

EARTH SCIENCES MAJOR

Students may not declare a Geology and Earth Sciences major or minor during the 2021-22 academic year.

Bachelor of Arts in Geology and Earth Sciences

The A.B. degree allows more flexibility for students interested in working in the environmental field, teaching, law, museums and technical writing. For graduate studies in geology, the B.S. is generally required. The major requires a minimum of 48 credit hours (12 courses).

Code	Title	Credits
GEOL 121 or GEOL 141	Geology and the Environment Oceanography	4
GEOL 122	Historical Geology	4
GEOL 311	Optical Mineralogy	4
GEOL 312	Petrology	4
GEOL 335	Structural Geology	4
GEOL 415	Paleontology	4
Two Elective Lab Courses		8
Related Field Courses		
Select three of the following or others as approved by the department:		12
Any MATH course above MATH 110, GEOL 215		4
Select three course from:		
CHEM 111	Chemical Principles I	
CHEM 112	Chemical Principles II	
MATH 112	Elementary Statistics	
MATH 115	Elementary Functions	
MATH 220	Calculus I: Differential Calculus	4
MATH 222	Calculus II: Integral Calculus	4
EDUC 410	Elementary Student Teaching Seminar	
EDUC 420	Secondary Student Teaching Seminar	
PHYS 121	Classical and Modern Physics I	
PHYS 122	Classical and Modern Physics II	
Total Credits		56

Total credits required for A.B. degree in geology and earth sciences is 48 credits.

Students will work with their advisors to select the electives and related field courses that are most useful for their individual goals.

Students may not declare a Geology and Earth Sciences major or minor during the 2021-22 academic year.

Bachelor of Science in Geology and Earth Sciences

The B.S. degree is designed for students who intend to pursue graduate study in the earth sciences or are seeking employment in fields such as geology, environmental science, geography, oceanography, paleontology, hydrology or geophysics. This track requires a number of related field courses expected by the profession for technical work and for graduate study. The major requires a minimum of 60 credit hours (15 courses).

Code	Title	Credits
GEOL 121 or GEOL 141	Geology and the Environment Oceanography	4
GEOL 122	Historical Geology	4
GEOL 311	Optical Mineralogy	4
GEOL 312	Petrology	4
GEOL 335	Structural Geology	4
GEOL 415	Paleontology	4
Two Elective Lab Courses		8
Summer Field Camp		4
Related Field Courses (included within the major)		
CHEM 111	Chemical Principles I	
CHEM 112	Chemical Principles II	
MATH 220 or GEOL 215 Data Wrangling	Calculus I: Differential Calculus	
MATH 222	Calculus II: Integral Calculus	
PHYS 111 or PHYS 117 or PHYS 121 Classical and Modern Physics I	Introduction to Physics for the Life Sciences I	
PHYS 112 or PHYS 118 or PHYS 121 Classical and Modern Physics I	Introduction to Physics for the Life Sciences II	
Total Credits		36

Total credits required for B.S. degree in geology and earth sciences is 60 credits

Bachelor of Arts and Bachelor of Science Track in Geology

Students pursuing either an A.B. or B.S. in geology may opt for a track in environmental geology. This track provides a strong background in geology but is designed for students interested in environmental consulting or pursuing graduate study in an environmental field.

Code	Title	Credits
GEOL 121 or GEOL 141	Geology and the Environment Oceanography	4
GEOL 122	Historical Geology	4
GEOL 223	Hydrology	4
GEOL 340	Images of the Earth: GIS and Remote Sensing	4
Select two of the following:		8
GEOL 311	Optical Mineralogy	
GEOL 312	Petrology	
GEOL 335	Structural Geology	
GEOL 415	Paleontology	
Two Elective Lab Courses		8
Suggested Electives		
GEOL 230	Environmental Pollution	4
GEOL 416	Sedimentology and Stratigraphy	4
Total Credits		40

Additional Requirements for A.B. Track in Environmental Geology

Code	Title	Credits
Any MATH course above MATH 110		4
Select three of the following:		12
CHEM 111	Chemical Principles I	
CHEM 112	Chemical Principles II	
MATH 114	College Algebra	
MATH 115	Elementary Functions	
EDUC 410	Elementary Student Teaching Seminar	
MATH 220	Calculus I: Differential Calculus	
MATH 222	Calculus II: Integral Calculus	
EDUC 410	Elementary Student Teaching Seminar	
EDUC 420	Secondary Student Teaching Seminar	
PHYS 117		
PHYS 118		
PHYS 121	Classical and Modern Physics I	
PHYS 121	Classical and Modern Physics I	
Total Credits		16

Total credits required for A.B. track in environmental geology is 48 credits.

Additional Requirements for B.S. Track in Environmental Geology

Code	Title	Credits
Summer Field Course		4
CHEM 111	Chemical Principles I	4
CHEM 112	Chemical Principles II	4
MATH 220	Calculus I: Differential Calculus	4
or GEOL 215	Data Wrangling	
MATH 222	Calculus II: Integral Calculus	4
Select one of the following:		4
PHYS 111	Introduction to Physics for the Life Sciences I	
or PHYS 117		
or PHYS 121	Classical and Modern Physics I	
Select one of the following:		4
PHYS 112	Introduction to Physics for the Life Sciences II	
or PHYS 118		
or PHYS 121	Classical and Modern Physics I	
Total Credits		28

Total credits required for B.S. track in environmental geology is 60 credits.