

# GEOSCIENCES | BACHELOR OF SCIENCE IN GEOSCIENCES (GEOLOGY)

## Program Summary

Code	Title	Hours
General Education		34
Major Core Courses		12-13
Geology Core		27
Cognates		17
Open Electives <sup>1</sup>		29-30
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> 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 <sup>GE</sup> 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
<b>General Education</b>		<b>34-35</b>

Code	Title	Hours
<b>Major Core Courses</b>		
GSCI 100	Exploring Earth <sup>GE</sup>	3
GSCI 240	Introduction to Geographic Information Systems (GIS)	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	
<b>Geology Core</b>		<b>27</b>
GSCI 102	Exploring Earth Laboratory <sup>GE</sup>	
GSCI 202/202L	Evolution of the Earth	
GSCI 310/310L	Gem and Mineral Resources	
GSCI 320	Rock Origins	
GSCI 450/450L	Dynamic Earth	
GSCI 452	Field Techniques	
GSCI 454	Applied Geology <sup>1</sup>	
GSCI 675	Seminar in Geosciences	
<b>Cognates</b>		
CHEM 120/120L	University Chemistry I <sup>GE</sup>	3
CHEM 122/122L	University Chemistry II <sup>GE</sup>	3
MATH 331	Calculus Methods <sup>GE</sup>	3
PHYS 111/111L	Physics I <sup>GE</sup>	4
PHYS 211/211L	Engineering Physics I <sup>GE</sup>	4
<b>Total Hours</b>		<b>56-57</b>

<sup>1</sup> Maximum of six credit hours may be counted from GSCI 454

## Degree Requirements

Code	Title	Hours
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### 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
<b>First Year</b>		
<b>Fall</b>		
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 or MATH 130	College Algebra (SGE030 - Math Statistics Discipline Area) or Pre-Calculus Mathematics	3
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
ENG 102	English Composition II (SGE010 - English Discipline Area)	3
GSCI 202 & 202L	Evolution of the Earth and Evolution of the Earth Laboratory	4
CHEM 120 & 120L	University Chemistry I and University Chemistry Laboratory I (SGE040 - Natural Physical Science Discipline Area)	5
SGE070 - Institutionally Designated Area: Critical Thinking		3
<b>Hours</b>		<b>15</b>

<b>Second Year</b>		
<b>Fall</b>		
GSCI 101 & GSCI 103	Earth and Environmental Systems and Earth and Environmental Systems Laboratory	4
GSCI 310 & 310L	Gem and Mineral Resources and Gem and Mineral Resources Laboratory	4
SGE070 - Institutionally Designated Area: Personal and Professional Development		3
SGE050 - Social Behavioral Sciences Discipline Area		3
SGE060 - Arts Humanities Discipline Area		3
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
GSCI 320 & 320L	Rock Origins and Rock Origins Laboratory	4
CHEM 122 & 122L	University Chemistry II and University Chemistry Laboratory II	5
SGE050 - Social Behavioral Sciences Discipline Area		3
SGE060 - Arts Humanities Discipline Area		3
<b>Hours</b>		<b>15</b>
<b>Third Year</b>		
<b>Fall</b>		
GSCI 450 & 450L	Dynamic Earth and Dynamic Earth Laboratory	4
GSCI 452 Field Techniques		3
PHYS 111 & 111L or PHYS 211 <i>and</i> PHYS 211L	Physics I or Engineering Physics I <i>and</i> Engineering Physics I Laboratory	5
MATH 331 or MATH 234	Calculus Methods or Analytic Geometry and Calculus I	3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
GSCI 630 or MATH 250	Geostatistics and Spatial Data Analysis or Elements of Statistics	3
GSCI 240 Introduction to Geographic Information Systems (GIS)		3
GSCI 454 Applied Geology		3
GSCI 682 Sedimentary Petrology & 682L and Sedimentary Petrology Laboratory		3
Directed Electives		2
<b>Hours</b>		<b>14</b>
<b>Fourth Year</b>		
<b>Fall</b>		
GSCI 685 Writing in the Sciences		3
GSCI 360 Intermediate Geographic Information Systems		3
Open Electives		3
Open Electives		3
Open Electives		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
Open Electives		3
Open Electives		3
Open Electives		3
Open Electives		3
Open Electives		3
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120</b>

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.

**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