

ECOLOGICAL MANAGEMENT OF TURF, LANDSCAPE AND URBAN HORTICULTURE OPTION

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

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

The turf, landscape, and urban horticulture industries are large and diverse, offering careers in golf course and athletic field management; landscape design, construction, management, and ecological restoration; conservation; park, botanical, and public garden management; urban forestry policy and management; research; and consulting.

Turf is the central feature of golf courses, sports fields, parks, cemeteries, and landscapes in cities and neighborhoods throughout the United States. Professional lawn care is a thriving industry in Oregon communities that is complimented by a vibrant sports turf and grass seed industry. This continually growing industry offers more career track jobs than any other area in horticulture.

Students in turf management become golf course superintendents, athletic field and park managers, and lawn care professionals. The program focuses on science, technology, 'in-field' hands-on experience, and decision making in real-world settings. Activities stress networking and exposure to multiple work environments to help students integrate quickly into the industry.

In the landscape and urban horticulture program, students will learn about sustainable landscape management, urban forestry, and the ecosystem services provided by the built environment, such as carbon sequestration and climate regulation, temperature modulation, waste decomposition and detoxification, purification of water and air, storm and rainwater management, crop pollination, pest and disease control, nutrient dispersal and cycling, seed dispersal, intellectual and spiritual inspiration, recreational experiences, and scientific discovery.

Landscape professionals design, build, and manage aesthetically pleasing, functional, and environmentally responsible natural spaces where we all live, work, and play. In recent years, the industry has expanded and rapidly become more sophisticated to meet the challenges of today's urban environment. Consequently, there is great demand for creative, motivated individuals who love the outdoors and enjoy working with plants, soil, water, nature, and people.

Option Code: 792

Code	Title	Hours
Option Requirements		
Plant Materials		
Select 1 of the following courses:		4
HORT 226	LANDSCAPE PLANT MATERIALS I: DECIDUOUS HARDWOODS AND CONIFERS	
HORT 228	LANDSCAPE PLANT MATERIALS II: SPRING FLOWERING TREES AND SHRUBS	
Select 1 additional course from the above or below courses:		2-4
BOT 313	PLANT STRUCTURE	

BOT 321	PLANT SYSTEMATICS	
BOT 323	*FLOWERING PLANTS OF THE WORLD	
BOT 425	FLORA OF THE PACIFIC NORTHWEST	
FES 241	DENDROLOGY	
HORT 251	TEMPERATE TREE FRUIT, BERRIES, GRAPES, AND NUTS	
HORT 255	HERBACEOUS ORNAMENTAL PLANT MATERIALS	
HORT 433/CROP 433	SYSTEMATICS AND ADAPTATION OF VEGETABLE CROPS	
RNG 353	WILDLAND PLANT IDENTIFICATION	
Ecology		
HORT 318	*APPLIED ECOLOGY OF MANAGED ECOSYSTEMS	3
Technology		
Select 1 of the following courses:		3-4
AG 312	ENGINE THEORY AND OPERATION	
FW 303	SURVEY OF GEOGRAPHIC INFORMATION SYSTEMS IN NATURAL RESOURCE	
GEOG 360	GISCIENCE I: GEOGRAPHIC INFORMATION SYSTEMS AND THEORY	
HORT 380	SUSTAINABLE LANDSCAPE DESIGN	
HORT 414/CROP 414	PRECISION AGRICULTURE	
Horticultural Communication		
HORT 318	*APPLIED ECOLOGY OF MANAGED ECOSYSTEMS	3
HORT 407	SEMINAR	1
HORT 411	HORTICULTURE BOOK CLUB	1
Capstone		
Select 1 of the following courses:		4
FES 445/FW 445	ECOLOGICAL RESTORATION	
HORT 418	GOLF COURSE MAINTENANCE	
HORT 455/FES 445	URBAN FOREST PLANNING, POLICY AND MANAGEMENT	
HORT 481	HORTICULTURE PRODUCTION CASE STUDIES	
Science and Technology of Managed Ecosystems		
GEOG 340	*INTRODUCTION TO WATER SCIENCE AND POLICY	3
HORT 314	PRINCIPLES OF TURFGRASS MAINTENANCE	4
HORT 315	SUSTAINABLE LANDSCAPES: MAINTENANCE, CONSERVATION, RESTORE	4
HORT 358	LANDSCAPE CONSTRUCTION TECHNIQUES	4
HORT 360	IRRIGATION AND DRAINAGE	4
Select 2 of the following courses, minimum 6 credits:		6
BI 301	*HUMAN IMPACTS ON ECOSYSTEMS	
BOT 488	ENVIRONMENTAL PHYSIOLOGY OF PLANTS	
CROP 480/HORT 480	CASE STUDIES IN CROPPING SYSTEMS MANAGEMENT	
FES 445/FW 445	ECOLOGICAL RESTORATION	
FW 462	ECOSYSTEM SERVICES	
GEOG 450	LAND USE IN THE AMERICAN WEST	
HORT 285	PERMACULTURE DESIGN AND THEORY: CERTIFICATE COURSE	
HORT 319	RESTORATION HORTICULTURE	
HORT 330/ENT 330	*PLAGUES, PESTS, AND POLITICS	
HORT 350/FES 300	URBAN FORESTRY	
HORT 351	FLORICULTURE AND GREENHOUSE SYSTEMS	
HORT 361	PLANT NURSERY SYSTEMS	
HORT 405	READING AND CONFERENCE	
HORT 414/CROP 414	PRECISION AGRICULTURE	
HORT 418	GOLF COURSE MAINTENANCE	
HORT 444/ENT 444	INSECT AGROECOLOGY	
HORT 447/FES 447	ARBORICULTURE	
HORT 455/FES 455	URBAN FOREST PLANNING, POLICY AND MANAGEMENT	
HORT 481	HORTICULTURE PRODUCTION CASE STUDIES	
HORT 485	ADVANCED PERMACULTURE DESIGN TOOLS FOR CLIMATE RESILIENCE	

2 *Ecological Management of Turf, Landscape and Urban Horticulture Option*

HORT 499	SPECIAL TOPICS
RNG 355	DESERT WATERSHED MANAGEMENT
RNG 421	WILDLAND RESTORATION AND ECOLOGY
SOIL 316	NUTRIENT CYCLING IN AGROECOSYSTEMS
SOIL 455	BIOLOGY OF SOIL ECOSYSTEMS
SUS 304	*SUSTAINABILITY ASSESSMENT
SUS 111	RENEWABLE MATERIALS FOR A GREEN PLANET
WSE 475	ENVIRONMENTAL ASSESSMENT OF BUILDING MATERIALS

Business Management

Select 1 of the following courses: 3-4

AEC 211	AGRICULTURAL AND FOOD MANAGEMENT
AEC 221	AGRICULTURAL AND FOOD MARKETING
AEC 250	*INTRODUCTION TO ENVIRONMENTAL ECONOMICS AND POLICY
AEC 251	*INTRODUCTION TO AGRICULTURAL AND FOOD ECONOMICS
BA 215	FUNDAMENTALS OF ACCOUNTING
BA 260	INTRODUCTION TO ENTREPRENEURSHIP
BA 365	FAMILY BUSINESS MANAGEMENT
NMC 311	INTRODUCTION TO NONPROFIT MANAGEMENT

Ecology and Sustainability Ecosystems Courses ¹

Contemporary Global Issues

Select 1 of the following courses: 3

AEC 351	*NATURAL RESOURCE ECONOMICS AND POLICY
AEC 352/ECON 352	*ENVIRONMENTAL ECONOMICS AND POLICY
BI 301	*HUMAN IMPACTS ON ECOSYSTEMS
CROP 330	*WORLD FOOD CROPS
FES 365	*ISSUES IN NATURAL RESOURCES CONSERVATION
FW 325	*GLOBAL CRISES IN RESOURCE ECOLOGY
GEOG 300	*SUSTAINABILITY FOR THE COMMON GOOD
GEOG 330	**GEOGRAPHY OF INTERNATIONAL DEVELOPMENT AND GLOBALIZATION
HORT 331/ENT 331	*POLLINATORS IN PERIL
SUS 350	*SUSTAINABLE COMMUNITIES
WSE 470	*FORESTS, WOOD, AND CIVILIZATION
Z 349	*BIODIVERSITY: CAUSES, CONSEQUENCES, AND CONSERVATION

Science, Technology and Society

Select 1 of the following courses: 3-4

AGRI 411	*INTRODUCTION TO FOOD SYSTEMS: LOCAL TO GLOBAL
ANS 315	*CONTENTIOUS SOCIAL ISSUES IN ANIMAL AGRICULTURE
BI 348	*HUMAN ECOLOGY
BOT 324	*FUNGI IN SOCIETY
CH 374	*TECHNOLOGY, ENERGY, AND RISK
ENGR 350	*SUSTAINABLE ENGINEERING
ENGR 363	*ENERGY MATTERS
ENSC 479	**ENVIRONMENTAL CASE STUDIES
FES 435/TOX 435	*GENES AND CHEMICALS IN AGRICULTURE: VALUE AND RISK
FES 477/NR 477	*AGROFORESTRY
FES 485	*CONSENSUS AND NATURAL RESOURCES
FST 421	*FOOD LAW
FW 470/HSTS 470	*ECOLOGY AND HISTORY: LANDSCAPES OF THE COLUMBIA BASIN
GEOG 300	*SUSTAINABILITY FOR THE COMMON GOOD
GEOG 340	*INTRODUCTION TO WATER SCIENCE AND POLICY
HEST 310	*INTRO TO COMMUNITY ENGAGEMENT AND COMMUNITY-BASED DESIGN
HORT 330/ENT 300	*PLAGUES, PESTS, AND POLITICS
HST 481	*ENVIRONMENTAL HISTORY OF THE UNITED STATES
HSTS 421	*TECHNOLOGY AND CHANGE

NUTR 312	*ISSUES IN NUTRITION AND HEALTH
PH 313	*ENERGY ALTERNATIVES
PHL 325	*SCIENTIFIC REASONING
PS 476	*SCIENCE AND POLITICS
SOIL 395	*WORLD SOIL RESOURCES
SUS 304	*SUSTAINABILITY ASSESSMENT

Total Hours 55-60

¹ Meets Synthesis requirements. Each course must be from a different department.

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