

GEOSCIENCES | BACHELOR OF SCIENCE IN GEOSCIENCES (APPLIED GEOLOGY)

Program Summary

Code	Title	Hours
General Education		34
Major Courses		12-13
Technical Geology		26
Field Courses		4
Cognates		11
Open Electives ¹		26-27
Total Hours		120

¹ Open electives are the credit hours required to reach a minimum of 120 total hours and 45 upper-level hours. The number listed assumes all courses are completed at FHSU as listed. This number may vary if students transfer courses, or have individual substitutions allowed.

Students should speak with their advisor if either situation applies to determine if the number will vary, and to ensure they enroll in a minimum of 45 upper-level hours.

Students entering within 1 year of high school graduation will take UNIV 101 Freshman Seminar and may apply that hour in the open elective category.

Program Requirements

General Education

All undergraduate degrees require completion of the Kansas Systemwide General Education (<https://catalog.fhsu.edu/general-education/>).

Courses identified with ^{GE} on this page may satisfy a general education requirement in addition to the identified degree requirement. Students who apply a degree requirement to satisfy a general education requirement will typically add an equal number of hours to the the university elective category. This flexibility may allow you to complete a minor or certificate within the 120 hour degree. Transfer students and students majoring in programs with approved exceptions (<https://www.fhsu.edu/general-education/documents/fhsu-gen-ed-transfer-exceptions-explainer1.pdf>) are especially encouraged to select these courses in completing General Education requirements to maximize the likelihood of completing the degree with 120 credit hours.

Code	Title	Hours
General Education		34-35

Code	Title	Hours
Major Core Courses		
GSCI 100	Exploring Earth ^{GE}	3
GSCI 240	Introduction to Geographic Information Systems (GIS) ^{2,3}	3
GSCI 685	Writing in the Sciences	3
Select one course from the following:		3-4
BIOL 620 & 620L	Biostatistics and Biostatistics Lab	

GSCI 630	Geostatistics and Spatial Data Analysis	
MATH 250	Elements of Statistics ^{GE}	
Technical Geology		
GSCI 102	Exploring Earth Laboratory ^{GE}	1
GSCI 202 & 202L	Evolution of the Earth and Evolution of the Earth Laboratory	4
GSCI 203	Introduction to Petroleum Geology	3
GSCI 290	Cartography: Theory and Applications ²	3
GSCI 315	Rocks and Minerals ⁴	3
GSCI 330	Remote Sensing Concepts ²	3
GSCI 340	Humans, Rocks, and the Environment	3
GSCI 360	Intermediate Geographic Information Systems ^{2,3}	3
GSCI 625	Advanced Geographic Information Systems ²	3
GSCI Field Courses		4
Select four credit hours from the following:		
GSCI 355	Field Trips in Geology	
Cognates		
CHEM 100	The Chemist's View of the World ^{GE}	3
MATH 331	Calculus Methods ^{GE}	3
PHYS 111 & 111L	Physics I and Physics I Laboratory ^{GE}	5
Total Hours		53-54

Suggested General Electives

Code	Title	Hours
BIOL 200	Humans and the Environment ¹	3
CRJ 355	Criminal Investigation ²	3
CRJ 395	Crime Analysis ²	3
IDS 390	Technology in Society ¹	3
ECON 300	Economic Ideas and Current Issues	3
LDRS 407	Global Challenges	3
BIOL 499	Global Environmental Issues	3
GSCI 101	Earth and Environmental Systems ¹	3
GSCI 203	Introduction to Petroleum Geology	3
GSCI 602	Exploring Earth's History	3
GSCI 605 & 605L	Principles of Geomorphology and Principles of Geomorphology Laboratory	4
GSCI 620	Advanced Cartography ³	3
GSCI 655	Geographic Information Systems Programming ³	3

¹ Sustainability Certificate.

² Crime Mapping and Analysis Certificate.

³ GIS Certificate.

Degree Requirements

Code	Title	Hours
All bachelor degrees require:		
GPA of 2.0 on FHSU courses & 2.0 on all coursework (Higher program requirements prevail over the 2.0 when set)		

A minimum of 30 hours earned from FHSU with a grade of D, C, B, or A

Successful completion of an upper division Writing and Information Literacy course (Most majors contain a course designated)

A minimum of 45 hours of recognized upper division credit

A minimum of 120 hours of recognized college credit

Degree Maps

Course	Title	Hours
First Year		
Fall		
ENG 101	English Composition I (SGE010 - English Discipline Area)	3
COMM 100	Fundamentals of Oral Communication (SGE020 - Communication Discipline Area)	3
GSCI 100 & GSCI 102	Exploring Earth and Exploring Earth Laboratory	4
UNIV 101	Freshman Seminar	1
MATH 110	College Algebra (SGE030 - Math Statistics Discipline Area)	3
Hours		14
Spring		
ENG 102	English Composition II (SGE010 - English Discipline Area)	3
GSCI 202 & 202L	Evolution of the Earth and Evolution of the Earth Laboratory	4
SGE070 - Institutionally Designated Area: Critical Thinking		3
PHYS 111 & 111L	Physics I and Physics I Laboratory (SGE040 - Natural Physical Science Discipline Area)	5
GSCI 355 or GSCI 380 or GSCI 381 or GSCI 382 or GSCI 383 or GSCI 384 or GSCI 385	Field Trips in Geology or Field Trip: Ellis County or Field Trip: Lake Wilson or Field Trip: Rocks and Fossils of Castle Rock or Field Trip: Grand Canyon or Field Trip: Mesa Verde or Field Trip: Cave Geology	1
Hours		16
Second Year		
Fall		
GSCI 101 & GSCI 103	Earth and Environmental Systems and Earth and Environmental Systems Laboratory	4
CHEM 100	The Chemist's View of the World	3
SGE070 - Institutionally Designated Area: Personal and Professional Development		3
SGE050 - Social Behavioral Sciences Discipline Area		3
SGE060 - Arts Humanities Discipline Area		3
Hours		16
Spring		
GSCI 240	Introduction to Geographic Information Systems (GIS)	3
GSCI 315	Rocks and Minerals	3
GSCI 372 or course to be approved		3
SGE050 - Social Behavioral Sciences Discipline Area		3
SGE060 - Arts Humanities Discipline Area		3
GSCI 355 or GSCI 380 or GSCI 381 or GSCI 382 or GSCI 383 or GSCI 384 or GSCI 385	Field Trips in Geology or Field Trip: Ellis County or Field Trip: Lake Wilson or Field Trip: Rocks and Fossils of Castle Rock or Field Trip: Grand Canyon or Field Trip: Mesa Verde or Field Trip: Cave Geology	1
Hours		16

Third Year

Fall		
MATH 331	Calculus Methods	3
GSCI 290	Cartography: Theory and Applications	3
GSCI 340	Humans, Rocks, and the Environment	3
GSCI 360	Intermediate Geographic Information Systems	3
GSCI 355 or GSCI 380 or GSCI 381 or GSCI 382 or GSCI 383 or GSCI 384 or GSCI 385	Field Trips in Geology or Field Trip: Ellis County or Field Trip: Lake Wilson or Field Trip: Rocks and Fossils of Castle Rock or Field Trip: Grand Canyon or Field Trip: Mesa Verde or Field Trip: Cave Geology	1
Open Electives		3
Hours		16
Spring		
GSCI 630 or MATH 250	Geostatistics and Spatial Data Analysis or Elements of Statistics	3
GSCI 625	Advanced Geographic Information Systems	3
GSCI 674	Aerial Photographs and Remote Sensing	3
GSCI 355 or GSCI 380 or GSCI 381 or GSCI 382 or GSCI 383 or GSCI 384 or GSCI 385	Field Trips in Geology or Field Trip: Ellis County or Field Trip: Lake Wilson or Field Trip: Rocks and Fossils of Castle Rock or Field Trip: Grand Canyon or Field Trip: Mesa Verde or Field Trip: Cave Geology	1
Open Electives		3
Open Electives		1
Hours		14
Fourth Year		
Fall		
GSCI 685	Writing in the Sciences	3
Open Electives		3
Open Electives		3
Open Electives		3
Open Electives		3
Hours		15
Spring		
Open Electives		3
Open Electives		3
Open Electives		3
Open Electives		1
Hours		13
Total Hours		120

Academic Degree Maps are term-by-term sample course plans that specify milestones, courses, and special requirements that are necessary for facilitating on-time completion. Degree Maps are **examples** and are not prescriptive. Individualized choices such as concentration options, transfer credits, optional minors, advisory programs (certificates), etc. can alter the recommended coursework. Course offerings are subject to change. Students should consult with their academic advisors for additional guidance on course planning.

To determine courses to take in the directed choices (often listed as Program Elective Course) and directed elective course blocks see the overview tab for courses. To locate approved courses in General Education areas (Undergraduate Programs) see the general education section (<https://catalog.fhsu.edu/general-education/>) of the catalog.

The undergraduate course maps typically advise the most efficient route for students to complete the general education requirements. Courses that are required in the major may be listed as fulfilling relevant general

education requirements. This will result in more open elective course hours in some maps than is listed on the degree overview page.