

## B.S. in Natural Resources

The Natural Resources degree program provides a more broadly-based approach to the study of natural resources than most traditional degree programs. The curriculum is designed to produce graduates who can understand a wide range of natural resource issues, work with experts in a variety of resource fields, and deal with social and political components of resource management. This program is jointly administered by the Colleges of Agricultural Sciences, Forestry, Liberal Arts, and Science, with the student choosing a "home college" for the duration of the degree. In addition to the baccalaureate core, the three main areas for coursework include: the natural resources core (46 credits), breadth requirements (21 credits), and the specialty option (50 credits). Within these areas, the student has a number of courses to choose from to fulfill requirements. Students acquire knowledge and background in physical and biological systems, math and statistics, natural resource policy, economics, and decision making. Breadth is acquired in seven key areas of resource management. Finally, the student develops depth in the specialty option, choosing from a number of pre-approved options, or creating an individualized specialty option. The specialty option consists of coursework related to a particular natural resource theme.

### **Pre-approved specialty options include:**

- Agroforestry
- Arid Land Ecology
- Fish and Wildlife Conservation
- Forest Ecosystems
- Geosciences and Natural Resources
- Human Dimensions in Natural Resources
- Law Enforcement in Natural Resources
- Native Americans and Natural Resources
- Natural Resource Education
- Natural Resource Policy
- Soil Resources
- Watershed Management

Course requirement lists for these specialty options are available from your advisor.

### **For more information about the Natural Resources program, please contact:**

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# Natural Resources Checklist

(Academic Year 2007-2008)

## NATURAL RESOURCES CORE (46)

Grade	Term	Circle course taken
_____	_____	ST 351 (4) or ST 201 (3) + ST 209 (1) or ST 201(3) + ST 211(1)
_____	_____	MTH 112*, 241*, 245*, or 251* (4)
_____	_____	BI 101* or BI 211* (4)
_____	_____	BI 102* or BI 212* (4)
_____	_____	BI 103* or BI 213* (4)
_____	_____	BI 370 (3)
_____	_____	FE 430 (4), RNG 355, OC 331, or OC 332 (3)
_____	_____	GEO 101*, 102*, 201*, 202* or CSS 205*(4)
_____	_____	ATS 210 (3) or GEO 323 (4)
_____	_____	PS 474, RNG 490, FOR 460^, PS 475 (4), FOR 462, or FOR 463 (3)
_____	_____	AREC 351*, AREC 352* (3), FOR 330, or FOR 432 (4) [ECON 201]
_____	_____	NR 455 (3)
_____	_____	Seminar in Natural Resources (1)
_____	_____	Seminar in Natural Resources (1)

## BREADTH REQUIREMENTS (21)

Grade	Term	Course
_____	_____	Amenity Uses of Natural Resources (3)
_____	_____	Fisheries and Wildlife (3)
_____	_____	Forestry (3)
_____	_____	Land and Water (3)
_____	_____	Range (3)
_____	_____	Resource Values/Philosophy (3)
_____	_____	Social and Political (3)

## OPTION (50)

TITLE: \_\_\_\_\_

## 180 hours required

\* - Baccalaureate Core Course

^ - Writing Intensive Course

[ ] – prerequisite

## BACCALAUREATE CORE

### Skills (15)

Grade	Term	Course
_____	_____	<u>WR 121</u> Writing I (3) (WR 121)
_____	_____	Writing II (3)
_____	_____	Writing III (3)
_____	_____	Mathematics (3) (Satisfied by MTH 112, 241, 245, or 251)
_____	_____	Fitness (2) (HHS 231 or NFM 232)
_____	_____	Fitness Lab (1)

### Perspectives (24)

Grade	Term	Course
_____	_____	Physical Science (including lab) (4) (Sat. by GEO 101,102,201,202, or CSS 205)
_____	_____	Biological Science (including lab)(4) (Satisfied by BI 101 or 211)
_____	_____	Physical/Biological Science (including lab) (4) (Satisfied by BI 102 or 212)
_____	_____	Western Culture (3)
_____	_____	Cultural Diversity (3)
_____	_____	Literature and the Arts (3)
_____	_____	Social Processes and Institutions (3) (Satisfied by ECON 201)

(No more than two Perspectives courses from same dept)

### Difference, Power, and Discrimination (3)

_____	_____	Difference, Power, & Discrimination (3)
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### Synthesis (6)

Grade	Term	Course
_____	_____	Contemporary Global Issues (3)
_____	_____	Science, Technology, and Society (3) (Synthesis courses may not be from same department)

### WIC

Grade	Term	Course
_____	_____	Writing Intensive Course (3)

## Natural Resources Breadth Requirements Course List

Prerequisites are given in brackets [ ] where specific courses or class standing are required. Students should refer to the OSU online catalog for details.

### (3)\_\_\_\_\_ Amenity Uses of Natural Resources

FOR 351	Recreation Behavior and Management [Junior standing]
FOR 352	Wilderness Management (also offered as a Distance course)
FOR 354	Amenity Resource Management [FOR 111]
FOR 444	Ecological Aspects of Park Management [FOR 251 plus an Ecology course]
FOR 451	History and Cultural Aspects of Recreation
FOR 453	Nature-Based Tourism
FOR 459	Forest Resource Planning & Decision Making [Senior standing or Dept. approval]
FOR 493	Environmental Interpretation [FOR 391]
SOC 454*	Leisure and Culture [SOC 204] (offered as a Distance course only)

### (3)\_\_\_\_\_ Fisheries and Wildlife Group

FOR/FW 445	Ecological Restoration [BI 370 or instructor approval]
FOR/FW/RNG 446	Wildland Fire Ecology [coursework in Ecology & Nat. Res. Mgmt.] (offered as a Distance course only)
FW 311	Biology of Birds [one year introductory biology] (also offered as a Distance course)
FW 315	Biology of Fishes [one year introductory biology] (also offered as a Distance course)
FW 317	Biology of Mammals [one year introductory biology] (also offered as a Distance course)
FW 320	Introductory Population Dynamics [BI 370 or 371 and MTH 111] (also offered as a Distance course)
FW 321	Fisheries and Wildlife Resource Ecology [FW 320] (also offered as a Distance course)
FW 323	Management Principles of Pacific Salmon in the NW (offered as a Distance course only)
FW 435^	Wildlife in Agricultural Ecosystems [BI 370, FW 251, Junior standing] (also offered as a Distance course)
FW 451	Avian Conservation and Management [FW 311, Junior standing]
FW 454	Fishery Biology [FW 315, FW 320] (taught at Marine Science Center)
FW 458	Management of Big Game Animals [9 credits upper division biology, Junior standing]
FW 465	Marine Fisheries [FW 315] (taught at Marine Science Center) (alternate years)
FW 473	Fish Ecology [BI 370, FW 315]
FW 481	Wildlife Ecology [BI 370 or 371, ST 351, FW 311, FW 320] (also offered as a Distance course)
FW/FS 453	Forest Mgmt & Wildlife Conservation [FOR240 or FOR341 or BI370 or equiv course in Ecology, Jr. standing]
GEO 421	Humans and Their Wildlife Environment [9 credits upper division geography](alternate years)

### (3)\_\_\_\_\_ Forestry Group

BOT/FS 415	Forest Insect and Disease Management [BI 213]
FOR 341	Forest Ecology [BI 211, 212, 213, CSS 305, FOR 241, junior standing]
FOR 365*	Issues in Natural Resources Conservation [Sophomore standing] (also offered as a Distance course)
FOR 441	Silviculture Principles [FOR 240 & 141 or 241]
FOR/FW 445	Ecological Restoration [BI 370 or instructor approval]
FOR/FW/RNG 446	Wildland Fire Ecology [coursework in Ecology & Nat. Res. Mgmt.] (offered as a Distance course only)
FOR/FE 456*	International Forestry [intro course in Biology, Sophomore standing]
FOR 457	Techniques for Forest Resource Analysis [FOR 330 or AREC 351]
FOR 459	Forest Resource Planning and Decision Making [Senior standing or Dept. approval]
FOR 460^	Forest Policy [Senior standing]
FE 370	Harvesting Operations [Junior standing in Forestry]
FS/FW 453	Forest Management and Wildlife Conservation [FOR 240, FOR 341, BI 370, or equivalent course in ecology]
FW/RNG 436	Wildland Fire Science and Management (alternate years)
WSE 470*	Forests, Wood, and Civilization

### (3)\_\_\_\_\_ Land and Water Group

CSS 305	Principles of Soil Science [CH 122, recommended CSS 306]
CSS 395*	World Soil Resources [CH 121] (offered as a Distance course only)
FE 430	Watershed Processes [Junior standing]
FW 456	Limnology [Senior standing]
FW 479	Wetlands and Riparian Ecology [BI 370 or 371, Junior standing] (also offered as a Distance course)
GEO 300*	Environmental Conservation and Sustainability [Junior standing] (also offered as a Distance course)
GEO 306*	Minerals, Energy, Water and the Environment (Sophomore standing)
GEO 424	Water Resources Geography [9 credits upper division Geography] (alternate years)
GEO 425	Water Resources Management in U.S. [9 credits upper division Geography, Junior standing] (alternate years)
GEO 429	Topics in Resource Geography [9 credits upper division Geography] (not offered every year)
MRM 415	Coastal Resources Management (alternate years)
RNG 355	Desert Watershed Management (also offered as a Distance course)
RNG 455	Riparian Ecology and Management [RNG 355] (also offered as a Distance course)

- (3) \_\_\_\_\_ **Range Group**  
 FOR/FW 445 Ecological Restoration [BI 370 or instructor approval]  
 FOR/FW/RNG 446 Wildland Fire Ecology [coursework in Ecology and Nat. Res. Mgmt.] (offered as a Distance course only)  
 RNG 341 Rangeland Ecology and Management (also offered as a Distance course)  
 RNG 352 Grassland and Shrubland Ecosystems  
 RNG 421 Wildland Restoration and Ecology [course work in soils and ecology]  
 RNG 441 Rangeland Analysis [ST 351]  
 RNG 442 Rangeland-Animal Relations [RNG 341]  
 RNG 450 Landscape Ecology and Analysis [RNG 341]  
 RNG 490 Rangeland Management Planning (also offered as a Distance Course)
- (3) \_\_\_\_\_ **Resource Values/Philosophy Group**  
 AG 301\* Ecosystem Science of Pacific NW Indians  
 ANTH 481\* Natural Resources and Community Values [3 credits Social Science] (also offered as a Distance course)  
 ANTH 482\* World Food and the Cultural Implications of International Agricultural Development [Senior standing]  
 FW 340\* Multicultural Perspectives in Natural Resources (offered as a Distance course only)  
 GEO 309\* Environmental Justice [WR 121, Sophomore standing]  
 GEO 420 Geography of Resource Use [9 credits upper division Geography, Junior standing]  
 HST 481\* Environmental History of the United States [upper division standing] (also offered as a Distance course)  
 PHL 440 Environmental Ethics [PHL 205, PHL 342, PHL 365 or 6 cr. PHL, Sophomore standing]  
 PHL 443\* World Views & Environmental Values [1 intro-level science course, Soph. standing] (also offered as Distance course)
- (3) \_\_\_\_\_ **Social and Political Group**  
 AREC 353 Public Land Statutes and Policy [ECON 201] (also offered as a Distance course)  
 AREC 432 Environmental Law [Junior standing]  
 BI 301\* Human Impacts on Ecosystems [One yr college Biology or Chemistry, Junior standing]  
 CSS/GEO 335\* Introduction to Water Science and Policy  
 FOR 462 Natural Resource Policy and Law  
 FOR 463 Environmental Policy and Law Interactions  
 GEO 423 Land Use [Junior standing]  
 HST 481\* Environmental History of the United States [upper division standing] (also offered as a Distance course)  
 PS 474 Natural Res. Policy & Bureaucratic Politics [PS 201 or 6 cr upper-div NR course work or instructor consent]  
 PS 475 Environmental Politics and Policy [PS 201 or instructor consent] (also offered as a Distance course)  
 PS 476\* Science & Politics [PS201 or 6 credits lower-div. Political Sci. or instructor consent](also offered as a Distance course)  
 SOC 360\* Population Trends and Policy [SOC 204] (also offered as a Distance course)  
 SOC 456\* Science and Technology in Social Context [SOC 204] (offered as a Distance course only)  
 SOC 475 Rural Sociology [SOC 204]  
 SOC 480\* Environmental Sociology [SOC 204] (also offered as a Distance course)  
 SOC 481\* Society and Natural Resources [SOC 204] (offered as a Distance course only)  
 SOC/ANS/FOR/FW 485\* Consensus and Natural Resources (offered as a Distance course only)

\* Indicates a Baccalaureate Core Course

^ Indicates a Writing Intensive Course

[ ] Indicates Prerequisites

Courses may count in only ONE breadth area.

## Natural Resources Minor

Students majoring in other programs at OSU can choose a minor in Natural Resources. The minor is intended to provide a broad exposure to the natural resources field. It offers coursework in seven areas that integrate a number of natural resource disciplines.

<b>Required Core</b>		
FOR 111	Introduction to Forestry	3
FOR 251	Recreation Resource Management	4
FW 251	Principles of Fish and Wildlife Conservation	3
RNG 341	Rangeland Ecology and Management	3
<b>In addition, students select one upper division class from each of the following three Breadth Requirements course lists:</b>		
<b>Resource Values/Philosophy (3 credits)</b>		
AG 301*	Ecosystem Science of Pacific NW Indians	
ANTH 481*	Natural Resources and Community Values	
ANTH 482*	World Food and Cultural Implications of Intl Agricultural Development	
FW 340*	Multicultural Perspectives in Natural Resources	
GEO 309*	Environmental Justice	
GEO 420	Geography of Resource Use	
HST 481*	Environmental History of the United States	
PHL 440	Environmental Ethics	
PHL 443*	World Views and Environmental Values	
<b>Social and Political (3-4 credits)</b>		
AREC 432	Environmental Law	
BI 301*	Human Impacts on Ecosystems	
CSS/GEO 335*	Introduction to Water Science and Policy	
FOR 462	Natural Resource Policy and Law	
GEO 423	Land Use	
HST 481*	Environmental History of the United States	
PS 474	Natural Resource Policy and Bureaucratic Politics	
PS 475	Environmental Politics and Policy	
PS 476*	Science and Politics	
SOC 360*	Population Trends and Policy	
SOC 456*	Science and Technology in Social Context	
SOC 475	Rural-Urban Sociology	
SOC 480*	Environmental Sociology	
SOC 481*	Society and Natural Resources	
SOC/ANS/FOR/FW 485*	Consensus and Natural Resources	
<b>Land and Water (3-5 credits)</b>		
CSS 305	Principles of Soil Science	
CSS 395*	World Soil Resources	
FE 430	Watershed Processes	
FW 456	Limnology	
FW 479	Wetlands and Riparian Ecology	
GEO 300*	Environmental Conservation and Sustainability	
GEO 306*	Minerals, Energy, Water and the Environment	
GEO 424	International Water Resources Management	
GEO 425	Water Resources Management in the United States	
GEO 429	Topics in Resource Geography	
MRM 415	Coastal Resources Management	
RNG 355	Desert Watershed Management	
RNG 455	Riparian Ecology and Management	
<b>To complete the minor, students select any additional classes from the complete Breadth Requirements course list to bring the total to 28 credits.      *= Bacc Core</b>		