

Geology

124 Credits

First Year

Fall			Spring		
	HASS Elective	4		HASS Elective	4
CHEM 1100	Chemistry I	4	CHEM 1200	Chemistry II	4
ERTH 1100	Geology I: Earth's Interior	3	ERTH 1200	Geology II: Earth's Surface	3
ERTH 1150	Geology I: Earth's Interior Lab	1	ERTH 1250	Geology II: Earth's Surface Lab	1
MATH 1010	Calculus I	4	MATH 1020	Calculus II	4

Second Year

Fall			Spring		
	HASS Elective	4		HASS Elective	4
ERTH 2330	Earth Materials	4	ERTH 2100	Introduction to Geophysics	4
MATH 2010	Multivariable Calculus & Matrix Algebra (see footnote 1 below)	4	ERTH 2140	Introduction to Geochemistry	4
PHYS 1100	Physics I	4	PHYS 1200	Physics II	4

Third Year

Summer			Fall or Spring		
	HASS Elective	4		HASS Elective	4
ERTH 2xxx	Field Experience	8		Free Elective	4
ERTH 2xxx	Geoscience and the Global Society or other elective	4		Biology Requirement (see footnotes 2 and 4 below)	4
			ERTH 4xxx	Selected from the EARTH Electives	4

Fourth Year

Fall			Spring		
	Free Electives	8		Free Electives	7 or 8
ERTH 2120	Structural Geology	4		Culminating Experience (see footnote 3 below)	3 or 4
ERTH 4xxx	Selected from the EARTH Electives	4	ERTH 4970 or ERTH 4980	Out-of-Classroom-Experience in Earth Sci Undergraduate Research Thesis	2 to 4 2 to 4

Geology Group Options (Two courses from the following group)

ERTH Electives (The following are recommended as ERTH electives for the geology curriculum-choose 2 courses from the following):

- ERTH 4070 - Sedimentology/Stratigraphy Credit Hours: 4
- ERTH 4190 - Environmental Measurements Credit Hours: 4
- ERTH 4200 - Applied Micropaleontology Credit Hours: 4
- ERTH 4340 - Igneous and Metamorphic Petrology Credit Hours: 4
- ERTH 4350 - Data Science Credit Hours: 3
- ERTH 4500 - Earth's Climate: Past, Present and Future Credit Hours: 4
- ERTH 4540 - Organic Geochemistry Credit Hours: 4
- ERTH 4650 - Seismology Credit Hours: 4
- ERTH 4690 - Aqueous Geochemistry Credit Hours: 4
- ERTH 4710 - Groundwater Hydrology Credit Hours: 4
- ERTH 4750 - Geographic Information Systems in the Sciences Credit Hours: 4

Culminating Experience

- Undergraduate Research Program
- ERTH 4970 - Out-of-Classroom Experience in Earth Sciences Credit Hours: 2 to 4
- ERTH 4980 - Undergraduate Research Thesis Credit Hours: 2 to 4

Electives

The following are recommended as electives for the geology curriculum:

- BIOL 4850 - Principles of Ecology Credit Hours: 4
- CHEM 4410 - Macroscopic Physical Chemistry Credit Hours: 3
- CIVL 2630 - Introduction to Geotechnical Engineering Credit Hours: 4
- CIVL 4150 - Experimental Soil Mechanics Credit Hours: 3
- ENVE 4310 - Applied Hydrology and Hydraulics Credit Hours: 4
- ERTH 2160 - Introduction to Geobiology Credit Hours:
- ERTH 4200 - Applied Micropaleontology Credit Hours: 4
- ERTH 4560 - Isotope Geochemistry Credit Hours: 4
- MATH 2400 - Introduction to Differential Equations Credit Hours: 4
- MATH 4600 - Advanced Calculus Credit Hours: 4
- MATH 4700 - Foundations of Applied Mathematics Credit Hours: 4
- MATH 4800 - Numerical Computing Credit Hours: 4
- MATH 4820 - Introduction to Numerical Methods for Differential Equations Credit Hours: 4
- MTLE 2020 - Introduction to Ceramic Materials Credit Hours: 3
- MTLE 4100 - Thermodynamics of Materials Credit Hours: 4

Footnotes

1. With permission of the Department Head, a student may select another Math course (e.g. Diff Eq., Course numbers MATH xxxx, MATP xxxx, or courses cross listed with these numbers).
2. Biology Requirement

- BIOL 1010 or an approved alternate life sciences course or
 - EARTH 2160-Introduction to Geomicrobiology
3. Culminating Experience—one of the following:
 - EARTH 4970 - Out-of-Classroom Experience in Earth Sciences Credit Hours: 3 to 4
 - EARTH 4980 - Undergraduate Research Thesis Credit Hours: 3 to 4
 - Undergraduate Research Program Credit Hours 3 to 4
 4. With permission a student may elect to substitute EARTH 2960