

## Bachelor of Science (BS)

# Geographic Information Science

The Geographic Information Science major is an opportunity to prepare students for a career in a computer-based geospatial technology profession. This is an exciting field that integrates computer skills, modelling skills and a desire to work outside into a high demand career choice. Geographic information is an important and valuable decision support asset that can be applied to all sectors of our world, such as economics, business, health, environment and emergency response through a variety of platform for private, public, not-for-profit or academic organizations. Join this major and be ready to map out present and future sustainability challenges!

### Geographic Information Science students will...

- Have close interaction with dedicated faculty who have used GIS technology in the work environment and believe in the importance of the field of GIS.
- Learn in a class environment that stimulates learning, idea sharing and problem-solving through individual and team activities.
- Complete 120 hours of practical field education under the guidance of professional GIS practitioners.

### Becoming Career Ready...

/ Faculty-mentored research and guidance will help you develop the professional skills needed for success in a competitive job market and/or advanced study in graduate and professional programs.

/ The Geographic Information Science program prepares graduates for multiple opportunities in the growing GIS technology field. Example job titles include emergency planner, urban planner, conservation analyst, and LiDAR specialist.

/ 100% of Southeast programs offer real-world experience. Geographic Information Science students learn by completing a required internship and/or research participation with governmental agencies such as the Department of Defense, Global Emergency Planning consultants, World Health Organization, CDC and private consulting corporations.

/ The path to a successful career starts with you! You can maximize your career development by working closely with Career Services and Southeast faculty – they are here to help you connect your passions, interests and skills to jobs and opportunities in the field. Career Services provides professional career counseling and coaching, resume critiques, practice interviews, job search strategies, career events, networking opportunities and more.

### Career Opportunities:

The Geographic Information Sciences is a new program at Southeast, the field is expected to experience rapid and continued growth throughout the next decade. The U.S. Department of Labor expects the national market to increase by 29% in the public and private sectors. Science, technology, engineering, and math (STEM) jobs, is expected to grow twice as quickly as jobs in other fields and 80% of these jobs will require the technical skills found in this major.

Graduates would be able to pursue career opportunities as:

- Designing desktop system
- Implementing web and mobile applications
- Developing workflow systems
- Customizing spatial models and systems

Potential employers in this field include:

- Environmental consulting firms
- Google, ESRI or GPS Navigation software companies
- Law enforcement and Homeland Security
- Agriculture, forestry and conservation agencies
- U.S. Military
- Engineering and surveying companies
- Environmental Protection Agency
- Regional planning commissions

### Transfer and Dual Credit Students

If you have dual credit or transfer credit, please visit our transfer course equivalencies guide at [semo.edu/transfercredit](http://semo.edu/transfercredit).

*This program could lead to licensure or certification. However, Southeast's program either does not meet, or we cannot determine if it meets, the licensure or certification requirement in all states. Please consult our State Authorization page, Licensure tab, to determine information specific to your state:*

<https://semo.edu/online/student-resources/stateauth.html>.

**To learn more**  
Office of Admissions  
(573) 651-2590  
[admissions@semo.edu](mailto:admissions@semo.edu)  
[semo.edu](http://semo.edu)

**To explore**  
the College of Science,  
Technology, Engineering and  
Mathematics online, visit  
[semo.edu/stem](http://semo.edu/stem)

**For advising**  
Center for Academic Advising  
[semo.edu/advising](http://semo.edu/advising)

**Bachelor of Science (BS)**

This is a guide based on the 2020-2021 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use Degree Works to monitor their individual progress.

**CURRICULUM CHECKLIST****Geographic Information Science- 64 Hour Major – No minor required**

- \_\_\_ AG440 Precision Agriculture (3)
- \_\_\_ AG444 Spatial Analysis (3)
- \_\_\_ CS177 Programming for Scientists & Engineers (3)
- \_\_\_ EV425 GIS Planning for Emergency Response (3)
- \_\_\_ EV483 Internship (3)
- \_\_\_ GG150 Cultural Geography (3)
- \_\_\_ GG445 Intro to Computer Cartography (3)
- \_\_\_ GO110 Physical Geology (3)
- \_\_\_ GO340 Remote Sensing (3)
- \_\_\_ GO445 Geographic Information Systems (3)
- \_\_\_ GO520 GIS Application (3)
- \_\_\_ IS130 Application Development I (3)
- \_\_\_ IS175 Computer Information Systems I (3)
- \_\_\_ IS275 Computer Information Systems II (3)
- \_\_\_ IS330 Application Development II (3)
- \_\_\_ IU314 GeolInfo Science Today (3)
- \_\_\_ MA137 Precalculus (5)
- \_\_\_ MA138 Discrete Math I (3)
- \_\_\_ MA140 Analytical Geometry & Calculus I (5)
- \_\_\_ MA223 Elementary Probability & Statistics (3)

**General Education Requirements** – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 6 hours
- Constitution Requirement – 3 hours
- Written Communication – 6 hours
- Oral Communication – 3 hours
- Natural Sciences – 7 hours (from two disciplines, one to include a lab)
- Mathematics – 3 hours
- Humanities & Fine Arts – 9 hours (from at least two disciplines)
- Additional requirements – 5 hours (to include UI100 for native students)
- Civics examination

**SAMPLE FOUR-YEAR PLAN**

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
<b>FIRST YEAR</b>	UI 100	3	GG 150	3
	EN 100	3	GO 110/010	3
	MA 137	5	IS 130	3
	General Education	3	MA 140	5
	<b>Total</b>	<b>14</b>	<b>Total</b>	<b>14</b>
Milestone: maintain 2.0 cumulative GPA				

<b>SECOND YEAR</b>	GO 340	3	CS 177	3
	IS 175	3	IS 275	3
	MA 138	3	MA 223	3
	General Education	3	General Education	3
	General Education	3	General Education	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>15</b>	
Milestone: maintain 2.0 cumulative GPA				

<b>THIRD YEAR</b>	AG 440	3	AG 444	3
	GO 445	3	EV 425	3
	IU 314	3	IS 330	3
	General Education	3	General Education	3
	General Education	3	General Education	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>15</b>	
Milestone: maintain 2.0 cumulative GPA				

<b>FOURTH YEAR</b>	GG 445	3	EV 483	3
	GO 520	3	Elective	3
	General Education	3	Elective	3
	Elective	3	Elective	3
	Elective	3	Elective	3
<b>Total</b>	<b>15</b>	<b>Total</b>	<b>17</b>	
Milestone: maintain 2.0 cumulative GPA				

**Degree requirements for all students:** a minimum of 120 credit hours, completion of the General Education program, and completion of 39 senior division hours (300-599). Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

A minimum 2.0 GPA in the major and overall are required to graduate with a BS degree.