GEOLOGY, B.S.

The B.S. in Geology degree consists of an interdisciplinary curriculum that provides a sound foundation in both fundamental and applied aspects of geology. Graduates are typically employed by environmental and engineering companies, natural resource industries, and government agencies, or pursue more advanced degrees. The areas of emphasis in this major are optional: Engineering Geology, Environmental Geoscience, Archaeological Geology.

- General Education Course

- Milestone course: a key success marker for your major. See your advisor to discuss the importance of this course in your plan of study.

The Core Curriculum is designed to foster critical thinking skills and introduce students to basic domains of thinking that transcend disciplines. The Core applies to all majors. Information on specific classes in the Core can be found at https://www.marshall.edu/gened/.

Course Requirements

Code	Title	Credit Hours
Core Curriculum		
Core 1: Critical Thinking		
FYS 100	First Yr Sem Critical Thinking	3
MTH 229	Calculus/Analytic Geom I (CT)	5
Critical Thinking Course		3
Core 2		
ENG 101	Beginning Composition	3
ENG 201	Advanced Composition	3
CMM 103	Fund Speech-Communication	3
MTH 229	Calculus/Analytic Geom I (CT)	5
Core II Humanities		3
Core II Social Science		3
Core II Fine Arts		3
GLY 200 & GLY 210L	The Dynamic Earth and Earth Materials Lab	4
Additional University Requirements		
Writing Intensive		3
Writing Intensive		3
Multicultural or International		3
GLY 491 or GLY 492	Capstone Experience / Capstone Class	2-4
Major-Specific		
GLY 200 & GLY 210L	The Dynamic Earth and Earth Materials Lab	4
GLY 201 & GLY 211L	The Earth Through Time and Earth Through Time Lab	4
GLY 212	Geologic Field Methods	3
GLY 313	Structural Geology	4
GLY 314	Mineralogy	4
GLY 320L	Geology Lab Techniques	2
GLY 325	Stratigraphy & Sediment	4
GLY 420	Principles of Geochemistry	3
GLY 421	Igneous& Metamorphic Petrology	4
GLY 455 & GLY 455L	Hydrogeology and Hydrogeology Laboratory	4
GLY 457	Engineering Geology	4
GLY 491 or GLY 492	Capstone Experience / Capstone Class	2-4
GLY Electives		11
GLY 330	Tectonics	
GLY 426	Applied Geophysics	
GLY 427	Fossil Fuels	
GLY 451	Principles Geomorphology	
GLY 456	Environmental Geology	
Non-GLY Requirements		
CHM 211 & CHM 217	Principles of Chemistry I and Principles of Chem Lab I	5
MTH 229	Calculus/Analytic Geom I (CT)	5
PHY 201 & PHY 202	College Physics I and General Physics I Laboratory	4
Free Electives		19

Major Information

- Students are strongly encouraged to select courses that meet two or more Core or College requirements. For example, a writing intensive literature course could satisfy the College of Science literature requirement as well as the Core II writing intensive requirement.
- Course offerings and course attributes are subject to change semesters. Please consult each semesters schedule of courses for availability and attributes.
- MTH 229 Calculus/Analytic Geom I (CT) is based on an ACT Mathematics score of 27 or higher. Students with an ACT Mathematics score less than 27 will be placed in the appropriate mathematics and science courses.
- The capstone experience (GLY 491 Capstone Experience) is an individualized research project or internship experience requiring a written report and an oral presentation. The capstone requirement may be met alternatively by attending geology summer field camp or by completing the capstone seminar offered on demand in the spring (GLY 492 Capstone Class).

- General Education Course

- Milestone course: a key success marker for your major. See your advisor to discuss the importance of this course in your plan of study.

Semester Plan

Programs of study offered by the Department of Geology are designed for individuals seeking a career as an earth scientist. The greatest number of geologists are employed by natural resource industries. These include metallic and nonmetallic mining companies as well as petroleum, natural gas, and coal companies. New and challenging careers are also available in environmental and engineering

geology. The majority of graduates in the past few years have found employment with environmental and geotechnical companies.

First Year

First Semester		Credit Hours
GLY 200 & GLY 210L	The Dynamic Earth and Earth Materials Lab	4
ENG 101	Beginning Composition	3
FYS 100	First Yr Sem Critical Thinking	3
MTH 229	Calculus/Analytic Geom I (CT)	5
UNI 100	Freshman First Class	1
	Credit Hours	**16**
Second Semester		
GLY 201 & GLY 211L	The Earth Through Time and Earth Through Time Lab	4
ENG 201	Advanced Composition	3
Core II Fine Arts		3
CMM 103	Fund Speech-Communication	3
Multicultural or International		3
	Credit Hours	**16**

Second Year

First Semester		
CHM 211 & CHM 217	Principles of Chemistry I and Principles of Chem Lab I	5
GLY 212	Geologic Field Methods	3
GLY 325	Stratigraphy & Sediment	4
Critical Thinking Course		3
	Credit Hours	**15**
Second Semester		
GLY 313	Structural Geology	4
GLY Elective		4
Writing Intensive		3
Free Elective		3
	Credit Hours	**14**

Third Year

First Semester		
GLY 314	Mineralogy	4
Core II Social Science		3
Writing Intensive		3
GLY Elective		3
	Credit Hours	**13**
Second Semester		
GLY 421	Igneous& Metamorphic Petrology	4
GLY Elective		4
Free Elective		4
Free Elective		3
	Credit Hours	**15**

Fourth Year

First Semester		
PHY 201 & PHY 202	College Physics I and General Physics I Laboratory	4
GLY 491 or GLY 492	Capstone Experience or Capstone Class	2-4
GLY 320L	Geology Lab Techniques	2
GLY 457	Engineering Geology	4
Free Elective		3
	Credit Hours	**15-17**
Second Semester		
GLY 455 & GLY 455L	Hydrogeology and Hydrogeology Laboratory	4
GLY 420	Principles of Geochemistry	3
Core II Humanities		3
Free Elective		3
Free Elective		3
	Credit Hours	**16**
	Total Credit Hours	**120-122**

Areas of Emphasis

- Archaeological Geology, Emphasis (http://catalog.marshall.edu/undergraduate/programs-az/science/natural-resources-earth-sciences/geology-bs/archaeological-geology-emphasis/)
- Engineering Geology, Emphasis (http://catalog.marshall.edu/undergraduate/programs-az/science/natural-resources-earth-sciences/geology-bs/engineering-geology-emphasis/)
- Environmental Geoscience, Emphasis (http://catalog.marshall.edu/undergraduate/programs-az/science/natural-resources-earth-sciences/geology-bs/environmental-geoscience-emphasis/)