ENGINEERING GEOLOGY, EMPHASIS

Engineering geology is the study of geological factors regarding the location, design, construction, operation and maintenance of engineering works. This is an optional area of emphasis.

- 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 330 or GLY 426	Tectonics Applied Geophysics	3
GLY 451	Principles Geomorphology	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
CHM 211 & CHM 217	Principles of Chemistry I and Principles of Chem Lab I	5
ENG 354	Scientific & Tech Writing	3
MTH 229	Calculus/Analytic Geom I (CT)	5
MTH 230	Calculus/Analytic Geom II	4
PHY 211 & PHY 202	University Physics I and General Physics I Laboratory	5
PHY 213 & PHY 204	University Physics II and General Physics 2 Laboratory	5
Engineering Electives		**15**
ENGR 102	Introduction to CAD	
ENGR 111	Engineering Computations	
ENGR 213	Statics	
ENGR 214	Dynamics	
ENGR 216	Mech of Deformable Bodies	
ENGR 318	Fluid Mechanics	
CE 241	Introduction to Geomatics	
CE 321	Civil Engineer Materials	
CE 425	Foundation Engineering	
CE 426	Retaining Structures and Slope	
CE 433	Hydrologic Engineering	
Free Electives		8

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 each semester. Please consult each semester's schedule of courses for availability and attributes.
- Math 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) (Fall semester) 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 semesters (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. This area of specialization has its own specific curriculum and has been added to meet the increasing demand for geoscientists who are trained in the acquisition, interpretation, and use of earth materials (rock, soil, ground water) for the solution of engineering problems. The program provides geologists with specific training that will enable them to effectively interact with, and support, engineers. Its curriculum involves a heavy emphasis on math, physics, and engineering.

First Year

First Semester		**Credit Hours**
GLY 200 & GLY 210L	The Dynamic Earth and Earth Materials Lab	4
ENG 101	Beginning Composition	3
MTH 229	Calculus/Analytic Geom I (CT)	5
Engineering elective (ENGR 111 recommended)		3
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
MTH 230	Calculus/Analytic Geom II	4
Core II Fine Arts		3
FYS 100	First Yr Sem Critical Thinking	3
	Credit Hours	**14**

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
Engineering elective		3
ENG 201	Advanced Composition	3
Critical Thinking Course		3
	Credit Hours	**17**
Second Semester		
GLY 330 or GLY 426	Tectonics or Applied Geophysics	3
GLY 313	Structural Geology	4
ENG 354	Scientific & Tech Writing	3
Multicultural/International		3
Writing Intensive		3
	Credit Hours	**16**

Third Year

First Semester		
GLY 314	Mineralogy	4
GLY 451	Principles Geomorphology	4
Core II Social Science		3
Writing Intensive		3
	Credit Hours	**14**
Second Semester		
Free elective		3
Free elective		3
Engineering elective (ENGR 213 recommended)		3
CMM 103	Fund Speech-Communication	3
Core II Humanities		3
	Credit Hours	**15**

Fourth Year

First Semester		
Engineering Elective (ENGR 216 recommended)		3
PHY 211 & PHY 202	University Physics I and General Physics I Laboratory	5
GLY 491 or GLY 492	Capstone Experience or Capstone Class	2-4
GLY 457	Engineering Geology	4
	Credit Hours	**14-16**
Second Semester		
PHY 213 & PHY 204	University Physics II and General Physics 2 Laboratory	5
GLY 455 & GLY 455L	Hydrogeology and Hydrogeology Laboratory	4
Engineering elective		3
Free elective		2
	Credit Hours	**14**
	Total Credit Hours	**120-122**