

SUSTAINABLE RANGELAND ECOSYSTEM STEWARDSHIP OPTION

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

- Rangeland Sciences - College of Agricultural Sciences (<http://catalog.oregonstate.edu/college-departments/agricultural-sciences/animal-rangeland-sciences/rangeland-sciences-bs-hbs>)

This option will incorporate course work from a variety of disciplines to build on the knowledge areas of the base Rangeland program (plants, soil, water, animals) to deepen the student's understanding of rangeland ecosystems and their management. This option also allows students to focus on a specific area and/or broadly bolster their knowledge.

Student Learning Outcomes

- Assess state of ecological structure and function in the face of disturbance, then propose approaches and methods to mitigate disturbance and bolster resiliency.
- Design a detailed ecological restoration and/or land management plan that reflects socio-economic considerations and outlines how to build stakeholder support.

Option Code: 856

27 credits are required for this option of which 15 credits must be upper division.

Code	Title	Hours
Deeper Plants, Soil and Water		
Select 12 credits from the following:		12
BOT 442	PLANT POPULATION ECOLOGY	
BOT 488	ENVIRONMENTAL PHYSIOLOGY OF PLANTS	
FE 430	WATERSHED PROCESSES	
FES 240	*FOREST BIOLOGY	
FES 241	DENDROLOGY	
FES 341	FOREST ECOLOGY	
FES 445	ECOLOGICAL RESTORATION	
FES 452/FW 452	BIODIVERSITY CONSERVATION IN MANAGED FORESTS	
FOR 417	ADVANCED FOREST SOILS	
GEO 306	*MINERALS, ENERGY, WATER, AND THE ENVIRONMENT	
GEOG 340	*INTRODUCTION TO WATER SCIENCE AND POLICY	
HORT 319	RESTORATION HORTICULTURE	
SOIL 316	NUTRIENT CYCLING IN AGROECOSYSTEMS	
SOIL 395	*WORLD SOIL RESOURCES	
SOIL 435	ENVIRONMENTAL SOIL PHYSICS	
SOIL 445	ENVIRONMENTAL SOIL CHEMISTRY	
SOIL 455	BIOLOGY OF SOIL ECOSYSTEMS	
SOIL 468	SOIL LANDSCAPE ANALYSIS	
Deeper Animals		
Select 6 credits from the following:		6
ANS 121	*INTRODUCTION TO ANIMAL SCIENCES	
ANS 215	BEEF/DAIRY INDUSTRIES	
ANS 220	INTRODUCTORY HORSE SCIENCE	
ANS 311	PRINCIPLES OF ANIMAL NUTRITION	
ANS 313	APPLIED ANIMAL NUTRITION: FEEDS AND RATION FORMULATION	
ANS 380	PRINCIPLES OF ANIMAL ANATOMY AND PHYSIOLOGY	

ANS 436	SHEEP PRODUCTION SYSTEMS	
ANS 445	BEEF PRODUCTION SYSTEMS	
FW 311	ORNITHOLOGY	
FW 315	ICHTHYOLOGY	
FW 317	MAMMALOLOGY	
FW 325	*GLOBAL CRISES IN RESOURCE ECOLOGY	
FW 345	*GLOBAL CHANGE BIOLOGY	
FW 451	AVIAN CONSERVATION AND MANAGEMENT	
FW 458	MAMMAL CONSERVATION AND MANAGEMENT	
FW 475	WILDLIFE BEHAVIOR	
FW 479	WETLANDS AND RIPARIAN ECOLOGY	
Deeper Natural Resource Management		
Select 9 credits from the following:		9
AEC 253	*ENVIRONMENTAL LAW, POLICY, AND ECONOMICS	
AEC 388	AGRICULTURAL LAW	
AEC 432	ENVIRONMENTAL LAW	
AEC 453	CONSERVATION ON PRIVATE LAND	
CROP 440	WEED MANAGEMENT	
FES 355	MANAGEMENT FOR MULTIPLE RESOURCE VALUES	
FOR 346	TOPICS IN WILDLAND FIRE	
FOR 436	WILDLAND FIRE SCIENCE AND MANAGEMENT	
FW 325	*GLOBAL CRISES IN RESOURCE ECOLOGY	
FW 340	*MULTICULTURAL PERSPECTIVES IN NATURAL RESOURCES	
FW 341	FISH AND WILDLIFE LAW ENFORCEMENT	
FW 345	*GLOBAL CHANGE BIOLOGY	
FW 350	*ENDANGERED SPECIES, SOCIETY AND SUSTAINABILITY	
FW 356	*CITIZEN SCIENCE	
FW 445	ECOLOGICAL RESTORATION	
FW 462	ECOSYSTEM SERVICES	
NR 201	MANAGING NATURAL RESOURCES FOR THE FUTURE	
NR 202	NATURAL RESOURCE PROBLEMS AND SOLUTIONS	
NR 312	CRITICAL THINKING FOR NATURAL RESOURCE CHALLENGES	
NR 325	SCIENTIFIC METHODS FOR ANALYZING NATURAL RESOURCE PROBLEMS	
NR 455	NATURAL RESOURCE DECISION MAKING	
NR 477	*AGROFORESTRY	
TRAL 251	RECREATION RESOURCE MANAGEMENT	
TRAL 351	OUTDOOR RECREATION MANAGEMENT ON PUBLIC LANDS	
TRAL 352	WILDERNESS MANAGEMENT	
TRAL 354	COMMUNITIES, NATURAL AREAS, AND SUSTAINABLE TOURISM	
TRAL 357	*PARKS AND PROTECTED AREAS MANAGEMENT	
TRAL 432	ECONOMICS OF RECREATION AND TOURISM	
TRAL 456	PLANNING FOR SUSTAINABLE RECREATION	
Total Hours		27

* Baccalaureate Core Course (BCC)

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