

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE**  
**MEWBORNE COLLEGE OF EARTH AND ENERGY**  
**THE UNIVERSITY OF OKLAHOMA**

Academic Year
For Students Entering the Oklahoma State System for Higher Education <b>Summer 2022 through Spring 2023</b>

General Requirements	
Minimum Total Credit Hours .....	121
Minimum Upper-Division Hours .....	47
<b>Minimum Retention/Graduation Grade Point Averages:</b>	
Overall - Combined and OU .....	2.50
Major - Combined and OU .....	2.50

Program
<b>Environmental Geology</b>
<b>B395</b>
Bachelor of Science

OU encourages students to complete at least 31 hours of applicable coursework each year to have the opportunity to graduate in 4 years.

**GENERAL EDUCATION AND COLLEGE REQUIREMENTS**

Courses for fulfillment of General Education and college requirements must be from the approved General Education course list at <http://www.ou.edu/content/gened/courses.html>. **Courses graded P/NP will not apply**

**UNIVERSITY-WIDE GENERAL EDUCATION (MINIMUM 40 HOURS) AND COLLEGE REQUIREMENTS**

At least three hours of Upper-Division General Education coursework must be completed **outside the major**.

Code	Title	Credit Hours
<b>Core Area I: Symbolic and Oral Communication</b>		
<i>English Composition (6 hours)</i>		
ENGL 1113	Principles of English Composition	3
ENGL 1213	Principles of English Composition	3
or EXPO 1213	Expository Writing	
<i>Language (0-10 hours)</i>		
(0-10 hours in the same language) Students who have not completed two years of the same language in high school are required to take two college courses in the same language		
Beginning Course		0-5
Beginning Course, continued		0-5
<i>Mathematics (minimum 3 hours)</i>		
MATH 1823	Calculus and Analytic Geometry I <sup>1</sup>	3-4
or MATH 1914	Differential and Integral Calculus I	
<b>Core Area II: Natural Science (minimum 7 hours, 2 courses)</b>		
CHEM 1315	General Chemistry (Science with Lab) <sup>1</sup>	5
or CHEM 1335	General Chemistry I: Signature Course	
PHYS 2514	General Physics for Engineering and Science Majors <sup>1</sup>	4
<b>Core Area III: Social Science (6 hours)</b>		
P SC 1113	American Federal Government	3
Choose one course from the General Education Social Science list		
3		
<b>Core Area IV: Arts and Humanities - one must be Upper Division (3000-4000-level)</b>		
<i>Artistic Forms (3 hours)</i>		
Choose one course from the General Education Artistic Forms list.		
3		
<i>Western Culture (6 hours)</i>		
HIST 1483	United States to 1865	3
or HIST 1493	United States, 1865 to the Present	
Choose one course from the General Education Western Culture list (Excluding HIST 1483 and HIST 1493)		
3		
<i>World Culture (3 hours)</i>		
Choose one course from the General Education World Culture list		
3		
<b>Core Area V: First Year Experience (3 hours)</b>		
Choose one course		
3		
Total Credit Hours		39-50

<sup>1</sup>Mewborne College of Earth and Energy Sciences requirements that also satisfy University General Education requirements.

**ADDITIONAL MEWBORNE COLLEGE OF EARTH & ENERGY REQUIREMENT**

Code	Title	Credit Hours
PHYS 2524	General Physics for Engineering and Science Majors	4
Total Credit Hours		4

**FREE ELECTIVES**

Electives to bring total applicable hours to 121 including 47 upper-division hours.

**MAJOR REQUIREMENTS**

In order to progress in your curriculum, and as a specific graduation requirement, a grade of C or better is required in each course listed in the curriculum. All prerequisite courses must also be completed with a grade of C or better before proceeding to the next course.

Code	Title	Credit Hours
GEOL 1114	Physical Geology for Science and Engineering Majors	4
GEOL 1124	Earth History	4
GEOL 2224	Introduction to Mineral Sciences	4
GEOL 3223	Igneous and Metamorphic Petrology	3
GEOL 3233	Sedimentary Petrology and Sedimentology	3
GEOL 3114	Structural Geology	4
GEOL 3513	Fundamentals of Invertebrate Paleontology	3
GEOL 4113	Depositional Systems and Stratigraphy	3
GEOL 3123	Introductory Field Geology	3
GEOL 4136	Field Geology	6
GEOL 4983	Senior Thesis in Geology (or GEOL/GPHY Upper-Division Elective)	3
GEOL 4633	Hydrogeology	3
GPHY 4413	Global Geophysics	3
or GEOL 4223	Principles of Geochemistry (Slashlisted with 5223)	
Total Credit Hours		46

**MAJOR SUPPORT REQUIREMENTS**

Code	Title	Credit Hours
MATH 2423	Calculus and Analytic Geometry II <sup>1</sup>	3
MATH 2433	Calculus and Analytic Geometry III <sup>1</sup>	3
CHEM 1415	General Chemistry (Continued)	5
or CHEM 1435	General Chemistry II: Signature Course	
ENGL 3153	Technical Writing	3
or GEOL 3333	Geowriting	
Math/Science Elective (list maintained by the department) <sup>2</sup>		3
Science Electives (9 hours including at least 3 from outside the major, and at least 6 hours need to be Upper-Division) <sup>3</sup>		9
Total Credit Hours		26

<sup>1</sup>MATH 1914 and MATH 2924 may be substituted for MATH 1823, MATH 2423, MATH 2433, These tracks have a difference of one credit hour, so those enrolling in the 4 credit hour courses may need to enroll in 1 additional hour of free elective to meet the 121 total credits.

<sup>2</sup>Students need to select one course in the areas of statistics, quantitative and computer programming. The School of Geosciences maintains list of approved courses.

<sup>3</sup>A minimum of 9 hours of advisor approved courses from ANTH, ASTR, BIOL, CEES, CHEM, CS, ENGR, ENST, GEOG, GIS, GPHY, MATH, MBIO, METR, PBIO, and/or PE. At least 6 hours need to be upper division, and 3 hours need to be outside the College of Earth and Energy. Selected courses need to have an emphasis on the environment.

More information in the catalog: (<http://ou-public.courseleaf.com/mewbourne-earth-energy/geosciences/environmental-geology-bachelor-science/>).

### SUGGESTED SEMESTER PLAN OF STUDY

Students who have not completed two years of the same language in high school are required to take two college courses in the same language. This additional coursework may add 6-10 hours to the minimum hours required for graduation.

To obtain an Environmental Geology B.S., a student must take the same coursework as for the Geology B.S. except for 16 hours of geology/geophysics and allied science electives which are more narrowly specified. The student must satisfy 6 hours of geology/geophysics and allied science elective requirements by taking an upper-division GEOL/GPHY elective and GEOL 4633. The student must also satisfy 9 additional hours of allied science elective requirements chosen from an approved course list.

In order to progress in your curriculum, and as a specific graduation requirement, a grade of C or better is required in each course listed in the curriculum. Students must also successfully complete all prerequisite courses with a grade of C or better before proceeding to the next course.

Year	FIRST SEMESTER			Hours	SECOND SEMESTER			Hours	
FRESHMAN	ENGL 1113	Principles of English Composition ( Core I )	3	ENGL 1213 or EXPO 1213	Principles of English Composition ( Core I ) or Expository Writing	3			
	MATH 1823	Calculus and Analytic Geometry I <sup>1</sup>	3	CHEM 1315	General Chemistry ( Core II ) <sup>2</sup>	5			
	GEOL 1114	Physical Geology for Science and Engineering Majors	4	MATH 2423	Calculus and Analytic Geometry II <sup>1</sup>	3			
		First Year Experience (Core V) <sup>3</sup>	3	GEOL 1124	Earth History	4			
		General Education Artistic Forms (Core IV) <sup>3</sup>	3						
	<b>CREDIT HOURS</b>			<b>16</b>	<b>CREDIT HOURS</b>			<b>15</b>	
SOPHOMORE	GEOL 2224	Introduction to Mineral Sciences	4	PHYS 2514	General Physics for Engineering and Science Majors ( Core II )	4			
	CHEM 1415	General Chemistry (Continued) <sup>2</sup>	5	GEOL 3223	Igneous and Metamorphic Petrology	3			
	MATH 2433	Calculus and Analytic Geometry III <sup>1</sup>	3	GEOL 3233	Sedimentary Petrology and Sedimentology <sup>2</sup>	3			
		General Education Western Culture (Core IV) <sup>3</sup>	3		Math/Science Elective from approved list maintained by the department <sup>8</sup>	3			
	<b>CREDIT HOURS</b>			<b>15</b>	<b>CREDIT HOURS</b>			<b>13</b>	
JUNIOR	PHYS 2524	General Physics for Engineering and Science Majors	4	GEOL 3123	Introductory Field Geology	3			
	GEOL 3114	Structural Geology	4	ENGL 3153 or GEOL 3333	Technical Writing 6 or Geowriting <sup>6</sup>	3			
	GEOL 3513	Fundamentals of Invertebrate Paleontology	3		Science Elective (outside the major) <sup>5</sup>	3			
	GEOL 4113	Depositional Systems and Stratigraphy	3		General Education World Culture (Core IV) <sup>3</sup>	3			
		<b>CREDIT HOURS</b>			<b>14</b>	<b>CREDIT HOURS</b>			<b>12</b>
		<b>SUMMER</b>							
		GEOL 4136	Field Geology	6					
	<b>CREDIT HOURS</b>			<b>6</b>					
SENIOR	GPHY 4413 or GEOL 4223	Global Geophysics 7 or Principles of Geochemistry (Slashlisted with 5223) <sup>7</sup>	3	GEOL 4633	Hydrogeology	3			
	GEOL 4983	Senior Thesis in Geology ( or upper-division Geology/ Geophysics Elective )	3	HIST 1483 or HIST 1493	United States to 1865 ( Core IV ) or United States, 1865 to the Present	3			
	P SC 1113	American Federal Government ( Core III )	3		Science Elective (outside the major) <sup>5</sup>	3			
		Science Elective (outside the College) <sup>5</sup>	3		General Education Social Science (Core III) <sup>3</sup>	3			
		Free Elective <sup>4</sup>	3		Free Elective <sup>4</sup>	3			
		<b>CREDIT HOURS</b>			<b>15</b>	<b>CREDIT HOURS</b>			<b>15</b>

<sup>1</sup> MATH 1914 and MATH 2924 may be substituted for MATH 1823, MATH 2423, MATH 2433. These tracks have a difference of one credit hour, so those enrolling in the 4 credit hour courses may need to enroll in 1 additional hour of free elective to meet the 121 total credits.

<sup>2</sup> CHEM 1335 and CHEM 1435 may be substituted for CHEM 1315 and CHEM 1415.

<sup>3</sup> To be chosen from the University-Wide General Education Approved Course List. Three hours of General Education must be upper-division outside the major.

<sup>4</sup> Six hours of free electives. Foreign language courses taken to satisfy University-Wide Gen. Ed. requirements may be counted as lower-division free electives. However, in order to satisfy the college requirement of 48 hours of upper-division coursework, three hours of free electives must be taken as upper-division.

<sup>5</sup> A minimum of 9 hours of advisor approved courses from ANTH, ASTR, BIOL, CEES, CHEM, CS, ENGR, ENST, GEOG, GIS, GPHY, MATH, MBIO, METR, PBIO, and/or PE. At least 6 hours need to be upper division, and 3 hours need to be outside the College of Earth and Energy. Selected courses need to have an emphasis on the environment.

<sup>6</sup> GEOL 3333 is taught on an irregular basis and may be substituted for ENGL 3513.

<sup>7</sup> Only one of the following courses is required. GPHY 4413 is taught fall semesters; GEOL 4223 is taught alternate spring semesters.

<sup>8</sup> Students need to select one course in the areas of statistics, quantitative and computer programming. The School of Geosciences maintains list of approved courses