

# ENVIRONMENTAL SCIENCE, BACHELOR OF SCIENCE WITH A CONCENTRATION IN EARTH SCIENCES

## Requirements

Code	Title	Credits
<b>Required core courses:</b>		
(Note that in the case of cross-listed courses, Environmental Science major must enroll in the ENVN section)		
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY	3
or CHEM 3030	ENVIRONMENTAL CHEMISTRY	
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS	1
ENVN/GEOG/GEOL/BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT	3
Minimum of 3 credit hours of ENVN 4800 must be completed		
ENVN/BIOL 4800	INTERNSHIP IN ENVIRONMENTAL MANAGEMENT AND PLANNING	3
ENVN/BIOL/GEOG/PA 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS	3
<b>Also required:</b>		
An approved course in statistics		3-4
An approved GIS course		1-4
<b>Earth Sciences Concentration requirements:</b>		
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
One course covering surface processes:		
GEOL 4260	PROCESS GEOMORPHOLOGY	4
or GEOL 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	
or GEOL 4640	CRITICAL ZONE SCIENCE	
Select an ADDITIONAL 27 hours of geography/geology courses from the following:		27
GEOL 1180	INTRODUCTION TO HISTORICAL GEOLOGY	
GEOL 2300	GEOSCIENCE DATA ANALYSIS AND MODELING	
GEOL 2500	SPECIAL TOPICS IN GEOGRAPHY-GEOLOGY	
GEOL 2600	GEOHYDROLOGY	
GEOL 2750	MINERALOGY	
GEOL 2754	MINERALOGY LABORATORY	
GEOL 2760	IGNEOUS AND METAMORPHIC PETROLOGY	
GEOL 2764	IGNEOUS AND METAMORPHIC PETROLOGY LABORATORY	
GEOL 3300	STRUCTURAL GEOLOGY	
GEOL 3310	STRUCTURAL GEOLOGY FIELD METHODS	
GEOL 3400	INTRODUCTION TO SEDIMENTARY GEOLOGY	
GEOL/GEOG 4260	PROCESS GEOMORPHOLOGY	

GEOL 4400	GEOPHYSICS	
GEOL 4540	GEOCHEMISTRY	
GEOL/GEOG 4640	CRITICAL ZONE SCIENCE	
GEOG 3510	METEOROLOGY	
GEOG 4010	CONSERVATION OF NATURAL RESOURCES	
GEOG/BIOL/GEOL 4100	BIOGEOGRAPHY	
GEOG/GEOL 4330	SOIL GENESIS, MORPHOLOGY AND CLASSIFICATION	
GEOG 4630	ENVIRONMENTAL REMOTE SENSING	
<b>Required cognate courses:</b>		
Select one of the following chemistry sequences:		13-14
Sequence One:		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	
Sequence Two:		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY	
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	
GEOL 4540	GEOCHEMISTRY	
Sequence Three:		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY	
Select one of the following physics sequences:		5
PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY	
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I and GENERAL PHYSICS LABORATORY I	
PHYS 2110 & PHYS 1154	GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I	

**Total Credits** 73-78

## Writing in the Discipline

All students are required to take a writing in the discipline course within their major. For the Environmental Science major with a concentration in Earth Science, the writing in the discipline requirement can be fulfilled by completing GEOL 4950 or ENGL 3980.

<b>Freshman</b>		
<b>Fall</b>		<b>Credits</b>
BIOL 1330	ENVIRONMENTAL BIOLOGY	3
CHEM 1010	CHEMISTRY IN THE ENVIRONMENT AND SOCIETY (*)	3
ENGL 1150	ENGLISH COMPOSITION I (**)	3
MATH 1220	COLLEGE ALGEBRA (***)	3
Humanities and Fine Arts/US Diversity		3
*CHEM 1010: requires MATH 1220 or equivalent.		
**ENGL 1150: requires EPPE score of 5 or appropriate placement via AP.		
***MATH 1220: requires appropriate Math placement within last 2 years.		
<b>Credits</b>		<b>15</b>

<b>Spring</b>		
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
ENGL 1160	ENGLISH COMPOSITION II (*)	3
ENVN 2010	ENVIRONMENTAL PROBLEMS AND SOLUTIONS (**)	1
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
Social Science / Global Diversity (GEOG 1020 suggested)		3
*ENGL 1160: requires ENGL 1150, EPPE score of 6, or AP Score of 4		
**ENVN 2010: requires BIOL 1330 or GEOL 1010 or concurrent enrollment		
<b>Credits</b>		<b>14</b>

<b>Sophomore</b>		
<b>Fall</b>		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (*, **)	5
Approved GEOG/GEOL Elective		3
Approved GEOG/GEOL Elective		4
Humanities and Fine Arts		3
*CHEM 1140: requires MATH 1220 or equivalent within last two years (C- or better). CHEM 1144 concurrent or prior with C- or better.		
**CHEM 1180/1184 and 1190/1194 together can substitute for CHEM 1140/1144.		
<b>Credits</b>		<b>15</b>

<b>Spring</b>		
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (*, **)	5
Approved GEOG/GEOL Elective		4
Approved GEOG/GEOL Elective		3
Social Science		3
*CHEM 2210: requires CHEM 1140/1144 or CHEM 1190/1194 with a C- or better. CHEM 2214 must be taken concurrently.		
**CHEM 2250 and 2260/2274 together can substitute for CHEM 2210/2214.		
<b>Credits</b>		<b>15</b>

<b>Junior</b>		
<b>Fall</b>		
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (*, **)	4
Approved GIS Course		4
Approved GEOG/GEOL Elective		4
Humanities and Fine Arts***		3
*CHEM 3650: requires CHEM 2210/2214 or CHEM 2260/2274 with C- or better. CHEM 3654 must be taken concurrently.		
**CHEM 3650/3654 will not be required if student has completed through CHEM 2260/2274 of the general chemistry sequence.		
***HFA – must be in a 2nd discipline		
<b>Credits</b>		<b>15</b>

<b>Spring</b>		
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES (*)	3
PHYS 1050 & PHYS 1054	INTRODUCTION TO PHYSICS and INTRODUCTION TO PHYSICS LABORATORY (**, ***, ^)	5
Approved GEOG/GEOL Elective		4
Social Science#		3
*ENGL 3980: requires ENGL 1160, or EPPE score of 7, or AP score of 5		
**PHYS 1050: HS algebra or equivalent		
***PHYS 1054: HS algebra or equivalent; PHYS 1050 prior or concurrent		
^The two-semester sequence of PHYS 1110/1154 and 1120/1164 can be taken in place of PHYS 1050/1054.		
#SS – must be in a 2nd discipline		
<b>Credits</b>		<b>15</b>

<b>Summer</b>		
ENVN 4800	INTERNSHIP IN ENVIRONMENTAL MANAGEMENT AND PLANNING (*)	3
*ENVN 4800: requires permission of instructor.		
<b>Credits</b>		<b>3</b>

<b>Senior</b>		
<b>Fall</b>		
ENVN/GEOG/GEOL/ BIOL 4610	ENVIRONMENTAL MONITORING AND ASSESSMENT (*)	3
ENVN 4820	INTRODUCTION TO ENVIRONMENTAL LAW & REGULATIONS (**)	3
Approved GEOG/GEOL Elective***		3
Approved GEOG/GEOL Elective***		3
Elective course***		3
*ENVN/GEOG/GEOL/BIOL 4610 – requires permission of instructor.		
**ENVN 4820 – requires permission of instructor.		
***120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives or course options can help you reach these minimums.		
<b>Credits</b>		<b>15</b>

<b>Spring</b>		
Approved GEOG/GEOL Elective		3
Statistics course		3
Elective course*		4

Elective course\* 3

\*120 total credits are required for a degree, with a minimum of 18 upper level (3000-4000) credits in the major and 27 upper level credits throughout the degree. Selecting 3000-4000 level electives or course options can help you reach these minimums.

<b>Credits</b>	<b>13</b>
<b>Total Credits</b>	<b>120</b>

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

\*\*Transfer credit or placement exam scores may change suggested plan of study