

GEOLOGY OPTION

This option is offered within the following major(s):

- Earth Sciences - College of Earth, Ocean, and Atmospheric Sciences (<http://catalog.oregonstate.edu/college-departments/earth-ocean-atmospheric-sciences/earth-sciences-bs-hbs/>)

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Geology is the scientific study of the Earth and seeks to understand Earth’s composition and internal structure, history, and how this history reflects the processes operating within the planet and at its surface. The Geology Option is built on a foundation of basic sciences, and students employ core concepts in physics, chemistry, and mathematics to study a range of fundamental Earth systems, including the processes of mineral and rock formation, the evolution of climate, earthquakes and mountain building, surface processes and landscape evolution, and mineral resources.

Experiential learning lies at the core of a geologist’s education in CEOAS, and practical field experiences are integrated throughout the curriculum. Geology students apply state-of-art field and laboratory techniques to study geologic phenomenon in Oregon and around the world.

Geology students are mentored by, and often engage in research with, dedicated faculty with a broad range of expertise. The college is a vibrant research hub visited by scientists from around the world, complementing the world class research done by our own Geology faculty.

The Geology option is suitable for students interested in careers in environmental sciences, science education, applied geology, and in research. The Geology option includes the topics covered by the test for the state Geologist Practice Examination (<http://www.oregon.gov/osbge/Pages/>) conducted by the Board of Geologist Examiners.

Option Code: 262

Code	Title	Credits
Requirements		
Select one of the following:		5
CH 232 & CH 262	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 232	
CH 122	*GENERAL CHEMISTRY	
PH 212 or PH 202	*GENERAL PHYSICS WITH CALCULUS *GENERAL PHYSICS	4-5
Select one of the following to complete a third term of either chemistry or physics:		4-5
CH 233 & CH 263 or CH 123	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 233 *GENERAL CHEMISTRY	
PH 213 or PH 203	*GENERAL PHYSICS WITH CALCULUS *GENERAL PHYSICS	
GEO 203	*EVOLUTION OF PLANET EARTH	4
GEO 295	INTRODUCTION TO FIELD GEOLOGY	3
GEO 310	EARTH MATERIALS I: MINERALOGY	4

GEO 315	EARTH MATERIALS II: PETROLOGY	4
GEO 322	SURFACE PROCESSES	4
GEO 340	STRUCTURAL GEOLOGY	4
GEO 370	STRATIGRAPHY AND SEDIMENTOLOGY	4
GEO 415	EARTH MATERIALS III: PETROGRAPHY	4
GEO 430	*GEOCHEMISTRY	4
GEO 463	*GEOPHYSICS AND TECTONICS	4
GEO 487	HYDROGEOLOGY	4
GEO 495	ADVANCED FIELD GEOLOGY	6
MTH 252	INTEGRAL CALCULUS	4
Elective Specializations		
Select 9-12 credits of the following:		9-12
GEO 403	THESIS (may count toward the 9–12 credits)	
<i>Solid Earth</i>		
GEO 412	IGNEOUS PETROLOGY	
GEO 440	ECONOMIC GEOLOGY	
GEO 497	FIELD MAPPING OF ORE DEPOSITS	
<i>Earth Surface</i>		
BI 427	PALEOBIOLOGY	
GEO 432	APPLIED GEOMORPHOLOGY	
GEO 481	GLACIAL GEOLOGY	
GEO 484	INTRODUCTION TO BIOGEOCHEMISTRY	
GEO 486	QUATERNARY PALEOCLIMATOLOGY	
GEO 488	QUATERNARY STRATIGRAPHY OF NORTH AMERICA	
GEOG 423	SNOW HYDROLOGY	
SOIL 466	SOIL MORPHOLOGY AND CLASSIFICATION	
SOIL 468	SOIL LANDSCAPE ANALYSIS	
<i>Natural Hazards</i>		
GEO 427	*VOLCANOLOGY	
GEO 433	COASTAL GEOMORPHOLOGY	
GEO 461	GEOLOGY OF EARTHQUAKES	
<i>GIScience</i>		
GEOG 480	REMOTE SENSING I: PRINCIPLES AND APPLICATIONS	
GEOG 472	GEOVISUALIZATION: GEOVISUAL ANALYTICS	
GEOG 360	GISCIENCE I: GEOGRAPHIC INFORMATION SYSTEMS AND THEORY	
GEOG 481	SATELLITE IMAGE ANALYSIS	
Total Credits		75-80

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Baccalaureate Core Course

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Writing Intensive Course (WIC)

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