

B.S. IN GEOSPATIAL SCIENCE

Bachelor of Science Degree in Geospatial Science

For this degree, students will complete all requirements as listed below as well as complete a minor in any of the following: Urban and Regional Planning, Economics, Data Analytics, Data Science, Computer Science Engineering.

Code	Title	Hours
Required:		
GEPL 2020	Introduction to Geospatial Science	3
GEPL 2110	Maps and Map Analysis	3
GEPL 4110	Geographic Information Systems	3
GEPL 4180	Geographic Information Systems Applications	3
GEPL 4300	GIS Programming	3
GEPL 4400	GeoAI and Machine Learning	3
GEPL 4420	Quantitative Methods in Geographic Research	3
GEPL 4490	Remote Sensing Of The Environment	3
GEPL 4500	Digital Image Analysis	3
GEPL 4520	Analytical And Computer Cartography	3
GEPL 4580	Location Analysis	4
GEPL 4800	Geospatial Science Research	3
CSET 1100	Introduction to Computer Science and Engineering Technology	4
CSET 3300	Database-Driven Web Sites	4
Electives		9
Select 3 advanced Geography electives not taken above.		
GEPL 3030	Geography Of Europe	
GEPL 3050	Geography of US and Canada	
GEPL 3120	Geography Of Asia	
GEPL 3220	Geography Of Africa	
GEPL 3300	Geography of Latin America and the Caribbean	
GEPL 3440	Population Geography	
GEPL 3610	Conservation And Resources	
GEPL 3650	Economic Geography	
GEPL 3900	Environmental Planning	
GEPL 4040	Geography Education Strategies	
GEPL 4160	Patterns Of World Development	
GEPL 4210	Land Use Planning	
GEPL 4310	Geography Of Gypsies (Romanies) and Travelers - WAC	
GEPL 4530	Principles Of Urban Planning	
GEPL 4540	Weather And Climate	
GEPL 4570	Land Development And Planning	
GEPL 4600	Urban Design	
GEPL 4650	Geography of Earth Systems	
GEPL 4700	Community Planning Workshop	
GEPL 4710	Urban Geography	

GEPL 4750	Transportation Geography	
GEPL 4810	Political Geography	
First Term		Hours
AR 1000	First Year Orientation	1
MATH 1180	Reasoning With Mathematics	3
ENGL 1010 or ENGL 1110	College Composition 1 Co-Requisite or College Composition I	3
CSET 1100	Introduction to Computer Science and Engineering Technology	4
GEPL 2110	Maps and Map Analysis	3
Hours		14
Second Term		
ENGL 1130 or ENGL 2950 or ENGL 2960	College Composition II: Academic Disciplines And Discourse or Technical Writing or Professional and Business Writing	3
GEPL 2020	Introduction to Geospatial Science	3
Arts/Humanities core		3
Social Science Core		3
Natural Science Core		3
Hours		15
Third Term		
GEPL 4110	Geographic Information Systems	3
GEPL 4420	Quantitative Methods in Geographic Research	3
GEPL 4490	Remote Sensing Of The Environment	3
US Diversity		3
Social Science Core		3
Hours		15
Fourth Term		
GEPL 4180	Geographic Information Systems Applications	3
GEPL 4500	Digital Image Analysis	3
Non-US Diversity		3
Natural Science Core		3
Natural Science Core-lab		1
GEPL 3610	Conservation And Resources (WAC)	3
Hours		16
Fifth Term		
GEPL 4580	Location Analysis	4
Core Elective		3
Minor Course		6
Elective		3
Hours		16
Sixth Term		
GEPL 4300	GIS Programming	3
GEPL 4520	Analytical And Computer Cartography	
Minor Course		6
CSET 3300	Database-Driven Web Sites	4
Hours		13

Seventh Term

GEPL 4400	GeoAI and Machine Learning	3
Minor Course		6
Advanced Geography elective		3
WAC course		3
Hours		15

Eighth Term

GEPL 4800	Geospatial Science Research	3
Minor Course		6
Elective		4
Advanced Geography elective		3
Hours		16

Total Hours		120
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- Explain concepts and principles of geospatial science and technology (GIST);
- Identify various sources of high-quality spatial data;
- Operate GIST tools and software efficiently;
- Create solutions in ArcPy and Jupyter to complete automated GIST tasks;
- Practice using artificial intelligence (AI), machine learning (ML), and deep learning (DL) methods and capabilities available in GIST;
- Apply GeoAI, ML, and DL tools in both research and industry.
- Apply GeoAI, ML, and DL to solve real-world problems.
- Evaluate and apply GIST theories, methods, and tools to solve a real-world problem;
- Recognize the ethical issues in GIST research;
- Describe the future of GIST, its implications to our society and the earth, and ethical concerns.