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120</b>

## Learning Outcomes

### Geographic Information Science, B.S.

#### Communication

- **SLO 3:** Demonstrate effective written and oral communication skills related to geographic knowledge.

#### Critical Thinking

- **SLO 2:** Demonstrate abilities in critical thinking and intellectual synthesis including synthesis of Geography's multidisciplinary focus. This includes, but is not limited to, examples of human-environmental interaction, location theory, and transition models along with their past, present, and future impacts.
- **SLO 4:** Display evidence of professional, career skills such as independent problem solving, exhibiting professional judgment, and dependability.
- **SLO 5:** Conduct research through the development of a research question, identification and integration of relevant literature, select appropriate research methods, and execution of data collection, analysis, and interpretation.

#### Content Knowledge & Skills

- **SLO 1:** Identify patterns and processes of spatial relationships and interactions, movement, diffusion, and scale to explain their causes and significance, and to understand analytical methods to study them.

## Related Programs

- Geography M.A.
- Mathematics Minor