

# B.S. Earth and Environmental Systems, Environmental Systems Concentration

## Program Admissions Requirements

There are no program admission requirements for the B.S. Earth and Environmental Systems, Environmental Systems Concentration.

## General Education

The listing below includes program requirements that also fulfill General Education requirements.

Code	Title	Credits
Objective 1		6
Objective 2		3
Objective 3 - MATH 1160 or MATH 1170		3
Objective 4		6
Objective 5 - BIOL 1101, BIOL 1101L, and CHEM 1111		8
Objective 6		6
<b>Students must fulfill Objective 7 or Objective 8</b>		<b>3</b>
Objective 7		
Objective 8		
Objective 9		3
<b>Total Credits</b>		<b>38</b>

## Major Requirements

Code	Title	Credits
<b>Core Courses</b>		
The required Core Courses provide a solid background in Geosciences and other subjects. Environmental Systems include physical, biological and human systems; thus, the program incorporates course work in Biological Sciences, Physical and Social Sciences, and Mathematics. Some of these courses may satisfy General Education requirements.		
GEOL 2204	Fluid Earth	4
GEOL 2205	Solid Earth	4
GEOL 3392	Geosciences Careers Seminar	1
GEOL 3315	Evolution of the Earth's Surface	4
GEOL 4403	Principles of Geographic Information Systems	3
GEOL 4492	Earth and Environmental Systems Seminar	1
BIOL 1101 & 1101L	Biology I and Biology I Lab	4
BIOL 1102 & 1102L	Biology II and Biology II Lab	4
BIOL 2209 & 2209L	General Ecology and General Ecology Laboratory	4
CHEM 1111 & 1111L	General Chemistry I and General Chemistry I Lab	5
<b>Environmental Systems Concentration</b>		

This concentration combines courses in Ecology, Environmental Geosciences, and supporting fields. This emphasis track will train students interested in field-related careers who need to understand the environmental relations between geologic and living systems.

CHEM 1112 & 1112L	General Chemistry II and General Chemistry II Lab	4
MATH 1160 or MATH 1170	Survey of Calculus Calculus I	3-4
MATH 3350	Statistical Methods	3
GEOL 4451	Field Methods in Environmental Sciences	3
<b>Select two courses from the following:</b>		<b>7-8</b>
GEOL 4402	Geomorphology	
GEOL 4417	Introduction to Soils and Critical Zone Processes	
GEOL 4429	Watershed Hydrology	
GEOL 4430	Principles of Hydrogeology	
Or other approved courses in related fields.		
<b>Select one course from the following:</b>		<b>4</b>
BIOL 4462 & 4462L	Freshwater Ecology and Freshwater Ecology Lab	
BIOL 4489	Field Ecology	
GEOL 4490	Ecosystem Ecology and Global Changes	
Or other approved course in related fields.		
<b>Select one elective from the following:</b>		<b>2-3</b>
GEOL 3310	Geologic Field Methods	
GEOL 4410	Science in American Society	
GEOL 4471	Historical Geography of Idaho	
HIST 4430	Global Environmental History	
HIST 4432	U.S. Environmental History	
POLS 4455	Environmental Politics and Policy	
PHIL 4455	Environmental Ethics	
SOC 4435	Environmental Sociology	
Or other approved courses in related fields.		
<b>Total credits</b>		<b>60</b>

Students who are considering graduate studies in a Geosciences field should consider also taking BIOL 3316 Biometry Laboratory, PHYS 1111 General Physics I with PHYS 1113 General Physics I Laboratory or PHYS 1111 General Physics I with PHYS 2213 Engineering Physics I Laboratory.

ENGL 3307 Professional and Technical Writing is recommended for all students.

## Degree Totals

Code	Title	Credits
	Program Admission Requirements	0
	General Education	38
	Major Requirements (Required General Education credits removed.)	52
	Upper Division Free Electives	17

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

ISU Degree Requirements (<https://coursecat.isu.edu/undergraduate/degerequirements/>)

ISU General Education (<https://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>)

Major Academic Plan (MAP)