

## Portland State University Environmental Programs Bachelor of Arts/Bachelor of Science in Environmental Studies

Environmental Programs, the Department of Geography and the Center for Science Education have collaborated to propose a new degree that will be called "Environmental Studies". The degree prepares students for more sophisticated upper division courses at the interface between science and policy by requiring them to take some prerequisite courses in natural sciences (biology, chemistry and physical geography) and some prerequisite courses in the social sciences (geography, economics and environmental policy).

A summary of the requirements are listed below:

- 27 - 29 credits in natural sciences in the subjects of ecology, chemistry, environmental systems, and physical geography
- 24 credits in social sciences and humanities in the subjects of resource management, economics, environmental policy and regulations, and others
- 20 credits from a list of "skills" that includes quantitative analysis, visualization of spatial data, field methods, and others
- 16 credits in identified topical areas that include environmental systems, urban issues, resource management, nature/society interactions, and environmental education

There is a minimum of 87 credits required for this major.

### Core Content:

#### Natural Sciences Core Courses

Ecology – 8 credits in one of the following sequences.....	8
Bi 101, 102, 103: General Biology (with labs) or Bi 251, 252, 253: Principles of Biology or Sci 341, 342: Biology Concepts and Applications or ESR 355, 356: Understanding Environmental Sustainability or equivalent	
Chemistry – 6 to 8 credits (two quarters or one semester)...	6 to 8
Chem104 and 105, Chem 160: Physical Sciences and Chem 170: Fundamentals of Environmental Chemistry or Sci 335and Sci336: Water in the Environment or equivalent	
Environment Science .....	8
ESR 220: Introduction to Environmental Systems and ESR 221: Applied Environmental Studies: Problem Solving	
Physical Geography .....	4
Geog 210: Physical Geography	
Senior Seminar	
ESR 407: Environmental Seminar.....	<u>1</u>
	<b>27-29</b>

#### Social Sciences and Humanities Core Courses

Human Geography/Management .....	8
Geog 230: Environment and Society: Global Perspectives and Geog 345: Resource Management	
Environmental Economics.....	4
Ec 332: Economics of Environmental Issues or equivalent	
Environmental Policy/Regulations .....	4
ESR 222: Applied Environmental Studies: Policy Considerations	
8 credits from the following list of courses: .....	8
Soc 200: Introduction to Sociology, PS 319: Politics of the Environment, Ph 310: Environmental Ethics , Hst 339: The Environment and History, Geog 347: Environmental Issues and Action, or Eng 308: Literature and the Environment	

**Skills:** *Students must take a total of 20 credits of skill courses, including the following:*

- Quantitative/Qualitative Analysis – 4 credits from this list: .....4  
Stat 243: Introduction to Probability and Statistics I, Sci 314: Environmental Statistics, Geog 397:  
Visualization of Spatial Data, Geog 497: Spatial Quantitative Analysis
- Visualizing Spatial Data .....8  
Geog 380: Maps and Geographic Information and Geog 488: Geographic Information Systems I:  
Introduction
- Field Methods – 4 credits from this list: .....4  
Bi 473: Field Sampling or Geog 420: Field Methods in Physical Geography
- 4 credits from one of the following: ..... 4  
Geog 495: Maps, Models and GIS, Wr 327: Technical Writing, Eng 449: Critical Analysis of Texts,  
Geog 480: Remote Sensing, Geog 485: Map Design and Production

**20**

**Topical Areas:** *Students must take 4 courses from one area of Topical Areas...16*

These “Topical Area” lists will be reviewed and modified by the degree oversight committee (consisting of a member from each department) on an annual basis. The intent of these lists is to help students and their advisor select an appropriate set of courses to meet the student’s educational goals.

**Environmental Systems**

- Sci 335, 336: Water in the environment\*
- Sci 331, 332: Atmospheric interactions
- Sci 345, 346: Old growth forest ecology/management
- ESR 420: Ecological Toxicology
- ESR 424: Wetland Ecology and Regulations
- ESR 426: Ecology of Streams and Rivers
- ESR 427: Watershed Biogeochemistry
- ESR 428: Urban Ecology
- ESR 429: Environmental Impact Assessment
- ESR 445: Old-growth Forest Ecology
- ESR 475: Limnology and Aquatic Ecology
- ESR 479: Fate & Transport of Toxics in the Environment
- Geog 311: Climatology
- Geog 313: Biogeography
- Geog 322: Alpine Environments

**Urban Issues**

- Geog 332: Urban Geography
- Geog 432: Urban Landscapes
- Geog 442: Sustainable Cities
- Geog 447: Urban Streams
- Geog 448: The Urban Forest
- ESR 428: Urban Ecology
- USP 313: Urban Planning: Environmental Issues
- USP 431: Urban Economics
- USP 456: Urban Transportation

**Resource Management**

- Sci 321, 322: Energy and society
- Geog 445: Resource Management Topics
- Geog 446: Water Resource Management
- ESR 433: Natural Resource Economics
- ESR 434: Business Environmental Management Economics
- ESR 443: Global Environmental Economics
- USP 431: Urban Economics

**Nature/Society Interactions**

- Geog 348: Cultural Ecology
- Geog 346: World Population & Food Supply
- Geog 349: Mountain Geography
- Geog 430: Cultural Geography
- Geog 462: Sense of Place
- USP 419: Population and Society
- Soc 320: Globalization
- Soc 341: Population Trends and Policy
- Soc 465: Environmental Sociology
- Sci 352: Science and Policy of Climate Change
- Sci 363: Ethics in Science
- Anth 414: Culture and Ecology
- Ec 432: Environmental Economics
- Ec 433: Natural Resource Economics
- Ec 444: Economics of Green Power
- Hst 440, 441: American Environmental History
- PS 319: Politics of the Environment

**Environmental Education**

- Geog 462: Sense of Place
- ESR 470: Environmental Education
- ESR 406: Special Projects (in Environmental Education)
- Ed 420: Introduction to Education and Society
- Sci 311, 312: Teaching Everyday Science

Total for Major: .....**87 - 89**

Courses taken under the undifferentiated grading option (pass/no pass) will not be accepted toward fulfilling major requirements. Additional courses may be required as prerequisites. All courses used to satisfy the Environmental Studies major requirements, whether taken in the program or in other departments, must be graded C- or above.

\*Any course taken to meet the core content requirement cannot be used to meet the topical area requirement.