Bachelor of Science in Geography

The Bachelor of Science in Geography (B.S.) prepares students for a career in the area of geographic information science (GIS) and environmental problem solving using a variety of spatial analysis techniques.

Basic requirements include preparation in mathematics, physic science, computer science and a history or philosophy of science course. Advanced course work includes classes in cartography and geo-visualization, GIS, remote sensing, and statistics. In addition, students are also required to take some coursework in physical and human/regional geography to understand the processes that affect human-environment interactions.

Undergraduate Admission

Admission to KU

All students applying for admission must send high school and college transcripts to the Office of Admissions. Prospective first-year students should be aware that KU has qualified admission requirements that all new first-year students must meet to be admitted. Consult the Office of Admissions (http://admissions.ku.edu/) for application deadlines and specific admission requirements.

Visit the International Support Services (http://www.iss.ku.edu/) for information about international admissions.

Students considering transferring to KU may see how their college-level course work will transfer on the Office of the University Registrar (https://registrar.ku.edu/credittransfer/) website.

Requirements for the B.S. Degree

Geography Prerequisite or Co-Requisite Knowledge

Code	Title	Hours
History or Philosophy of Science: Select one of the folloiwng or consult undergraduate committee for approval of alternatives:		3
HIST 103	Environment and History	
HIST 305	Technological Revolutions and Global Transformations	
HIST 347	Environmental History of North America	
HIST 407	Technology in American History	
PHIL 370	Moral Issues in Medicine	
PHIL 375	Moral Issues in Computer Technology	
PHIL 380	Environmental Ethics	
PHIL 620	Philosophy of Natural Science	
PHIL 622	Philosophy of Social Science	
EVRN 336	Ethics, Ideas and Nature	
Calculus I Satisfied by one of the following:		
MATH 125	Calculus I	4
or MATH 145	Calculus I, Honors	
Calculus II. Satisfied by one of the following:		
MATH 126	Calculus II	4
or MATH 146	Calculus II, Honors	
General Physics I. Satisfied by one of the following:		
PHSX 211 & PHSX 216	General Physics I and General Physics I Laboratory	5
PHSX 114 & PHSX 201	College Physics I and Calculus Supplement to College Physics I	5
General Physics II. Satisfied by one of the following:		
PHSX 212 & PHSX 236	General Physics II and General Physics II Laboratory	4
PHSX 115 & PHSX 202	College Physics II and Calculus Supplement to College Physics II	4
Computing Fundamentals. Satisfied by one of the following:		
GEOG 360	Computer Programming for Mapping and Spatial Analysis	3
or EECS 138	Introduction to Computing: _____	

Code	Title	Hours
Overview Geography Courses		
GEOG 102	People, Place, and Society	3
or GEOG 103	People, Place, and Society, Honors	
GEOG 104 & GEOG 105	Introduction to Physical Geography and Introductory Laboratory in Physical Geography	5
GEOG 111	Mapping Our Changing World	4
Core Geography Courses		
Eight Courses, at least one from each category:		24
Cartography and Visualization		
GEOG 311	Introductory Cartography and Geovisualization	
GEOG 512	Advanced Cartography and Geovisualization	
Geographical Information Systems		
GEOG 358	Introduction to Geographic Information Systems	
GEOG 558	Spatial Data Analysis	
Remote Sensing		
GEOG 526	Remote Sensing of Environment I	
GEOG 726	Remote Sensing of Environment II	
Statistics		
GEOG 316	Methods of Analyzing Geographical Data	
GEOG 716	Advanced Geostatistics	
Physical Geography		
GEOG 321	Climate and Climate Change	
GEOG 332	Glaciers and Landscape	
GEOG 521	Microclimatology	
Human and/or Regional Geography		
GEOG 300	Geographic Adventures in Climate Change	
GEOG 370	Introduction to Cultural Geography	
GEOG 371	Environmental Geopolitics	
GEOG 372	Environmental Policy	
GEOG 373	Borders, Politics, and Territory	
GEOG 395	Environmental Issues of: _____	
GEOG 399	Topics in Regional Studies: _____	
Senior Capstone in Geography		
GEOG 500	Senior Capstone in Geography	3
Geographic Information Science (GIS) Electives		
Choose two:		6

GEOG 360	Computer Programming for Mapping and Spatial Analysis	
GEOG 528	Spatial Databases	
GEOG 560	GIS Application Programming	
Other courses related to GIS may be used with department approval		
Total Hours		**45**

Geography BS Major Hours & Major GPA

While completing all required courses, majors must also meet each of the following hour and grade-point average minimum standards:

Major Hours in Residence
Satisfied by a minimum of 15 hours of KU resident credit in the major.

Major Junior/Senior (300+) Hours
Satisfied by a minimum of 33 hours from junior/senior courses (300+) in the major.

Major Junior/Senior (300+) Graduation GPA
Satisfied by a minimum of a 2.0 KU GPA in junior/senior courses (300+) in the major. GPA calculations include all junior/senior courses in the field of study including F's and repeated courses. See the Semester/Cumulative GPA Calculator (https://sis.ku.edu/gpa-calculator/).

Below is a sample 4-year plan for students pursuing the BS in Geography. To view the list of courses approved to fulfill Core 34, please visit the KU Core 34 page (https://catalog.ku.edu/core34/).

Freshman

Fall	Hours	Spring	Hours
Core 34: English (SGE)[010]	3	MATH 126 (Major Prerequisite)	4
Core 34: Arts and Humanities (SGE)[060]	3	Core 34: English (SGE)[010]	3
MATH 125 (Core 34: Math and Statistics (SGE))[030*]	4	Core 34: Communications (SGE)[020]	3
Core 34: Global Culture (SGE)[070]	3	Core 34: Arts and Humanities (SGE)[060]	3
Core 34: US Culture (SGE)[070]	3	Core 34: Social and Behavioral Sciences (SGE)[050]	3
	16		**16**

Sophomore

Fall	Hours	Spring	Hours
History or Philosophy of Science (Major requirement)[1]	3	GEOG 104 & GEOG 105 (Major requirement)	5
PHSX 211 & PHSX 216 (Core 34: Natural and Physical Sciences (SGE))[040*]	5	Core Geography Course 300 + (1 of 8) Major Requirement[2, 3]	3
GEOG 102 or 103 (Core 34: Social and Behavioral Sciences (SGE))[050*]	3	PHSX 212 & PHSX 236 (Major Prerequisite)	4
GEOG 111 (Major requirement)	4	EECS 138 or GEOG 360 (Major Pre-requisite)	3
	15		**15**

Junior

Fall	Hours	Spring	Hours
Core Geography Course 300+ (2 of 8), Major requirement[2, 3]	3	Core Geography Course 300+ (5 of 8), Major requirement[2, 3]	3
Core Geography Course 300+ (3 of 8), Major requirement[2, 3]	3	Core Geography Course 300 + (6 of 8), Major Requirement[2, 3]	3
Core Geography Course 300 + (4 of 8), Major requirement[2, 3]	3	Core Geography Course 300+ (7 of 8), Major Requirement[2, 3]	3
Second area of Study / Elective/Degree/Junior-Senior Hours	3	Second area of Study / Elective/Degree/Junior-Senior Hours	3
Second area of Study / Elective/Degree/Junior-Senior Hours	3	Second area of Study / Elective/Degree/Junior-Senior Hours	3
	15		**15**

Senior

Fall	Hours	Spring	Hours
GIS elective 300_ (1 of 2), Major requirement[2, 3]	3	GEOG 500 (Capstone Course, Major requirement)[2]	3
Core Geography Course 300+ (8 of 8), Major requirement[2, 3]	3	GIS elective 300+ (2 of 2), Major requirement[2, 3]	3
Second area of Study / Elective/Degree/Junior-Senior Hours	3	Second area of Study / Elective/Degree/Junior-Senior Hours	3
Second area of Study / Elective/Degree/Junior-Senior Hours	3	Second area of Study / Elective/Degree/Junior-Senior Hours	3
Second area of Study / Elective/Degree/Junior-Senior Hours	3	Second area of Study / Elective/Degree/Junior-Senior Hours	1
	15		**13**

Total Hours 120

[1] Geography BS majors are required to take a course in History or Philosophy of Science. A list of possible courses can be found under the Degree Requirements tab.

[2] All major required Geography courses and most Geography elective courses numbered 300 and above are offered once a year, either in the fall, spring, or summer term.

[3] Eight core Geography courses are required with at least one from each of the following categories: Cartography and Visualization, Geographical Information Systems, Remote Sensing, Statistics, Physical Geography, and Human and/or Regional Geography. A list of courses for each can be found under the Degree Requirements tab.

Please note:

All students in the College of Liberal Arts and Sciences are required to complete 120 total hours of which 45 hours must be at the Jr/Sr (300+) level.

Notes:

* - This course is a <u>Required</u> major course and is also part of Core 34: Systemwide General Education. If this course is not taken to fulfill the Core 34:SGE requirement, it must be taken in place of elective hours.

** - This course is a <u>Recommended</u> Core 34: Systemwide General Education course. This specific course is not required but is recommended by the program's faculty.

*** - This course is a <u>Required</u> Core 34: Systemwide General Education course. This program is approved by the Kansas Board of Regents to require this specific Core 34:Systemwide General Education course. If a student did not take this course it must be taken in addition to other degree requirements.

At the completion of this program, students will be able to:

- Articulate the definitions of, connections between, and differences among fundamental concepts, models, and theories in geography.
- Analyze geographically based issues using approaches and tools appropriate to the problem.
- Demonstrate sub-disciplinary/thematic depth of training and comprehension.
- Communicate effectively orally, graphically, and in writing for diverse audiences.

Departmental Honors in Geography

To be accepted as a candidate for honors, an undergraduate major must have completed at least 9 hours of upper-division credit in geography with a grade-point average of 3.5 in all geography courses. In addition to outstanding work in geography, the program requires GEOG 499, an independent study course consisting of an honors paper.

The student presents the results of this paper in an oral examination to a committee of at least 2 faculty members, normally from the geography department, chaired by the GEOG 499 supervisor. To graduate with honors, the student must complete the paper and the examination and maintain the 3.5 grade-point average.