EARTH SCIENCE BA/BS

The Earth Science major provides a broad-based science education with focus on Earth's systems, including the geosphere, hydrosphere, atmosphere and biosphere. Students gain an understanding of the major features of each of these systems with foundational courses in Earth system science, environmental earth science, historical geology, and earth materials. Elective courses in the program include hydrogeology, structural field geology, geographic information systems, geochemistry, ecology, and field biology. Students can opt to participate in internships, research projects, or serve as teaching assistants. The program prepares students for a wide variety of careers in the private and government sectors including the fields of environmental science, geotechnical services, natural hazards mitigation, mining and petroleum industries, and resource management. It also provides an excellent foundation for students interested in continuing their education with graduate work in the natural sciences. Students may complete additional courses required for secondary teaching certification.

The goals of the Earth Science program are to provide students with learning experiences in the classroom, laboratory, and field so that they are **well-prepared** to:

- Understand the major features and processes in Earth's systems and the interrelationships between them;
- Understand the interactions between Earth systems and human society;
- Apply geoscience knowledge and critical thinking skills to identify and address a variety of Earth science problems;
- Understand field research techniques and be able to critically interpret geologic phenomena in the field;
- Apply scientific methods with clearly articulated hypotheses and understand the fundamentals of collecting and applying data to test hypotheses;
- Communicate in a scientifically effective manner, in both oral and written form.

General Education Requirements

Code	Title	Credits
Written Communication		
Select one of the following:		6.00
ENGL-101 & ENGL-102	WRITING AND RHETORIC I and WRITING AND RHETORIC II	
ENGL-109	COLLEGE WRITING AND RESEARCH	
Oral Communication		
Select one from the following:		3.00
COMM-101	FUNDAMENTALS OF ORAL COMMUNICATION	
COMM-203	SMALL GROUP COMMUNICATION	
COMM-204	PUBLIC SPEAKING	
Mathematical Ways of Knowing		
Select one of the following:		3.00-5.00
MATH-143	PRECALCULUS I: ALGEBRA	
MATH-147	PRECALCULUS	
MATH-170	CALCULUS I	
Humanistic & Artistic Ways of Knowing		
Select two courses from two different categories (Literature, Arts, Language):		6.00-7.00
Literature		
ENGL-175	LITERATURE AND IDEAS	
ENGL-257	WORLD CLASSICS	
ENGL-258	INTERNATIONAL LITERATURE	
ENGL-260	NATIVE AMERICAN LITERATURE	
ENGL-261	MYTHOLOGIES	
Arts		
ART-100	INTRODUCTION TO ART	
HUM-101	THE ART AND HISTORY OF THE MOTION PICTURE	
HUM-150	INTRODUCTION TO THE ARTS	
MUS-101	SURVEY OF MUSIC	
MUS-102	MUSIC IN AMERICA	
MUS-150	WORLD MUSIC	
MUS-151	HISTORY OF MUSICAL THEATER	

MUS-152	HISTORY OF JAZZ AND POPULAR MUSIC STYLES	
THEA-101	SURVEY OF THE THEATER	
Language		
NP-101	NEZ PERCE LANGUAGE AND CULTURE	
NP-102	NEZ PERCE LANGUAGE AND HISTORY	
SPAN-101	ELEMENTARY SPANISH I	
SPAN-102	ELEMENTARY SPANISH II	
Scientific Ways of Knowing		
Select two of the following:		8.00
CHEM-111	PRINCIPLES OF CHEMISTRY I	
PHYS-111	GENERAL PHYSICS I	
or PHYS-211	PHYSICS FOR SCIENTISTS AND ENGINEERS I	
Social & Behavioral Ways of Knowing		
Select one course from two disciplines:		6.00
ANTH-102	CULTURAL ANTHROPOLOGY	
ANTH-120	WORLD PREHISTORY	
ANTH-170	INTRODUCTION TO NATIVE AMERICAN STUDIES	
ECON-201	PRINCIPLES OF MACROECONOMICS	
ECON-202	PRINCIPLES OF MICROECONOMICS	
GEOG-102	INTRODUCTION TO GEOGRAPHY	
HIST-101	WORLD HISTORY I	
HIST-102	WORLD HISTORY II	
HIST-111	UNITED STATES HISTORY I	
HIST-112	UNITED STATES HISTORY II	
HRPT-184	DIVERSITY IN ORGANIZATIONS	
HRPT-185	HUMAN RELATIONS IN ORGANIZATIONS	
POLS-101	AMERICAN NATIONAL GOVERNMENT	
POLS-237	INTERNATIONAL POLITICS	
POLS-285	COMPARATIVE GOVERNMENT	
PSYC-101	INTRODUCTION TO GENERAL PSYCHOLOGY	
PSYC-205	LIFESPAN DEVELOPMENTAL PSYCHOLOGY	
SOC-101	INTRODUCTION TO SOCIOLOGY	
SOC-102	SOCIAL PROBLEMS	
SS-184	DIVERSITY IN ORGANIZATIONS	
SS-185	HUMAN RELATIONS IN ORGANIZATIONS	
Global Perspectives		
Select one of the following:		3.00-4.00
ANTH-102	CULTURAL ANTHROPOLOGY	
ANTH-120	WORLD PREHISTORY	
ANTH-170	INTRODUCTION TO NATIVE AMERICAN STUDIES	
ANTH-360	RACE AND ETHNICITY	
COMM-345	INTERCULTURAL COMMUNICATION	
ENGL-258	INTERNATIONAL LITERATURE	
ENGL-474	NATIVE AMERICAN WRITTEN LITERATURE	
GEOG-102	INTRODUCTION TO GEOGRAPHY	
HIST-101	WORLD HISTORY I	
HIST-102	WORLD HISTORY II	
HIST-111	UNITED STATES HISTORY I	
HIST-112	UNITED STATES HISTORY II	
HRPT-184	DIVERSITY IN ORGANIZATIONS	
ID-300C	ETHICS AND IDENTITY	
KIN-220	SOCIAL-CULTURAL ASPECTS OF SPORTS	

NP-101	NEZ PERCE LANGUAGE AND CULTURE	
NP-102	NEZ PERCE LANGUAGE AND HISTORY	
POLS-285	COMPARATIVE GOVERNMENT	
SOC-101	INTRODUCTION TO SOCIOLOGY	
SPAN-101	ELEMENTARY SPANISH I	
SPAN-102	ELEMENTARY SPANISH II	
SPAN-201	INTERMEDIATE SPANISH I	
SPAN-202	INTERMEDIATE SPANISH II	
Integrative Seminar: Ethics & Values		
Select one of the following:		3.00
ID 300A - 300Z (see course descriptions for options)		
ID-301A	HELLS CANYON INSTITUTE	
Total Credits		**38.00-42.00**

Program Requirements

Code	Title	Credits
Major Courses		
CHEM-112	PRINCIPLES OF CHEMISTRY II	4.00
GEOL-101	PHYSICAL GEOLOGY	4.00
or GEOL-120	INTRODUCTION TO EARTH SYSTEMS	
GEOL-202	HISTORICAL GEOLOGY	4.00
GEOL-313	EARTH MATERIALS I	4.00
GEOL-314	EARTH MATERIALS II	4.00
GEOL-450	EARTH SYSTEMS CAPSTONE	3.00
GEOL-491	WORKSHOP IN GEOLOGY	1.00
MATH-170	CALCULUS I (Required if not taken as core)	
PHYS-205	DESCRIPTIVE ASTRONOMY	4.00
PHYS-112	GENERAL PHYSICS II	4.00
or PHYS-212	PHYSICS FOR SCIENTISTS AND ENGINEERS II	
Electives		
Select 4 credits of GEOL or GIS 200 level or higher		4.00
Select 7 credits of GEOL or GIS 300 level or higher		7.00
Select 39 elective credits		39.00
Total Credits		**82.00**

Sequential Plan of Study

Course	Title	Credits
First Year		
Fall		
CHEM-111	PRINCIPLES OF CHEMISTRY I	4.00
CORE	Social & Behavioral Ways of Knowing	3.00
ENGL-101	WRITING AND RHETORIC I	3.00
GEOL-101 or GEOL-120	PHYSICAL GEOLOGY or INTRODUCTION TO EARTH SYSTEMS	4.00
Elective	Elective Credits	3.00
	Credits	**17.00**
Spring		
ENGL-102	WRITING AND RHETORIC II	3.00
CORE	Oral Communication	3.00
CHEM-112	PRINCIPLES OF CHEMISTRY II	4.00
Elective	Elective Credits	3.00
	Credits	**13.00**

Second Year		
Fall		
CORE	Humanistic & Artistic Ways of Knowing	3.00
CORE	MATH-143, MATH-147 or MATH-170	3.00-5.00
PHYS-111 or PHYS-211	GENERAL PHYSICS I or PHYSICS FOR SCIENTISTS AND ENGINEERS I	4.00-5.00
Program Requirement	Select GEOL or GIS course 200 level or above	4.00
	Credits	**14.00-17.00**
Spring		
CORE	Humanistic & Artistic Ways of Knowing	3.00
GEOL-202	HISTORICAL GEOLOGY	4.00
PHYS-112 or PHYS-212	GENERAL PHYSICS II or PHYSICS FOR SCIENTISTS AND ENGINEERS II	4.00-5.00
Program Requirement	Select GEOL or GIS course 200 level or above	4.00
	Credits	**15.00-16.00**
Third Year		
Fall		
CORE	Social & Behavioral Ways of Knowing	3.00
GEOL-313	EARTH MATERIALS I	4.00
PHYS-205	DESCRIPTIVE ASTRONOMY	4.00
Program Requirement	Select GEOL or GIS course 200 level or above	3.00
Elective	Elective Credits	3.00
	Credits	**17.00**
Spring		
CORE	Global Perspectives	3.00
CORE	Integrative Seminar: Ethics & Values	3.00
GEOL-314	EARTH MATERIALS II	4.00
Elective	Elective Credits	3.00
Elective	Elective Credits	3.00
	Credits	**16.00**
Fourth Year		
Fall		
GEOL-491	WORKSHOP IN GEOLOGY	1.00
Elective	Elective Credits	3.00
Elective	Elective Credits	3.00
Elective	Elective Credits	3.00
Elective	Elective Credits	3.00
	Credits	**13.00**
Spring		
GEOL-450	EARTH SYSTEMS CAPSTONE	3.00
Elective	Elective Credits	3.00
Elective	Elective Credits	3.00
Elective	Elective Credits	3.00
Elective	Elective Credits	3.00
	Credits	**15.00**
	Total Credits	**120.00-124.00**

Graduates with a BA/BS in Earth Science go on to obtain careers in a variety of fields:

- Resources
- Landscape
- Astrogeology and Space Sciences
- Education

- Minerals
- Geologic Mapping
- Hazards