

# GEOPHYSICS, BS

## Degree Requirements

**Requirements for Students Matriculating in or before Academic Year 2024-2025.** Learn more about University Academic Regulation 3.1 (<http://catalog.okstate.edu/university-academic-regulations/#matriculation>).

**Minimum Overall Grade Point Average:** 2.00

**Total Hours:** 120

Code	Title	Hours
<b>General Education Requirements</b>		
<i>English Composition</i>		
See Academic Regulation 3.5 ( <a href="http://catalog.okstate.edu/university-academic-regulations/#english-composition">http://catalog.okstate.edu/university-academic-regulations/#english-composition</a> )		
ENGL 1113	Composition I	3
or ENGL 1313	Critical Analysis and Writing I	
Select one of the following:		3
ENGL 1213	Composition II	
ENGL 1413	Critical Analysis and Writing II	
ENGL 3323	Technical Writing	
<i>American History &amp; Government</i>		
HIST 1103	Survey of American History	3
or HIST 1483	American History to 1865 (H)	
or HIST 1493	American History Since 1865 (DH)	
POLS 1113	American Government	3
<i>Analytical &amp; Quantitative Thought (A)</i>		
MATH 2144	Calculus I (A) <sup>1</sup>	4
<i>Humanities (H)</i>		
Courses designated (H)		6
<i>Natural Sciences (N)</i>		
Must include one Laboratory Science (L) course		
CHEM 1314	Chemistry I (LN) <sup>1</sup>	4
PHYS 2014	University Physics I (LN) <sup>1</sup>	4
<i>Social &amp; Behavioral Sciences (S)</i>		
Course designated (S)		3
<i>Additional General Education</i>		
Courses designated (A), (H), (N), or (S)		7
<b>Hours Subtotal</b>		<b>40</b>
<b>Diversity (D) &amp; International Dimension (I)</b>		
May be completed in any part of the degree plan		
Select at least one Diversity (D) course		
Select at least one International Dimension (I) course		
<b>College/Departmental Requirements</b>		
<i>First Year Seminar</i>		
(Transfer students with 15 hours exempt)		1
<i>Arts &amp; Humanities</i>		
See note 2.a.		3
<i>Natural &amp; Mathematical Sciences</i>		
MATH 2153	Calculus II (A)	3
MATH 2163	Calculus III	3
MATH 2233	Differential Equations	3

### Foreign Language

0-6 hours. See note 3.

### Upper-Division General Education

Select 6 hours outside major department. See note 2.c.

**Hours Subtotal** **13**

### Major Requirements

Minimum grade of "C" in all Geology courses.

GEOL 1214	Introductory Geological Processes (LN)	4
or GEOL 1114	Physical Geology (LN)	
GEOL 1224	Evolution of the Earth (LN)	4
GEOL 2464	Rocks and Minerals	4
GEOL 3014	Structural Geology	4
GEOL 3034	Principles of Stratigraphy and Sedimentology	4
GEOL 4113	Seismic Interpretation	3
GEOL 4443	Environmental Geophysics	3
or GEOL 2103	Fundamentals of Geophysics	
GEOL 4543	Introduction to Exploration Seismology	3
GEOL 4643	Seismic Data Processing	3
PHYS 2114	University Physics II (LN)	4
PHYS 3513	Mathematical Physics	3
Select 18 hours from the following:		18
GEOL 4023	Petroleum Geology	
GEOL 4213	Plate Tectonics	
GEOL 4313	Introduction to Well Log Analysis	
GEOL 4433	Applied Geostatistics	
GEOL 4453	Hydrogeology	
GEOL 4463	Physical Hydrogeology	
GEOL 4990	Special Problems in Earth Science (1-9 hours)	
GEOL 4993	Senior Honors Thesis	
GEOL 4333	Remote Sensing	

**Hours Subtotal** **57**

### Electives

Select 10 hours **10**

May need to include 6 hours of a foreign language. See note 3

May need to include 6 hours upper-division general outside major department (see note 2.c.) and 8 additional upper-division hours

MATH 1513 and MATH 1813 required for students who do not place directly into MATH 2144

### Recommended courses:

CS 1103	Computer Programming (A)
or CS 1113	Computer Science I (A)
MATH 3013	Linear Algebra (A)
PHYS 4113	Electricity and Magnetism

**Hours Subtotal** **10**

**Total Hours** **120**

<sup>1</sup>

College and Departmental Requirements that may be used to meet General Education Requirements.

Other Requirements

- See the College of Arts and Sciences Requirements.
- **Upper-Division Credit:** Total hours must include at least 40 hours in courses numbered 3000 or above.

College of Arts and Sciences Requirements

1. **Hours in One Department:** For B.A. and B.S. degrees, no more than 54 hours in one department may be required to meet degree requirements. Courses used to satisfy the General Education English Composition, U.S. History, American Government, and Mathematics or Statistics requirements will not count toward the 54-hour maximum required from one department.
2. **A&S College/Departmental Requirements**
  - a. Arts and Humanities are defined as any course carrying an (H) designation or courses from AMST, ART, DANC, ENGL (except ENGL 3323 Technical Writing) HIST, MUSI, PHIL (except PHIL 1313 Logic and Critical Thinking (A), PHIL 3003 Symbolic Logic (A) and PHIL 4003 Mathematical Logic and Computability), REL, TH, and foreign languages.
  - b. Natural and Mathematical Sciences are defined as any course from the following prefixes: ASTR, BIOC, BIOL, CHEM, CS (except CS 4883 Social Issues in Computing), GEOL, MATH, MICR, PBIO, PHYS, and STAT; or courses from other departments that carry an (A) or (N) general education designation.
  - c. Six upper-division hours are required from General Education or any CAS courses outside the student's major department (<http://catalog.okstate.edu/college-arts-sciences-major-departments/>). This requirement may be satisfied by courses also used to satisfy any part of a student's degree program (i.e., in General Education, College Departmental Requirements, Major Requirements or Electives).
  - d. Non-Western Studies Requirement for B.A. and B.F.A.; One course in Non-Western Studies (N.W.). This requirement may be satisfied by courses also used to satisfy any part of a student's degree program (i.e., in General Education, College Departmental Requirements, Major Requirements or Electives).
  - e. The College of Arts & Sciences requires a minimum 2.0 GPA in all major requirements and a minimum 2.0 GPA in all major-prefix courses applied to the degree.
3. **Foreign Language Proficiency**
  - a. The foreign language requirement for the B.A. may be satisfied by 9 hours college credit in the same language, which must include 3 hours at the 2000-level, or equivalent proficiency (e.g., passing an advanced standing examination; TOEFL exam; presenting a high school transcript which demonstrates the high school was primarily conducted in a language other than English; etc.). Computer Science courses may not be used to satisfy this requirement. Currently Arabic and Mvskoke are not offered at the 2000-level at OSU.
  - b. The foreign language requirement for the B.S., B.M. and B.F.A. may be satisfied by presenting a high school transcript which demonstrates two years of study of a single foreign language (passing grades at second-year level of study). It may also be satisfied by 6 hours college credit in the same language, which must include language courses 1713 and 1813, or equivalent proficiency (e.g., passing an advanced standing examination; TOEFL exam; presenting a high school transcript

which demonstrates the high school was primarily conducted in a language other than English; etc.). Computer Science courses may not be used to satisfy this requirement.

- c. In addition to a. and b., students pursuing teacher certification must meet novice-high foreign language proficiency by presenting a high school transcript which demonstrates two years of study of a single foreign language with no grade below B. Or, students may complete 3 hours college credit in a single language with no grade below C (or pass an advanced standing examination, College Level Examination Program (CLEP) exam, or Oral Proficiency Interview developed by the American Council on the Teaching of Foreign Languages, equivalent to 3 hours of college credit.) Or, students may meet the requirement by transfer of documentation of meeting the foreign language competency from one of the teacher education programs in the State of Oklahoma approved by the Oklahoma State Regents for Higher Education.
4. **Exclusions.** Courses with ATHL or LEIS prefixes and leisure activity courses may not be used for degree credit.

Additional State/OSU Requirements

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.
- Degrees that follow this plan must be completed by the end of Summer 2030.

Example Plan of Study

Finish in Four Plan of Study

The plan below is an **example** of how students can successfully complete degree requirements in four years. This suggested class schedule plan may be used as a guide and can be adjusted based on individual needs. Students are required to meet with an academic advisor prior to enrollment each semester to plan their class schedule, and students are ultimately responsible for completing all degree requirements.

Course	Title	Hours
<b>Freshman</b>		
<b>Fall</b>		
MATH 2144	Calculus I (A)	4
GEOL 1114	Physical Geology (LN)	4
General Education courses		7
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
GEOL 1224	Evolution of the Earth (LN)	4
MATH 2153	Calculus II (A)	3
CHEM 1314	Chemistry I (LN)	4
General Education courses		4
<b>Hours</b>		<b>15</b>
<b>Sophomore</b>		
<b>Fall</b>		
GEOL 2464	Rocks and Minerals	4

PHYS 2014	University Physics I (LN)	4
MATH 2163	Calculus III	3
General Education courses		4
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
GEOL 3034	Principles of Stratigraphy and Sedimentology	4
PHYS 2114	University Physics II (LN)	4
MATH 2233	Differential Equations	3
Major, College, and Elective Courses		4
<b>Hours</b>		<b>15</b>
<b>Junior</b>		
<b>Fall</b>		
GEOL 3014	Structural Geology	4
GEOL 4443	Environmental Geophysics	3
Major, College, and Elective courses		8
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
GEOL 4113 or GEOL 4543	Seismic Interpretation or Introduction to Exploration Seismology	3
PHYS 3513	Mathematical Physics	3
Major, College, and Elective courses		9
<b>Hours</b>		<b>15</b>
<b>Senior</b>		
<b>Fall</b>		
GEOL 4643	Seismic Data Processing	3
Major, College, and Elective courses		12
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
GEOL 4543 or GEOL 4113	Introduction to Exploration Seismology or Seismic Interpretation	3
Major, College, and Elective courses		12
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120</b>

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Speak to your Academic Advisor about pairing General Education Humanities (H) and Social Sciences (S) courses with International (I) and Diversity (D) dimensions.