

Detailed Curriculum Guide

for the B.S. degree in

Natural Resources – Online

FOR STUDENTS ADMITTED TO THE DEGREE PROGRAM IN SUMMER 2011 OR A LATER TERM

Overview: This detailed curriculum checklist is an overview of Natural Resources coursework for prospective students. An updated version of this checklist can be found on the Ecampus website: <http://ecampus.oregonstate.edu/online-degrees/undergraduate/nr/curriculum.htm>

Transfer Courses: The OSU Office of Admissions prepares an "advanced standing report" for admitted undergraduate students. It shows how transfer courses have been evaluated. Post-bacc students' do not get an advanced standing report; instead, prior work applicable to the Natural Resources degree will be evaluated by their advisor. The OSU Baccalaureate Core classes (general education requirements) are waived for post-bacc students. If you have questions about transferring courses, please see the "Planning Your Degree" pages of our website: <http://ecampus.oregonstate.edu/services/advising>

Next Steps: Once you are admitted, your academic advisor will assist you in selecting courses that reflect your goals and interests. You can look for courses offered through OSU Extended Campus in our Schedule of Classes: <http://ecampus.oregonstate.edu/soc>

The Numbers Game

- 180** – the number of quarter credits necessary to graduate from OSU
- 60** – the minimum number of upper-division (300-400 level) credits required to graduate from OSU
- 124** – the maximum number of credits that can be transferred from a community college
- 45** – of your last 75 credits earned must be OSU credits (academic residency requirement; includes OSU online courses)



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Natural Resources Curriculum

DETAILED CURRICULUM GUIDE FOR THE B.S. IN NATURAL RESOURCES ~ DISTANCE VERSION FOR STUDENTS ADMITTED TO THE DEGREE PROGRAM IN SUMMER 2011 OR A LATER TERM

OSU requires a minimum of 180 credits to complete a bachelor's degree. Lower division and some upper division courses may be taken at other accredited institutions. Natural Resources students complete classes in four areas: the **Baccalaureate Core** (OSU general education requirements), **Natural Resources Core**, **Natural Resources Breadth**, and a **Specialty Option** of their choice.

The **Natural Resources Core** provides a common educational foundation for NR majors and includes: mathematics; statistics; biological, physical and earth sciences; resource economics and policy; and natural resource management and communications. **Note: the required one-year sequence in lab biology is not offered through OSU Ecampus, but is offered through an Oregon community college distance program.** You may also take your year of biology (and other foundation coursework) locally.

The **Natural Resources Breadth** area consists of one course each from seven natural resource disciplines.

The **Specialty Option** is a concentration that provides focus and depth to the NR degree. The option is arranged around a central theme and contains coursework from at least three different departments. Distance students may choose the **Fisheries and Wildlife Conservation Option**, the **Natural Resource Policy and Management Option**, the **Human Dimensions Option**, or a student-designed **Individualized Specialty Option**.

As you use this guide, note that:

- **Courses offered through Ecampus are listed in bold under each category.**
- It is your job to identify course prerequisites for all classes.
- Transfer work from other institutions may be suitable for some of these requirements; please consult your advisor.
- A complete listing of courses fulfilling these requirements can be found at <http://ecampus.oregonstate.edu/soc/default.htm>
- This is merely a guide; please consult with your advisor for the most up to date requirements and course offerings.

OSU BACCALAUREATE CORE COURSES

Students must complete a total of 48 credits plus a Writing Intensive Course (WIC) of at least 3 credits.

The Baccalaureate Core is an OSU requirement for all majors (Post-Bacc students need only complete the Synthesis and Writing Intensive Courses). Students must complete course work in four areas: Skills, Synthesis, Perspectives and a Writing Intensive Course. A complete list of courses (both distance and non-distance) fulfilling the Bacc Core requirements is found at <http://catalog.oregonstate.edu/bcc.aspx>. For course equivalencies from Oregon and other institutions, see <http://oregonstate.edu/admissions/transfer/transfercredit.html>.

SKILL COURSES (15)

- () Writing I (3) _____
WR 121
- () Writing II (3) _____
WR 214, 222, 224, 241, 323, 324, 327, 330
- () Speech (3) _____
COMM 111, 114, or 218 (*Not currently offered online at OSU*)
- () Lifetime Fitness for Health (3) _____
HHS 231 (2) or **NFM 232** (2), plus either **HHS 241** (1) OR a PAC class
- () Mathematics (3-4) Fulfilled in NR Core _____
MTH 112, 241, 245, 251

SYNTHESIS (6) *Both courses must be from different departments*

- () Contemporary Global Issues (3) _____
AREC 351, FOR 365, FW 325, GEO 300, GEO 308, PHL 443, SOC 454, SOC 480
- () Science, Tech & Society (3) _____
ANTH 481, AREC 352, ATS 320, CSS/GEO 335, CSS 395, FW 350, GEO 300, GEO 306, GEO 307, HST 481, PS 476, SOC 456, SOC 481, SOC 485, WS 440

WRITING INTENSIVE COURSE (WIC)(3)

- () Writing Intensive Course (3) _____
AG 421, ENSC 479, FW 435, GEO 323, PS 449

PERSPECTIVES (27) *Only 2 courses may be used from 1 department*

Lab sciences (12):

- () Physical Science w/lab (4) Fulfilled in NR Core _____
- () Bio. Science w/lab (4) Fulfilled in NR Core _____
- () Phys. or Bio. Science w/lab (4) Fulfilled in NR Core _____

One class in each of the following five areas (15):

Suggested courses are shown below because they double-count elsewhere in your NR program, but many other courses are available! FOR FULL LISTING, SEE: <http://catalog.oregonstate.edu/bcc.aspx>.

- () Western Culture (3) _____
AREC 253 (double-counts in F&W S.O. or NR Policy S.O.), **PHL 201** (double-counts in NR Policy S.O.)
- () Cultural Diversity (3) _____
- () Literature & Arts (3) _____
- () Social Proc. & Inst. (3) _____
ECON 201, AREC 250 (*pre-reqs for AREC 351 and AREC 352 in NR Core*)
- () Difference, Power & Discrimination (3) _____
FW 340, AG 301, or GEO 309 (double-count in NR Breadth: Res. Val/Phil.), **SOC 360** (double-counts in NR Breadth: Social and Political)

NATURAL RESOURCES CORE (80) *Additional on-campus or local courses may fulfill requirements as well; please consult your advisor. * =Bacc Core, ^ =WIC*

TOPICS IN NATURAL RESOURCES

() **NR201** Managing NR for the Future (3)
*An alternative for students with considerable prior Natural Resources coursework is two one-credit seminars—see **CSS 499** (multiple topics).*

CAREER DEVELOPMENT:

() **FOR 207** Career Development (1)

BIOLOGY:

*BI 101, 102, 103 (available online from Oregon's Clackamas CC) or
*BI 211, 212, 213 or equivalent (Biology for majors; not available online)

CHEMISTRY:

() **CH 121** General Chemistry (5)

ECOLOGY: *One of the following:*

() **FOR 240** *Forest Biology (4)
() **FOR 341** Forest Ecology (3)
() **BI 370** General Ecology (3)
Prereq for BI370 is a year of "biology for majors," as approved by the OSU Biology Program)

ATMOSPHERIC SCIENCE: *One of the following:*

() **ATS 210** Introduction to Atmospheric Sciences (3)
() **ATS 320** *Man's Impact on Climate (3)
() **GEO 323** ^Climatology (4)

EARTH SCIENCE: *One of the following:*

() **GEO 101** *The Solid Earth (4)
() **GEO 102** *The Surface of the Earth (4)
() **GEO 221** *Environmental Geology (4)

SOIL SCIENCE: *One of the following:*

() **CSS 205** *Soils Sustainable Ecosystems (4)
() **CSS 305** Principles of Soil Science (4)

WATER SCIENCE: *One of the following:*

() **FW 326** Integrated Watershed Management (3)
() **OC 331** Introduction to Oceanography (3)
() **RNG 355** Desert Watershed Mgmt. (3)
(RNG 355 is prereq for RNG 455)

GIS: *One of the following:*

() **FW 303** Survey Geog. Info Systems in NR (3)
() **GEO 365** Intro to Geographic Info Systems (4)
() **GEO 465** Geog. Info Systems and Science (4)

MATHEMATICS: *One of the following:*

MTH 112, 241, 245, 251, or equivalent locally (strongly encouraged) (4)

STATISTICS:

Four-credit course in Statistics. If available, take statistics locally.

() **ST 201** Principles of Statistics/ (3)
() **and ST 209** Principles of Hypothesis Testing (1)
Or at Oregon community colleges, on campus and online:
() **MTH243** Probability and Statistics (4)

ANIMAL ID:

() **FW 312** Systematics of Birds (2)

VEGETATION ID: *One of the following:*

() **HORT 226** Landscape Plant Materials (4)
() **HORT 228** Landscape Plant Materials (4)
() **RNG 353** Wildland Plant Identification (4)

MEASUREMENTS: *Choose one from either Bio./Phys. or Social Sci.:*

BIOLOGICAL/PHYSICAL SCIENCE

() **BOT 440** Field Methods in Vegetation Science (4)
() **FW 255** Field Sampling of Fish and Wildlife (3)

OR SOCIAL SCIENCE

() **HDFS 361** Applied Research Methods (4)
() **PS 400** Political Analysis (4)

COMMUNICATIONS: *One of the following:*

() **COMM 321** Introduction to Communication Theory (3)
() **COMM 385** Comm. and Culture in Cyberspace (3)
() **FOR 493** Environmental Interpretation (4)

SOCIETY AND NATURAL RESOURCES: *One of the following:*

() **ANTH 110** *Introduction to Cultural Anthropology (3)
() **FOR 251** Recreation & Resource Mgt (4)
() **FOR 355** Mgt. for Multiple Resource Values (3)
() **FS 492** Ecosys. Services Ecol., Sociol., Policy (3)

RESOURCE ECONOMICS: *One of the following:*

(pre-req is MTH 111, plus ECON 201 or AREC250):

() **AREC 351** *Natural Resource Economics & Policy (3)
() **AREC 352** *Environmental Economics and Policy (3)
() **FOR 432** Economics of Recreation Resources (4)
(Additional prereq for FOR432: Statistics)

RESOURCE POLICY: *One of the following:*

() **CSS/GEO 335** *Intro to Water Science and Policy (3)
() **PS 475** Environmental Politics and Policy (4)
() **PS 477** Internat. Environ. Politics and Policy (4)

ENVIRONMENTAL ASSESSMENT & PLANNING:

One of the following:

() **ANS/FW/SOC 485** *Consensus and Natural Resources (3)
() **FOR 356** Recreation Resource Planning (4)
() **FOR/FW 445** Ecological Restoration (4)
() **FW 435** ^Wildlife in Agricultural Ecosystems (4)
() **PS 449** ^Topics in Comparative Politics (4)
() **PS 477** Internat. Environ. Politics and Policy (4)
() **RNG 490** Rangeland Management Planning (4)

CAPSTONE CLASS: *To be taken toward end of your degree*

() **NR 455** Natural Resource Decision Making (4)

Note: Particular option programs may specify additional core courses to assure that students meet prerequisites for option courses, or develop background in fields important for the option. Students should not assume that the core courses listed above include all of the necessary background in science or math for every option

NATURAL RESOURCES BREADTH (21) *Students must complete one course from each of the following groups.*

*=Bacc Core, ^=WIC Courses in **bold** are offered online through Ecampus

FISHERIES AND WILDLIFE: *One of the following:*

- () **FOR/FW/RNG 346** Topics in Wildland Fire (3)
- () **FOR/FW 445** Ecological Restoration (4)
- () **FOR/FW/RNG 446** Wildland Fire Ecology (3)
- () **FW 311** Ornithology (3)
- () **FW 315** Ichthyology (3)
- () **FW 317** Mammalogy (3)
- () **FW 320** Introductory Population Dynamics (4)
- () **FW 321** Applied Community & Ecosys. Ecology (3)
- () **FW 323** Mgmt. Princ. of Pac. Salmon in the NW (3)
- () **FW 350** *Endang. Spec., Society, and Sustain. (3)
- () **FW 427** Principles of Wildlife Diseases (4)
- () **FW 435** ^Wildlife in Agricultural Ecosystems (3)
- () **FW 451** Avian Conservation and Management (3)
- () **FW/FS 453** Forest Mgmt. and Wildlife Conservation (3)
- () **FW 454** ^Fishery Biology (4)
- () **FW 458** Mammal Conservation and Management (4)
- () **FW 465** Marine Fisheries (4)
- () **FW 473** Fish Ecology (4)
- () **FW 481** Wildlife Ecology (4)
- () **GEO 421** Humans and Their Wildlife Environment (3)

FORESTRY: *One of the following:*

- () **BOT/FS 415** Forest Insect and Disease Management (5)
- () **FE 370** Harvesting Operations (4)
- () **FOR 342** Forest Types of the Northwest (3)
- () **FOR/FW/RNG 346** Topics in Wildland Fire (3)
- () **FOR/HORT 350** Urban Forestry (3)
- () **FOR/RNG 436** Wildland Fire Science and Management (4)
- () **FOR 441** Silviculture Principles (4)
- () **FOR/FW 445** Ecological Restoration (4)
- () **FOR/FW/RNG 446** Wildland Fire Ecology (3)
- () **FOR/FE 456** *International Forestry (3)
- () **FOR 457** Techniques for Forest Resource Analysis (4)
- () **FOR 459** Forest Resource Plan. & Decision Making (4)
- () **FOR 460** ^Forest Policy (4)
- () **FS/FW 453** Forest Mgmt. and Wildlife Conservation (3)
- () **RNG 477** *Agroforestry (3)
- () **WSE 470** *Forests, Wood, and Civilization (3)
- () **FOR 341** Forest Ecology (3) *(May use this one if you did not use it for the NR Core/Ecology requirement).*

LAND AND WATER: *One of the following:*

- () **CSS 305** Principles of Soil Science (4)
- () **CSS/GEO 335** *Intro to Water Science and Policy (3)
- () **CSS 395** *World Soil Resources (3) [Chem prereq!]
- () **CSS 466** Soil Morphology and Classification (4)
- () **FE 430** Watershed Processes (4)
- () **FW 456** Limnology (5)
- () **FW 479** Wetlands and Riparian Ecology (3)
- () **GEO 306** *Minerals, Energy, Water and the Env. (3)
- () **GEO 307** *National Park Geology and Preservation (3)
- () **GEO 308** *Global Change and Earth Sciences (3)
- () **GEO 424** International Water Resource Mgt (3)
- () **GEO 425** Water Resource Management in the U.S. (3)
- () **GEO 429** Topics in Resource Geography (3)
- () **RNG 355** Desert Watershed Management (3)
- () **RNG 455** Riparian Ecology and Management (3)
(prereq for RNG 455 is RNG 355! Both offered only once per year)

RANGE: *One of the following:*

- () **FOR/FW/RNG 346** Topics in Wildland Fire (3)
- () **FOR/RNG 436** Wildland Fire Science and Management (4)
- () **FOR/FW 445** Ecological Restoration (4)

- () **FOR/FW/RNG 446** Wildland Fire Ecology (3)
- () **RNG 341** Rangeland Ecology and Management (3)
- () **RNG 351** Range Ecology I-Grasslands (3)
- () **RNG 352** Range Ecology II-Shrublands (3)
- () **RNG 421** Wildland Restoration and Ecology (4)
- () **RNG 441** Rangeland Analysis (4)
- () **RNG 442** Rangeland-Animal Relations (4)
- () **RNG 477** *Agroforestry (3)
- () **RNG 490** Rangeland Management Planning (4)

RESOURCE VALUES/PHILOSOPHY: *One of the following:*

- () **AG 301** *Ecosystem Science of PNW Indians (3)
- () **ANTH 481** *Natural Resources and Comm. Values (3)
- () **ANTH 482** *Anthropol. of International Development (4)
- () **FOR 453** Nature-Based Tourism (3)
- () **FW 340** *Multicultural Perspectives in Nat. Res. (3)
- () **GEO 309** *Environmental Justice (3)
- () **GEO 420** Geography of Resource Use (3)
- () **HST 481** *Environmental History of the U.S. (4)
- () **PHL 440** Environmental Ethics (3)
- () **PHL 443** *World Views and Env. Values (3)

Note: FW340 and AG301 double count for Bacc Core/DPD

POLITICAL DIMENSIONS: *One of the following:*

- () **ANS/FW/SOC 485** *Consensus and Natural Resources (3)
- () **AREC/PS/SOC 407** Seminar: Current Issues in Rural Policy (4)
- () **AREC 432** Environmental Law (4)
- () **BI 301** *Human Impacts on Ecosystems (3)
- () **CSS/GEO 335** *Intro to Water Science and Policy (3)
- () **FOR 351** Recreation Behavior and Management (4)
- () **FOR 352** Wilderness Management (3)
- () **FOR 365** *Issues in Nat. Resources Conservation (3)
- () **FOR 454** Managing at the Wildland-Urban Interface (3)
- () **FOR 462** Natural Resource Policy and Law (3)
- () **FW 325** *Global Crises in Resource Ecology (3)
- () **FW 350** *Endang. Species, Society and Sustain. (3)
- () **GEO 300** *Sustainability for the Common Good (3)
- () **GEO 423** Land Use (3)
- () **HST 481** *Environmental History of the U.S. (4)
- () **PS 449** ^Topics in Comparative Politics (4)
- () **PS 474** Natural Res.Pol. and Bureaucratic Politics (4)
- () **PS 475** Environmental Politics and Policy (4)
- () **PS 476** *Science and Politics (4)
- () **PS 477** International Environ. Politics and Policy (4)

Note: Most SOC classes require SOC 204 or equivalent prereq.

SOCIAL ISSUES: *One of the following:*

- () **ANTH 330** *Evolution of People, Tech. and Society (3)
- () **FOR 351** Recreation Behavior and Management (4)
- () **FOR 352** Wilderness Management (3)
- () **FOR 371** Eco & Advent. Tourism (3)[Cascade Campus]
- () **FOR 453** Nature-Based Tourism (3)
- () **FOR 493** Environmental Interpretation (4)
- () **FS 492** Ecosys. Services Ecol., Sociol., Policy (3)
- () **SOC 360** *Population Trends and Policy (4)
- () **SOC 424** Social Psychology (4)
- () **SOC 454** *Leisure and Culture (4)
- () **SOC 456** *Science and Tech. in Social Context (4)
- () **SOC 475** Rural Sociology (4)
- () **SOC 480** *Environmental Sociology (4)
- () **SOC 481** *Society and Natural Resources (4)
- () **WS 440** *Women and Natural Resources (3)

NATURAL RESOURCES MAJOR

Specialty Option: Natural Resource Policy and Management

Goal of Specialty Option:

To prepare students for careers in the broad arena of natural resource and environmental conservation, with an emphasis on the social and political aspects of resource issues.

Knowledge Gained

- Background in basic biological, physical and social sciences which underlie sound management and conservation of natural resources.
- Understanding of why and how humans have impacted the environment and the implications of these impacts historically, currently, and for the future.
- Understanding of ecological, social, and political principles, relationships and perspectives relevant to the conservation of natural resources.

Skills Learned

- Ability 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.
- Ability to communicate clearly and work cooperatively with others, especially within the context of public involvement processes involving resource management on public lands.

Employment Opportunities

- The emphasis on social and political components of natural resource management combined with the scientific and management knowledge will qualify graduates for positions involving community-based conservation initiatives such as watershed councils, local land-use planning groups, and NGO's.
- Graduates will also be qualified to work with environmental and natural history educational groups.
- With proper selection of elective courses, curriculum may meet minimum qualifications for US government positions in the following series: general biological science, park ranger, and agricultural extension.

Natural Resources Policy and Management Option (40 credit hours) [] indicates prerequisites

No more than 20 credits from one department; at least 20 credits must be upper division.

SOCIAL SCIENCE FOUNDATION: (6-8 credits)

At least 2 courses from the following, or equivalent courses from other institutions. [PS & SOC are prereqs for some upper division courses]

- PHL 201 * Introduction to Philosophy (4)
- PS 201 *Introduction to US Government and Politics (4)
- PSY 201 or PSY 202 *General Psychology (3)
- SOC 204 *Introduction to Sociology (3)

SOCIAL SCIENCES AND NATURAL RESOURCES: (9-12 credits)

At least 3 courses from the following, no more than 2 from any one dept.:

- AG 301 *Ecosystem Science of Pacific NW Indians (3)
- AG 421 ^Leadership Development (3) [Senior standing]
- ANSC/FW/SOC 485 *Ecosystem Science of PNW Indians (3)
- COMM 321 Introduction to Communication Theory (3)
- FOR 111 Introduction to Forestry (3)
- FW 251 Principles of Wildlife Conservation (3)
- FW 323 Mgmt Prin of Pacific Salmon in the Northwest (3)
- FW 340 *Multicultural Perspectives in NR (3)
- FW 470 *Ecol & Hist: Landscapes of the Columbia Basin (3)
- GEO 300 *Sustain. for Common Good (3) [Upper div stand.]
- SOC 360 *Population Trends and Policy (4) [SOC 204]
- SOC 454 *Leisure and Culture (4) [SOC 204]
- SOC 480 *Environmental Sociology (4) [SOC 204]
- SOC 481 *Society and Natural Resources (4) [SOC 204]

NATURAL RESOURCES POLICY & MANAGEMENT: (25 credits)

25 credits from the following:

- AREC 253 *Environmental Law, Policy, & Economics (4)
- BOT 440 Field Meth. in Veg Sci (4) [courses in ecol & stats]
- ENSC 479 *^Environmental Case Studies (3) [one year biology or chemistry; junior standing]
- FOR 342 Forest Types of the Northwest (3)

- FOR/FW/RNG 346 Topics in Wildland Fire (3)
- FOR 365 *Issues in Natural Resources Conservation (3)
- FOR/RNG 436 Wildland Fire Science & Management (4)
- FOR/FW 445 Ecological Restoration (4)
- FOR/FW/RNG 446 Wildland Fire Ecology (3)
- FW 303 Survey of Geog. Information Systems in NR (3)
- FW 311 Ornithology (3) [one year introductory biology]
- FW 315 Ichthyology (3) [one year introductory biology]
- FW 317 Mammalogy (3) [one year introductory biology]
- FW 320 Introductory Population Dynamics (4) [BI 370; college algebra, introductory calculus and statistics recommended]
- FW 321 Applied Community and Ecosys. Ecol. (3) [FW320]
- FW 325 *Global Crises in Resource Ecology (3)
- FW 326 Integrated Watershed Management (3) [FW 251]
- FW 350 *Endangered Species, Society, & Sustainability (3)
- FW 427 Principles of Wildlife Diseases (4)
- FW 435 ^Wildlife in Agricultural Ecosystems (3) [FW 251 and coursework in ecology]
- FW 479 Wetlands & Riparian Ecol. (3) [Coursework in ecol.]
- GEO 301 Map & Image Interpretation (4)
- GEO 308 *Global Change and Earth Sciences (3)
- GEO 365 Introduction to Geographic Information Systems (4) [GEO 301 strongly recommended]
- GEO 465 Geog. Information Systems and Science (4)
- PS 449 ^Topics in Comparative Politics (4) [Upper div. course in comparative politics]
- PS 475 Environmental Politics and Policy (4) [PS 201 or instructor approval]
- RNG 455 Riparian Ecology and Management (3) [RNG 355]
- RNG 490 Rangeland Management Planning (4)

NATURAL RESOURCES MAJOR

Specialty Option: Fish and Wildlife Conservation

Goal of Specialty Option

To prepare the student for a career in the broad arena of natural resource and wildlife conservation, with an emphasis on understanding of the relationship between animal species and their habitat requirements and the ability to apply this knowledge to the management of ecosystems as a means of conserving fish and wildlife.

Knowledge Gained

- Background in basic biological, physical and social sciences which underlie sound management and conservation of the nation's natural resources, with emphasis on fish and wildlife.
- Understanding of how humans have impacted the environment and the implications of these impacts for current and future management of fish and wildlife species and their habitats.
- Understanding of ecological, social, and political principles, relationships and perspectives relevant to the conservation of fish and wildlife resources.

Skills Learned

- Ability to integrate biological, physical, social, and political aspects of natural resources with the conservation of these resources in ecosystems that provide habitat for fish and wildlife species.
- Ability to apply management principles to the effective interaction of scientific and social components of natural resource conservation approaches especially as these pertain to fish and wildlife.
- Ability to communicate clearly and to work cooperatively with others, especially within the context of fish and wildlife resource management on public and private lands.

Employment Opportunities

- The emphasis on biological and ecological components of natural resource conservation and management will qualify graduates for employment positions with public agencies at municipal, state and federal levels.
- Graduates will also be qualified to work with environmental and natural history educational groups.
- With proper selection of elective courses, curriculum may meet minimum qualifications for US government positions in the following series: general biological science, ecology, wildlife refuge management, fish and wildlife administration.

Fish and Wildlife Conservation Option: (41 credits)

No more than 20 credits from one department; at least 20 credits must be upper division.

REQUIRED COURSES: (22 credits)

-
- FOR 111** Introduction to Forestry (3)
or **FOR342** Forest Types of the Northwest (3)
- FW 251** Principles of Fish and Wildlife Conservation (3)
- FW 323** Mgmt. Prin. of Pacific Salmon in the NW (3)
or **FW 470** *Ecol. and Hist.: Landscapes of the Columbia Basin (3)
or **FW 360** *Origins of FW Mgmt – Evol., Genetics, & Ecol. (3)
- RNG/FW/FOR 346** Topics in Wildland Fire (3)
or **FOR/RNG 436** Wildland Fire Science & Mgmt. (4)
or **RNG/FW/FOR 446** Wildland Fire Ecology (3)
- FW/FOR 445** Ecological Restoration (4)
RNG 341 Rangeland Ecology and Management (3)
RNG 455 Riparian Ecology and Management (3)

FISH AND WILDLIFE BIOLOGY: Choose 3 of the following:

-
- FW 311** Ornithology (3)
FW 315 Ichthyology (3)
FW 317 Mammalogy (3)
FW 320 Introductory Population Dynamics (3)
FW 321 Applied Community and Ecosystem Ecology (3)

HABITAT MANAGEMENT: Choose 2 of the following:

-
- FW 326** Integrated Watershed Management (3)
FW 435 ^Wildlife in Agricultural Ecosystems (3)
FW 479 Wetlands and Riparian Ecology (3)

NATURAL RESOURCES POLICY: Choose 1 of the following:

-
- PS 474** Natural Resource Policy & Bureaucratic Politics (4)
PS 475 Environmental Politics and Policy (4)
SOC 481 *Society and Natural Resources (4)

* = Baccalaureate Core Course

^ = Writing Intensive Course

Bold = Offered online through Ecampus

NATURAL RESOURCES MAJOR

Specialty Option: Human Dimensions in Natural Resources

Goal of Specialty Option

To develop an understanding of the interconnectedness of human behavior and natural resource issues. Includes skills and knowledge to better understand the cultural, social, and philosophical issues associated with natural resources.

Knowledge Gained

- An understanding of the diversity of human values and their impact on natural resources.
- An understanding of the complex social and cultural systems associated with natural resources management.

Skills Learned

- Students will learn communication skills, especially as they relate to natural resource conflicts.
- Ability to apply social, cultural and political principles to natural resource issues.

Employment Opportunities

- An in-depth understanding of the human dimensions of natural resources provides students important social and communication skills to work for state, federal, and private organizations.

Human Dimensions in Natural Resources Option: (40 credits)

No more than 20 credits from one department; at least 20 credits must be upper division.

ETHICAL ISSUES:

Select 6 credits from the following:

ANTH 110 *Introduction to Cultural Anthropology (3)
BI/FS/TOX 435 *Genes & Chemicals in Ag: Value & Risk (3)
PHL 201 *Introduction to Philosophy (4)
PHL 205 *Ethics (4)
PHL 439 Philosophy of Nature (3)
PHL 440 Environmental Ethics (3)
PHL 443 *World Views and Environmental Values (3)
PHL 470 Philosophy of Science (3)

MANAGEMENT AND COMMUNICATION ISSUES:

Select 13 credits from the following:

AREC 253 *Environmental Law, Policy, & Economics (4)
AREC 351 *Natural Resource Econ. and Policy (3)
AREC 352 *Environmental Economics and Policy (3)
FOR 351 Recreation Behavior and Management (4)
FOR 352 Wilderness Management (3)
FOR 355 Mgmt. for Multiple Resource Values (3)
FOR 365 *Issues in NR Conservation (3)
FOR/FW/RNG 446 Wildland Fire Ecology (3)
FW 251 Principles of Fish & Wildlife Conservation (3)
FW 326 Integrated Watershed Management (3)
SOC/ANS/FW 485 *Consensus and NR (3)

SOCIAL ISSUES: (21 credits)

Required background course

SOC 204 *Introduction to Sociology (3)

Select 18 credits from the following:

ANTH 481 *NR and Community Values (3)
AREC 432 Environmental Law (4)
FW 340 *Multicultural Perspectives in NR (3)
FW 350 *Endangered Species, Society & Sustain. (3)
GEO 300 *Sustainability for the Common Good (3)
HST 481 *Environmental History of the US (4)
PS 475 Environmental Politics and Policy (4)
SOC 360 *Population Trends and Policy (4)
SOC 454 *Leisure and Culture (4)
SOC 456 *Science & Technology in Social Context (4)
SOC 466 International Development: Gender Issues (4)
SOC 480 *Environmental Sociology (4)
SOC 481 *Society and Natural Resources (4)
WS 440 *Women and Natural Resources (3)
WS 450 *Ecofeminism (3)

* = Baccalaureate Core Course

^ = Writing Intensive Course

Bold = Offered online through Ecampus