

Environmental Sciences
OSU ECampus Program
Advising Guide



2009-2010

Environmental Science: A Hands-On Interdisciplinary Approach

Air and water pollution, acid rain, depletion of ozone in the stratosphere, buildup of greenhouse gases in the atmosphere, nuclear waste, and oil spills in our seas – these are pressing problems that endanger our environment. Scientists must be trained to examine and understand complex environmental issues, to predict environmental change, and to participate in responsible management of the environment. To help reach these objectives, Oregon State University's Environmental Sciences Bachelor of Sciences degree offers an interdisciplinary approach to environmental problem solving.

Environmental Sciences Major

The Environmental Sciences curriculum provides breadth of training in the sciences, mathematics and relevant social sciences and humanities. Depth is acquired by specializing in a defined field such as applied ecology and resource management. Students are encouraged to take advantage of opportunities for hands-on experience in collecting and analyzing data in the physical, biological or social sciences related to the environment.

Environmental Sciences Minor

A minor in Environmental Sciences is also available to students from all departments and programs at OSU. The minor requires a minimum of 28 credits in addition to credits required for the student's major (see the OSU catalog for details).

Graduate Opportunities

Students can continue their studies in graduate school. Typically, students pursue graduate work in the specialization area they choose as an Environmental Sciences undergraduate. For example: students wishing to complete advanced work in ecology may choose to complete a minor in Fisheries & Wildlife. In addition, graduates will be prepared to combine their scientific background with law and could choose to pursue a career in Environmental Law. An M.B.A. degree would qualify students to assume leadership positions in the environmental divisions of large corporations.

Career Opportunities

A variety of career opportunities are available for students graduating with a B.S. degree in Environmental Sciences. Federal agencies, such as the Environmental Protection Agency, the Department of Energy, and the U.S. Forest Service, hire qualified graduates, as do private companies, consulting firms and universities.

Email List-Serve

Looking for a job or internship? Need a scholarship? These and other important items are what you can expect to see when you subscribe to the Environmental Sciences List-serve. To subscribe email: encasso-join@lists.oregonstate.edu

International Opportunities

Oregon State University and the Environmental Sciences Program participate in a growing number of international exchange programs that offer internship experiences. Many semester-long study abroad experiences offer courses that count towards the ES degree. For information contact the Office of International Education (541-737-3006) or check out the OSU International Programs website: <http://oregonstate.edu/international/>

IE3 Global Internships is an OSU program that facilitates locating international internship opportunities, as well as scholarships and loans for participation. For further information, visit the website at <http://ie3global.orst.edu/>, or call 541-737-6464.

The University of Auckland's exchange program in New Zealand offers courses at all levels enabling students to develop multidisciplinary skills in environmental ecology, marine sciences and environmental management. Students can choose to take hands-on courses at the internationally renowned Leigh Marine Laboratory, which offers students onsite accommodations and unique opportunities in marine research.

Universidad San Francisco de Quito is a private liberal arts university in Quito, Ecuador that offers relevant courses to Environmental Science majors. Their **Galapagos Academic Institute for the Arts and Sciences (GAIAS)**, is located in Puerto Baquerizo Moreno, the capital city of the Galapagos Archipelago. GAIAS offers a full semester program in English to international students. The semester program consists of five intensive courses all taught in four week modules and worth three credits each. <http://192.188.53.73/GAIAS/academic.html>

Bangor, Wales Oregon State University students have the opportunity to study on an exchange program at the University of Wales, Bangor for one year. This program is open to majors within the College of Science. For more information contact Mary Ann Matzke at 541-737-4811. Website: http://www.science.orst.edu/study_abroad2.html

The Curriculum

Students in the Environmental Sciences program begin by building a strong foundation in the basic sciences and the humanities, both through the Baccalaureate Core and the major requirements. In the junior year, the curriculum focuses on natural environmental systems as well as the interface between humans and the environment. At this time, students choose an area of specialization on which to focus. The program also requires that students complete an “observational experience”, usually an internship or research experience that provides an opportunity to actively engage in the field of environmental science.

UNIVERSITY REQUIREMENTS

All undergraduate students must meet the following requirements:

- A Bachelor of Science degree requires 180 credits
- 60 upper division credits (300 level or above)
- 36 credits taken in the major, 24 must be upper division
- 45 of the last 75 credits must be taken at OSU, 15 of the 45 OSU credits must be upper division
- 48 credits are required for the Baccalaureate Core. In addition, students must complete 3 credits of WIC
- Students must maintain a minimum cumulative OSU GPA of 2.00

THE BACCALAUREATE CORE

The OSU Baccalaureate Core emphasizes critical thinking, writing, cultural diversity, the arts, sciences, literature, lifelong fitness, and global awareness. For a complete list of courses, consult the OSU General Catalog or each term’s *Schedule of Classes*. Note: Some courses taken as part of the major requirements may also be used to satisfy a Bacc Core requirement (that is, they “double count”).

The following is a list of the major categories of Bacc Core requirements:

Skills Courses (15 credits)

The Skills Courses provide a foundation in writing, basic mathematics, and lifelong fitness.

Perspectives Courses (27 credits)

The Perspectives Courses emphasize the arts, sciences, cultural diversity, literature, and global awareness.

Synthesis Courses (6 credits)

The Synthesis Courses are upper division classes which are divided into two areas: Contemporary Global Issues and Science, Technology, and Society. A list of recommended courses which satisfy both this Bacc Core requirement and the Environmental Science major requirements are specified on the Environmental Science checklist in the *Humans and the Environment* section. **NOTE:** The two courses used to fulfill this requirement may not be in the same department.

Writing Intensive Course (WIC) (3 credits)

Every discipline has its own particular standards for writing. The Writing Intensive Courses are designed to give students practice writing within their major.

Any Area of Specialization – ENSC 479, FW 435, GEO 323
Environmental Policy Option – AREC 461, PS 449
Fisheries and Wildlife Minor – FW 435

The **Environmental Science Major** provides students with a strong foundation in the basic sciences. From there, students progress to the core courses, which are divided into two categories: Natural Environmental Systems, and Humans & the Environment. Students also choose a specialization area and complete an observational experience. Each of these categories is described below.

Basic Science and Math

Students complete a full year of biology and chemistry, as well as courses in calculus, statistics and physics. **Biology must be a full year sequence intended for science majors, must be taken in-person, and must include labs.** These courses serve as a foundation for the upper level science courses that students take in their junior and senior years.

Environmental Sciences & Humanities Core

The core classes are divided into two categories: Natural Environmental Systems and Humans & the Environment. In Natural Environmental Systems, students learn about the atmosphere, the biosphere, the hydrosphere, and the lithosphere by choosing among selected courses for each category. In Humans & the Environment, students learn about environmental law and management, environmental ethics and policy, economics, and the interactions between humans and the environment.

Specialization Area

The Environmental Sciences core curriculum requires that students acquire breadth in the field as a whole, while the specialization requires that they acquire depth in one area. The specialization area is intended to give the student a strong sense of academic identity and to ensure that each student has specialized knowledge of some aspect of environmental science. Typically in their junior year, students declare a specialization from one of five options: Applied Ecology and Resource Management Option, Business and Entrepreneurship Minor, Environmental Conservation & Sustainability Option, Environmental Policy Option, or Fisheries & Wildlife Minor.

Observational Experience

The Environmental Sciences Program requires that each student complete a minimum of 3 credit hours of “observational experience” (1 credit = 30 hours of work). An internship or volunteer experience provides a way for a student to earn academic credit for certain kinds of work done for a business, governmental agency, or other organization. It consists of full or part-time work which furthers and enriches a student’s education. Students must discuss the internship with their advisor, obtain approval and submit a completed Internship Agreement Form BEFORE enrolling in ENSC 410.

Environmental Sciences Curriculum

ECampus Distance Version

Student: _____

A. OSU BACCALAUREATE CORE COURSES

The Baccalaureate Core is an OSU requirement for all majors.

Courses offered through Ecampus are listed in italics under each category.

SKILL COURSES

- () Writing I (3) _____
WR 121
- () Writing II (3) _____
WR 214, 222, 224, 241, 323, 324, 327, WR 330
- () Writing III (3) _____
Any other WR II not taken to satisfy above
- () Lifetime Fitness for Health (3) _____
HHS 231 & HHS 241
- (X) Mathematics (3-4) _____
Fulfilled in Box B

PERSPECTIVES *No more than 2 courses from any one department may be used to satisfy the Perspectives requirement*

***Some requirements may be met by taking courses in the specialty option.*

- (X) Physical Science w/lab (4) _____
Fulfilled in Box B
- (X) Bio. Science w/lab (4) _____
Fulfilled in Box B
- (X) Phy. Or Bio. Science (4) _____
Fulfilled in Box B
- () Cultural Diversity (CD) (3) _____
See <http://ecampus.oregonstate.edu/soc/ecatalog/bcc.htm>
- () Lit. and Arts (LA) (3) _____
See <http://ecampus.oregonstate.edu/soc/ecatalog/bcc.htm>
- (X) Soc. Proc. & Inst. (SI) (3) _____
Fulfilled in Box C - Economics
See <http://ecampus.oregonstate.edu/soc/ecatalog/bcc.htm>
- () Western Culture (WC) (3) _____
See <http://ecampus.oregonstate.edu/soc/ecatalog/bcc.htm>
- () Diff. Power, Disc. (DPD) (3) _____
See <http://ecampus.oregonstate.edu/soc/ecatalog/bcc.htm>

WRITING INTENSIVE COURSE (3 Credit Hours)

***The Synthesis and WIC requirements can be met with courses from Section C2 "Humans and the Environment"*

- () Writing Intensive Course (3) _____
See Advising Guide for WIC selection

SYNTHESIS (6 Credit Hours)

- () Contemporary Global Issues (G) (3) _____
AREC 351, FW 325, PHL 443, or see Bacc Core
- () Science Technology & Society(S)(3) _____
ANTH 481, AREC 352, ENSC 479, or see Bacc Core

B. BASIC SCIENCE AND MATH

****NO S/U's in the following sections. Classes taken in the following sections can double count with Baccalaureate Core courses in Section A.**

****Note: A full year Biology sequence for science majors must be taken in-person at a local institution and must include labs. You must get prior approval by your advisor before taking these courses.**

- () **Biology** Full year sequence with Lab
Equivalent to BI 211,212,213

- () **Chemistry** CH 121, 122, 123 online @ OSU
Or in-person at local institution with prior approval

- () **Physics** at least two terms with lab equivalent to PH 201, 202
(May be taken online - Eastern Oregon University or Chemeketa Community College)

**Note: Students planning to attend graduate school in science should take a full year of physics.*

Math

- () MTH 251 (Differential Calculus) _____
- () MTH 252 (Integral Calculus) _____

Statistics

- () ST 351 _____
- () ST 352 (online Fall 09) _____

C. ENVIRONMENTAL SCIENCES AND HUMANITIES CORE

**Superscripts “G” and “S” indicate the Baccalaureate Core Synthesis categories “Contemporary Global Issues” and “Science, Technology, and Society,” respectively. “WIC” indicates a Writing Intensive Course. ** NO S/U’s in the following sections.

1. NATURAL ENVIRONMENTAL SYSTEMS (13-14 Credit Hours)

- | | | |
|--|-----|---|
| <input type="checkbox"/> Atmosphere _____ | 3-4 | Choose <u>one</u> : ATS 210 or GEO 323 ^{WIC} |
| <input type="checkbox"/> Biosphere _____ | 3 | BI 370 |
| <input type="checkbox"/> Hydrosphere _____ | 3 | OC 331 |
| <input type="checkbox"/> Lithosphere _____ | 4 | Choose <u>one</u> : CSS 205 or GEO 221 |

2. HUMANS AND THE ENVIRONMENT (15-19 Credit Hours)

- | | | |
|--|-----|---|
| <input type="checkbox"/> Economics _____ | 3-4 | Choose <u>one</u> : ECON 201 or AREC 250 |
| <input type="checkbox"/> Environmental Ethics and Policy _____ | 3-4 | Choose <u>one</u> : ANTH 481 ^S , AREC 351 ^G , AREC 352 ^S , PS 475, PS 477, PHL 440, PHL 443 ^G |
| <input type="checkbox"/> Human Environment _____ | 3 | Choose <u>one</u> : ENSC 479 ^{WIC, S} , CH 390, FW 325 ^G |
| <input type="checkbox"/> Environmental Law & Management _____ | 3-4 | Choose <u>two</u> : AREC 253, AREC 352 ^S , AREC 432, FW 325 ^G , FW 326, FW 435 ^{WIC} , RNG 355, RNG 455, RNG 490 |

** NOTE: ECON 201 is the enforced pre-req for AREC 351

D. SPECIALIZATION AREA (≥27 CREDIT HOURS):

Choose 1 from: Applied Ecology & Resource Management Option; Business and Entrepreneurship Minor; Environmental Conservation & Sustainability Option; Environmental Policy Option; or Fisheries & Wildlife Minor

No S/Us in these courses. Classes taken in the specialization cannot double count with Section C above.

- Specialization (≥27 credits) _____

E. OBSERVATIONAL EXPERIENCE – to gain hands on experience in environmental sciences

- 3 credits min; earn up to 12 credits max
- 1 credit ENSC 410 = 30 hours of work

Choose one of the following:

- ENSC 410 Environmental Sciences Internship (___credits) _____
- GEO 365 (4) GIS Practicum – lab based online class; learn practical skills in Geographic Information Systems
- BOT 440 (4) Field methods online class – learn skills in describing & experimenting on vegetation in your local area

Questionnaire – answer upon completion of ENSC 410, GEO 365, or BOT 440. See your advisor for details.

For ENSC 410 internship credit, you must obtain approval from your advisor prior to registering for credits. For instructions on filling this requirement, go to <http://ecampus.oregonstate.edu/online-degrees/undergraduate/es/ESintern.pdf>

OSU Graduation Requirements:

- 180 total credits
- 60 upper division credits (300 level or above)
- 36 credits must be taken in the major of which 24 must be upper division
- 45 out of the last 75 credits must be taken through OSU, 15 of the 45 OSU credits must be upper division
- Foreign Language – admissions requirement: 2 years of high school or two terms of college level courses in the same language. Students who graduated from high school before 1997 are exempt from this requirement.

The Specialization Area

The Environmental Sciences core curriculum requires that students acquire breadth in the field as a whole, while the specialization requires that they acquire depth in one area. The specialization area is intended to give the student a strong sense of academic identity and to ensure that each student has specialized knowledge of some aspect of environmental science. Typically in their junior year, students declare a specialization from one of five areas: Applied Ecology and Resource Management Option, Business and Entrepreneurship Minor, Environmental Conservation and Sustainability Option, Environmental Policy Option, or Fisheries and Wildlife Minor.

1. Applied Ecology and Resource Management Option

Goal of Specialization: To prepare students for careers in resource management, with an emphasis on ecological principles.

Knowledge and Skills Gained:

- Understand the methods used in ecological data collection
- Understand the ecological and political basis behind resource management decisions
- Field experience in monitoring and experimenting on vegetation
- Concepts underlying GIS, GPS, remote sensing
- Methods of ecosystem rehabilitation

Employment Opportunities:

- Federal, State, and Local government
- Environmental consulting companies

2. Business and Entrepreneurship Minor

Goal of Specialization: To give students a fundamental stepping stone on the road to identifying and commercializing business opportunities in any type of organization.

Knowledge and Skills Gained:

- Financial management and marketing
- Recognize business opportunities, secure funding
- How to manage the commercialization of the business opportunity
- Address the challenges of launching a new venture or an idea within an existing organization.

Employment Opportunities:

- Environmental organizations in management, consulting, publicity, public relations, and marketing
- Green business

3. Environmental Conservation & Sustainability Option

Goal of Specialization: To expose students to the different aspects of sustainability, so that they may be able to engage in the on-going discussions of sustainability in both political and scientific communities.

Knowledge and Skills Gained:

- Understand environmental change
- Understand the three components of sustainability - environment, economics, and society
- Understand human interactions with the environment

- Understand and be able to integrate biological, social, and political aspects of environmental resources

Employment Opportunities:

- NGOs and non-profits
- Consulting companies
- Green, sustainable business
- Education
- Federal and State Agencies

4. Environmental Policy Option

Goal of Specialization: To prepare students for careers in the broad arena of environmental policy, with an emphasis on the social and political aspects of conservation and resource use.

Knowledge and Skills Gained:

- Understand human interactions with the environment
- Understand and to integrate biological, social, and political aspects of natural resources with the conservation of these resources.
- Ability to apply knowledge of resource policy, law, and planning to the scientific and social components of natural resource conservation approaches.

Employment Opportunities:

- Community-based conservation initiatives such as watershed councils, local land-use planning groups
- NGOs and non-profits
- Environmental and natural history educational groups
- Environmental Lawyer

5. Fisheries and Wildlife Minor

Goal of Specialization: To provide students with expertise in systematics, wildlife ecology, fish and wildlife biology, and ecosystem management.

Knowledge and Skills Gained:

- Biology and systematics of animals
- Taxonomy
- Principles of ecosystems management
- Identification of organisms
- Field methods such as sampling techniques
- Statistical analysis
- Developing management plans

Employment Opportunities:

- Federal, State, and Local government
- Private companies
- Wildlife or fisheries biologist
- Extension agent

Applied Ecology and Resource Management Option

OSU ECampus Version

- No S/U's in the following courses
- Classes used to fulfill requirements in the specialization **cannot double count** with requirements in the "Environmental Sciences and Humanities Core" in Box C.

() Applied Ecology Core (7 credits)

Vegetation Science (4 credits)

Choose 1 of the following:

- | | | | |
|-------------|-------|---|-------------------------------------|
| () BOT 440 | _____ | 4 | Field Methods in Vegetation Science |
| () RNG 253 | _____ | 4 | Wildland Plant Identification |

Rangeland Resources (3 credits)

Choose 1 of the following:

- | | | | |
|-------------|-------|---|----------------------------------|
| () RNG 241 | _____ | 3 | Rangeland Ecology and Management |
| () RNG 455 | _____ | 3 | Riparian Ecology and Management |

() Resource Management Core (9 credits)

Choose any 3 of the following:

- | | | | |
|-----------------------------|-------|---|---|
| () AREC 351 ^(G) | _____ | 3 | Natural Resource Economics and Policy |
| () FOR 365 | _____ | 3 | Issues in Natural Resource Conservation |
| () FW 323 | _____ | 3 | Management Principles of Pacific Salmon in the NW |
| () FW 435 ^(WIC) | _____ | 3 | Wildlife in Agricultural Ecosystems |
| () NR 455 | _____ | 3 | Natural Resource Decision Making |
| () RNG 355 | _____ | 3 | Desert Watershed Management |

() The Land and Its Interpretation (7-8 credits)

Choose any 2 of the following:

- | | | | |
|-------------|-------|---|------------------------------------|
| () FW 303 | _____ | 3 | Survey of GIS in Natural Resources |
| () GEO 301 | _____ | 4 | Map and Image Interpretation |
| () GEO 465 | _____ | 4 | Geographic Information Systems |

() Electives (3-4 credits)

In order to have 27 credits to complete the Option, select 3-4 credits from the following:

- | | | | |
|-------------------------------------|-------|---|---|
| () FW 251 | _____ | 3 | Principles of Wildlife Conservation |
| () Additional course(s) from above | _____ | | |
| () Other: | _____ | | <i>(Must be approved by your advisor)</i> |

() TOTAL CREDITS \geq 27

G = Contemporary Global Issues, Bacc. Core
WIC = Writing Intensive Course

Business and Entrepreneurship Minor

ECampus Distance Version

- Classes used to fulfill requirements in this Specialization **cannot double count** with requirements in the “Environmental Sciences and Humanities Core” of Box C.
- **Students must take AREC 250 to fulfill the “Economics” requirement in Box C.**
- For more information about minor prerequisites, GPA requirements, and additional on-campus minor electives, visit the College of Business Minor webpage at: http://www.bus.oregonstate.edu/prospective/bus_minor.htm

() Required Courses (24 credits)

() ECON 201	_____	4	Introduction to Microeconomics
() BA 215	_____	4	Money and Investment: Manager, Lender, Investor Viewpoint
() BA 260	_____	4	Introduction to Entrepreneurship
() BA 351	_____	4	Managing Organizations
() BA 360	_____	4	Introduction to Financial Management
() BA 390	_____	4	Marketing

() Electives (4 credits)

() BA 396	_____	4	Fundamentals of Marketing Research
() BA 462	_____	4	Project Management
() BA 463	_____	4	Family Business Management

() **TOTAL CREDITS = 28**

Environmental Conservation and Sustainability Option

ECampus Distance Version

- No S/U's in the following courses
- Classes used to fulfill requirements in the specialization **cannot** double count with "Environmental Sciences and Humanities Core" requirement in section C.

CORE COURSES (12-13 credits)

- | | | | | |
|-------------------|----------|-------|---|--|
| 1. () | ATS 320 | _____ | 3 | Man's Impact on Climate |
| 2. Choose 1 from: | | | | |
| () | FOR 365 | _____ | 3 | Issues in Natural Resource Conservation |
| () | FW 251 | _____ | 3 | Principles of Fish and Wildlife Conservation |
| 3. Choose 2 from: | | | | |
| () | ANTH 481 | _____ | 3 | Natural Resources and Community Values |
| () | AREC 351 | _____ | 3 | Natural Resource Economics and Policy |
| () | AREC 352 | _____ | 3 | Environmental Economics and Policy |
| () | SOC 481 | _____ | 4 | Society and Natural Resources |

ELECTIVES (14-15 credits): Select 14-15 credits from below. Choose at least 5 credits from both the Natural Sciences and Social Sciences Group.

Natural Sciences (min 5 credits)

- | | | | | |
|-----|---------|-------|------|---|
| () | BI 311 | _____ | 4 | Genetics |
| () | CH 374 | _____ | 3 | Technology, Energy and Risk |
| () | CH 390 | _____ | 3 | Environmental Chemistry |
| () | CSS 499 | _____ | 1-16 | ST/ Genetically Mod Org & Sustainable Ag |
| () | CSS 499 | _____ | 1-16 | ST/ Organic Farming |
| () | FOR 352 | _____ | 3 | Wilderness Management |
| () | FOR 365 | _____ | 3 | Issues in Natural Resource Conservation |
| () | FOR 445 | _____ | 4 | Ecological Restoration |
| () | FW 251 | _____ | 3 | Principles of Fish and Wildlife Conservation |
| () | FW 303 | _____ | 3 | Survey of GIS in Natural Resources |
| () | FW 321 | _____ | 3 | Fisheries and Wildlife Resource Ecology |
| () | FW 323 | _____ | 3 | Management Principles of Pacific Salmon in NW |
| () | FW 325 | _____ | 3 | Global Crises in Resource Ecology |
| () | FW 350 | _____ | 3 | Endangered Species, Society, and Sustainability |
| () | FW 435 | _____ | 3 | Wildlife in Agricultural Ecosystems (WIC) |
| () | GEO 300 | _____ | 3 | Environmental Conservation and Sustainability |
| () | GEO 335 | _____ | 3 | Introduction to Water Science and Policy |
| () | RNG 241 | _____ | 3 | Rangeland Ecology and Management |

Social Sciences (min 5 credits)

- | | | | | |
|-----|----------|-------|---|---|
| () | ANTH 481 | _____ | 3 | Natural Resources and Community Values |
| () | AREC 351 | _____ | 3 | Natural Resource Economics and Policy |
| () | AREC 352 | _____ | 3 | Environmental Economics and Policy |
| () | GEO 306 | _____ | 3 | Minerals, Energy, Water, and the Environment |
| () | PS 449 | _____ | 4 | Topics in Comparative Politics (WIC) |
| () | PS 475 | _____ | 4 | Environmental Politics and Policy |
| () | PS 477 | _____ | 4 | International Environmental Politics and Policy |
| () | SOC 480 | _____ | 4 | Environmental Sociology |
| () | SOC 481 | _____ | 4 | Society and Natural Resources |

() TOTAL CREDITS \geq 27

Environmental Policy Option

OSU ECampus Version

- No S/U's in the following courses.
- Classes used to fulfill requirements in the specialization **cannot double count** with requirements in the "Environmental Sciences and Humanities Core" in Box C.

() Required Courses (11 credits)

() AREC 352	_____	3	Environmental Economics and Policy
() HST 481	_____	4	Environmental History of the US
() PS 475	_____	4	Environmental Politics and Policy

() Electives (min 16 credits)

() AREC 351 [*]	_____	3	Natural Resource Economics and Policy
() AREC 461 ^{* WIC}	_____	4	Agricultural and Food Policy Issues
() GEO 300	_____	3	Environmental Conservation and Sustainability
() GEO 309 [@]	_____	3	Environmental Justice
() GEO 335	_____	3	Introduction to Water Science and Policy
() FOR 365	_____	3	Issues in Natural Resource Conservation
() FW 325	_____	3	Global Crises in Resource Ecology
() FW/ SOC 485	_____	3	Consensus and Natural Resources
() PS 415	_____	4	Politics & the Media
() PS 477	_____	4	International Environmental Politics and Policy
() PS 449 ^{WIC}	_____	4	Topics in Comparative Politics
() SOC 360 [#]	_____	3	Population Trends and Policy
() SOC 421 [#]	_____	3	Social Change and Modernization
() SOC 480 [#]	_____	3	Environmental Sociology
() SOC 481 [#]	_____	3	Society and Natural Resources

() TOTAL CREDITS \geq 27

WIC = Writing Intensive Course

* Enforced Pre-requisite = ECON 201

@ Enforced Pre-requisite = WR 121

Enforced Pre-requisite = SOC 204

Fisheries and Wildlife Minor

OSU ECampus Version

- No S/U's in the following courses.
- Classes used to fulfill requirements in the specialization **cannot double count** with requirements in the "Environmental Sciences and Humanities Core" in Box C. Exception = BI 370. As BI 370 is a required course for this minor, ES students must complete 5 courses in the Electives Section for a min of 29 total credits for the minor.
- **Any course substitutions** must be approved by the Department of Fisheries and Wildlife at OSU.

() Fisheries and Wildlife Core Courses (6 Credit Hours)

<input type="checkbox"/> BI 370	<u>Fulfilled in Major</u>	3	General Ecology
<input type="checkbox"/> FW 251	_____	3	Principles of Fish and Wildlife Conservation

() Animal Biology Courses (8-9 Credit Hours)

Choose 3 of the following:

<input type="checkbox"/> FW 311	_____	3	Biology of Birds
<input type="checkbox"/> FW 312	_____	2	Systematics of Birds
<input type="checkbox"/> FW 315	_____	3	Biology of Fishes
<input type="checkbox"/> FW 317	_____	3	Biology of Mammals

() Electives (15 Credit Hours minimum)

Choose 5 of the following:

<input type="checkbox"/> FW 303	_____	3	Survey of GIS in Natural Resources
<input type="checkbox"/> FW 320	_____	3	Introductory Population Dynamics
<input type="checkbox"/> FW 321	_____	3	Fisheries and Wildlife Resource Ecology
<input type="checkbox"/> FW 323	_____	3	Management Principles of Pacific Salmon in the NW
<input type="checkbox"/> FW 326	_____	3	Integrated Watershed Management
<input type="checkbox"/> FW 340 ^{DPD}	_____	3	Multicultural Perspectives in Natural Resources
<input type="checkbox"/> FW 346	_____	3	Topics in Wildland Fire
<input type="checkbox"/> FW 350 ^S	_____	3	Endangered Species, Society and Sustainability
<input type="checkbox"/> FW 360 ^S	_____	3	Origins of F&W Mngmt: Evolution, Genetics & Ecology
<input type="checkbox"/> FW 427	_____	4	Principles of Wildlife Diseases
<input type="checkbox"/> FW 431	_____	4	Dynamics of Marine Biological Resources
<input type="checkbox"/> FW 435 ^{WIC}	_____	3	Wildlife in Agricultural Ecosystems
<input type="checkbox"/> FW 470	_____	3	Ecology & History: Landscapes of the Columbia Basin
<input type="checkbox"/> FW 479	_____	3	Wetland and Riparian Ecology
<input type="checkbox"/> FW 481	_____	4	Wildlife Ecology
<input type="checkbox"/> FW 485 ^S	_____	3	Consensus and Natural Resources

() TOTAL CREDITS ≥ 29

DPD = Bacc Core: Difference, Power, and Discrimination

S = Bacc Core: Science, Technology, and Society

WIC = Bacc Core: Writing Intensive Course

Common Student Questions and Answers

How do I identify and locate my advisor?

All distance Environmental Sciences Students are advised by Jessica Cardinal-Lanier.

Jessica Cardinal-Lanier

2046 Cordley Hall

Corvallis, OR 97331

Phone: 541-737-2404

Fax: 541-737-9858

Jessica.Cardinal-Lanier@oregonstate.edu

To make an appointment to “meet” with Jessica please **send her an email** with the following information:

1. Your name
2. Student ID number
3. Times you are available to meet (in Pacific Standard Time)
4. The phone number where you can be reached
5. What you would like to discuss

When should I see my advisor?

You should meet with your advisor as often as you feel is necessary. It is mandatory to meet with your advisor spring term to plan the following year’s courses and to obtain your registration PIN. We strongly recommend that you check in with your advisor once a term to update your file and make sure you’re on the right track.

What can I do if my advisor is not available and I need immediate assistance?

You may call the Environmental Sciences office at 541-737-2404.

Whose responsibility is it to keep track of my progress at OSU, my advisor’s or mine?

It is **your** responsibility. By updating the checklist after each term, you can keep an accurate record of your progress toward graduation.

Are there ways to avoid Baccalaureate Core requirements?

No. The University expects you to complete the Bacc Core requirements. Many different courses can be used to satisfy these requirements, including several that also fulfill Environmental Sciences requirements.

Do I really need to have all of the prerequisites before taking the course for which they are required?

Yes, usually. If you have not taken the prerequisites but feel that you have the adequate background to successfully complete the course, check with the course instructor to determine if he/she will allow you to take the course without them.

May I take courses in my major on an S/U or P/N grading basis?

No. The only exception is internship credit (ENSC 410), which is automatically graded “P/N”.

How do I choose a specialization?

Discuss the choices with your advisor. To declare a specialization you need to complete the “Specialization Declaration Form” available from your advisor.

Can I count the same course towards both the ES Core Curriculum and my specialization?

No. Courses taken for a Specialization may not double count with courses in the ES Core.

Email Etiquette

For many of us at Oregon State University, students and staff alike, email is a tool that we use to perform our jobs more efficiently. It is a tool that has made communication easier when used properly. However, when misused, email can cause more problems than it solves. Here are few tips that can help to make email a more useful tool for us all:

- **Use a professional email address**
OSU student, faculty, and staff email addresses are considered professional. A personal email address may be filtered to Junk Mail (ex. Fuzzy_Bunny@ yahoo.com).
 - **Do not write in all capital letters.**
It is generally interpreted as SHOUTING.
 - **Be concise.**
Most people don't enjoy reading off of a computer screen. State your point as quickly as possible. Be sure to include all the important facts, but be brief.
 - **Use spell check.**
Pay attention to grammar and spelling. No one wants to guess what is being said, they want it spelled out for them (correctly). While email is less formal than letters, people will form an opinion of you based on how you write.
 - **Write the subject of the email in the subject line.**
Writing "Hey", "Hi", or "Important info" in a subject line will often times cause the recipient to pass it off as spam.
 - **Never send an email when angry.**
Before sending a message, consider whether you would say what you have written to the person's face. The detached nature of email will sometimes embolden people to say things they would never say in person. Remember, email that you send can be forwarded and there are no "take backs".
 - **Do not assume that email you send to someone is private.**
People forward messages all the time. Email containing confidential student information may be shared with authorized university faculty and staff.
 - **Be sure to include a signature.**
Signatures that have a full name, phone number, and email address are most useful. Include student ID# if appropriate.
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Advising is a Shared Responsibility

Advisor will:

- Help clarify goals
- Be familiar with university rules and regulations
- Monitor progress towards goals
- Assist in course selection
- Make referrals as appropriate

Student should:

- Know how to contact advisor for appointment
- Prepare for advising sessions and bring all relevant materials to advising session
- Be knowledgeable about requirements
- Recognize that student is responsible for his/her education