**EARTH SYSTEMS OPTION**

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

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

Also available via Ecampus (http://ecampus.oregonstate.edu/).

With the Earth Systems option, students will obtain a solid base in the sciences and they would be able to apply that base in an integrative way in order to build a strong knowledge traditionally referred to as natural history.

**Option Code: 848**

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<th>Code</th>
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<td>Required Courses</td>
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Select from at least three categories below:

**Atmosphere**

- ATS 201 *CLIMATE SCIENCE
- ATS 310 METEOROLOGY
- ATS 411 THERMODYNAMICS AND CLOUD MICROPHYSICS
- ATS 412 ATMOSPHERIC RADIATION
- ATS 413 ATMOSPHERIC CHEMISTRY
- ATS 420 CLIMATE PHYSICS
- ATS 421 CLIMATE MODELING
- GEO 484 INTRODUCTION TO BIOGEOCHEMISTRY
- GEOG 323 *CLIMATOLOGY

**Earth History**

- GEO 201 *PHYSICAL GEOLOGY
- GEO 203 *EVOLUTION OF PLANET EARTH
- GEO 308 *GLOBAL CHANGE AND EARTH SCIENCES
- GEO 370 STRATIGRAPHY AND SEDIMENTOLOGY
- GEO 481 GLACIAL GEOLOGY
- GEO 486 QUATERNARY PALEOClimATOLOGY
- GEO 488 QUATERNARY STRATIGRAPHY OF NORTH AMERICA

**Earth's Surface**

- FE 430 WATERSHED PROCESSES
- GEO 322 SURFACE PROCESSES
- GEO 340 STRUCTURAL GEOLOGY
- GEO 431 ENVIRONMENTAL GEOCHEMISTRY
- GEO 432 APPLIED GEOMORPHOLOGY
- GEO 433 COASTAL GEOMORPHOLOGY
- GEO 484 INTRODUCTION TO BIOGEOCHEMISTRY
- GEO 487 HYDROGEOLOGY
- GEOG 423 SNOW HYDROLOGY

**Oceans**

- GEO 484 INTRODUCTION TO BIOGEOCHEMISTRY
- OC 201 *OCEANOGRAPHY
- OC 332 COASTAL OCEANOGRAPHY
- OC 334 *POLAR OCEANOGRAPHY
- OC 430 PRINCIPLES OF PHYSICAL OCEANOGRAPHY
- OC 433 COASTAL AND ESTUARINE OCEANOGRAPHY
- OC 434/FW 434 ESTUARINE ECOLOGY
- OC 440 BIOLOGICAL OCEANOGRAPHY
- OC 450 CHEMICAL OCEANOGRAPHY
- OC 460 GEOLOGICAL OCEANOGRAPHY

**Soils**

- CSS 205 *SOIL SCIENCE

or SOIL 205 & SOIL 206

SOIL 366 ECOSYSTEMS OF WILDLAND SOILS
SOIL 435 ENVIRONMENTAL SOIL PHYSICS
SOIL 445 ENVIRONMENTAL SOIL CHEMISTRY
SOIL 455 BIOLOGY OF SOIL ECOSYSTEMS
SOIL 466 SOIL MORPHOLOGY AND CLASSIFICATION
SOIL 468 SOIL LANDSCAPE ANALYSIS

**Human-Environment Interaction**

- BI 347 *OCEANS IN PERIL
- GEO 305 *LIVING WITH ACTIVE CASCADE VOLCANOES
- GEO 306 *MINERALS, ENERGY, WATER, AND THE ENVIRONMENT
- GEO 307 *NATIONAL PARK GEOLOGY AND PRESERVATION
- GEO 380 *EARTHQUAKES IN THE PACIFIC NORTHWEST
- GEOG 324 *ECOLOGICAL BIOGEOGRAPHY
- GEOG 350 *GEOGRAPHY OF NATURAL HAZARDS
- GEOG 430 RESILIENCE-BASED NATURAL RESOURCE MANAGEMENT
- GEOG 431 GLOBAL RESOURCES AND DEVELOPMENT
- GEOG 432 *GEOGRAPHY OF FOOD AND AGRICULTURE
- GEOG 440 WATER RESOURCES MANAGEMENT IN THE UNITED STATES
- GEOG 441 INTERNATIONAL WATER RESOURCES MANAGEMENT
- GEOG 450 LAND USE IN THE AMERICAN WEST
- OC 333 *OCEANS, COASTS, AND PEOPLE

**Methods**

- ATS 295 OBSERVING CLIMATE
- GEOG 201 *FOUNDATIONS OF GEOSPATIAL SCIENCE AND GIS
- GEOG 295 INTRODUCTION TO GEOGRAPHIC FIELD RESEARCH
- GEOG 360 GISCIENCE I: GEOGRAPHIC INFORMATION SYSTEMS AND THEORY
- GEOG 370 GEOVISUALIZATION: CARTOGRAPHY
- GEOG 480 REMOTE SENSING I: PRINCIPLES AND APPLICATIONS

**Total Credits**

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* Baccalaureate Core Course (BCC)
^ Writing Intensive Course (WIC)