

ECOLOGY OPTION

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

- Biology - College of Science (<http://catalog.oregonstate.edu/college-departments/science/school-life-sciences/integrative-biology/biology-bs-hbs>)

The Biology major Ecology option is designed to provide students with a strong background in the theory and applications of ecology and environmental studies. It couples the core biological sciences background from the Biology major with required ecology, conservation, field methods, and environmental policy course work. A variety of upper-division ecology and organismal biology electives can be chosen based on individual interests. Undergraduate research and internship experience are strongly recommended for option students, and three credits can be applied to the Electives. The Ecology option provides excellent preparation for graduate programs in ecology.

Option Code: 715

Options in the Biology major require 15 or fewer additional credits (one term) beyond the basic Biology major, and most students can complete the additional Ecology option course work in four years. Courses used to satisfy the Ecology option requirements also satisfy the Biology and Society, Organismal Biology, Physiology, Writing Intensive Course and Experiential Learning or Integrative Biology Elective requirements for the Biology major.

It is recommended that Ecology option students take ST 411 and ST 412 in place of ST 352 for the major statistics requirement.

Several Ecology option courses may also be used to satisfy areas of the baccalaureate core.

For further information, see MyDegrees or the Integrative Biology website (<http://ib.oregonstate.edu>).

Code	Title	Hours
Plant Organismal Biology		
Select one course from the following:		4
BOT 321	PLANT SYSTEMATICS	
BOT 416	AQUATIC BOTANY	
RNG 353	WILDLAND PLANT IDENTIFICATION	
Animal Organismal Biology		
Select one course from the following:		4-5
Z 361 & Z 362	INVERTEBRATE BIOLOGY and INVERTEBRATE BIOLOGY LABORATORY	
Z 371 & Z 372	VERTEBRATE BIOLOGY and VERTEBRATE BIOLOGY LABORATORY	
Z 477	AQUATIC ENTOMOLOGY	
Ecological Methods/Writing Intensive Course (WIC)		
BI 371 or BI 373	*ECOLOGICAL METHODS *FIELD METHODS IN MARINE ECOLOGY	3
Behavior and Physiological Ecology		
Z 350	ANIMAL BEHAVIOR	3
Z 423 or BOT 488	ENVIRONMENTAL PHYSIOLOGY ENVIRONMENTAL PHYSIOLOGY OF PLANTS	3
Population Ecology		
Select one course from the following:		3-4
BI 483	POPULATION BIOLOGY	
BOT 442	PLANT POPULATION ECOLOGY	
FW 320	INTRODUCTORY POPULATION DYNAMICS	

Community and Ecosystem Ecology

Select one course from the following:		3-5
BI 306	**ENVIRONMENTAL ECOLOGY	
BI 351	MARINE ECOLOGY	
BI 353	PACIFIC NORTHWEST COASTAL ECOSYSTEMS	
BI 481	BIOGEOGRAPHY	
FES 341	FOREST ECOLOGY	
FW 321	APPLIED COMMUNITY AND ECOSYSTEM ECOLOGY	
FW 456	FRESHWATER ECOLOGY AND CONSERVATION	
FW 479	WETLANDS AND RIPARIAN ECOLOGY	
GEO 484	INTRODUCTION TO BIOGEOCHEMISTRY	
OC 434/FW 434	ESTUARINE ECOLOGY	

Conservation and Human Impacts

Select one course from the following:		3
BI 301	*HUMAN IMPACTS ON ECOSYSTEMS	
BI 348	*HUMAN ECOLOGY	
Z 349	*BIODIVERSITY: CAUSES, CONSEQUENCES, AND CONSERVATION	

Environmental Policy

Select one course from the following:		3-4
AEC 250	*INTRODUCTION TO ENVIRONMENTAL ECONOMICS AND POLICY	
AEC 253	*ENVIRONMENTAL LAW, POLICY, AND ECONOMICS	
AEC 351	*NATURAL RESOURCE ECONOMICS AND POLICY	
AEC 352/ECON 352	*ENVIRONMENTAL ECONOMICS AND POLICY	
FES 435/TOX 435	*GENES AND CHEMICALS IN AGRICULTURE: VALUE AND RISK	
FES 485	*CONSENSUS AND NATURAL RESOURCES	
FW 350	*ENDANGERED SPECIES, SOCIETY AND SUSTAINABILITY	

Experiential Learning or Ecology Elective Courses

Select both tracks or two courses from Track II:		6-8
<i>Track I Experiential Learning Credits</i>		
Select any combination of three credits from the following:		
BI 401	RESEARCH AND SCHOLARSHIP (by approval)	
BI 406	PROJECTS: CURATORIAL ASSISTANT (by approval)	
BI 410	INTERNSHIP (by approval or international internships approved by the Integrative Biology Lead Advisor)	

Track II Ecology Elective

BI 353	PACIFIC NORTHWEST COASTAL ECOSYSTEMS (if not taken above)	
BI 358	SYMBIOSES AND THE ENVIRONMENT	
BI 375	FIELD METHODS IN ECOLOGICAL RESTORATION (taught at OSU Cascades)	
BI 427	PALEOBIOLOGY	
BI 481	BIOGEOGRAPHY (if not taken above)	
BI 485	MONSTER BIOLOGY	
BI 495	DISEASE ECOLOGY	
BOT 341	PLANT ECOLOGY	
BOT 458	ECOSYSTEMS GENOMICS	
CH 390	ENVIRONMENTAL CHEMISTRY	
FES 440	WILDLAND FIRE ECOLOGY	
FES 452/FW 452 or FW 458 or HORT 318	BIODIVERSITY CONSERVATION IN MANAGED FORESTS MAMMAL CONSERVATION AND MANAGEMENT *APPLIED ECOLOGY OF MANAGED ECOSYSTEMS	
FES 445/FW 445	ECOLOGICAL RESTORATION	
FW 421	AQUATIC BIOLOGICAL INVASIONS	
FW 462	ECOSYSTEM SERVICES	
MB 448	MICROBIAL ECOLOGY	
ST 435	QUANTITATIVE ECOLOGY	

Total Hours

35-42

2 *Ecology Option*

* Baccalaureate Core Course (BCC)

^ Writing Intensive Course (WIC)

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