SUSTAINABLE HORTICULTURAL PRODUCTION 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)

Students in the Sustainable Horticultural Production option gain the knowledge and skills necessary to plan and manage horticultural production systems for fruit, nut, vegetable, nursery, and greenhouse crops using environmentally sustainable practices. They come to see horticulture as a way to create and maintain vital and productive agro-ecosystems and understand the role of horticulture within a larger societal context which includes issues of ecology, economics, and politics.

The Sustainable Horticultural Production option stresses active learning, case studies about real-world situations, and integrating ideas and facts from many different subjects. Sustainable Horticultural Production graduates will be active learners, and possess skills prized by employers and useful for establishing their own enterprises. They will have a broad and thorough knowledge of horticulture and the skills and knowledge needed to identify, develop, and practice ecological and sustainable methods. They will be able to think critically. They will be skilled in finding and using information, as well as synthesizing information from many sources to analyze novel situations and solve problems in the field.

Option Code: 798

Code	Title	Hours
Option Requirements		
Plant Materials		
Select 2 of the following courses:		5-8
BOT 313	PLANT STRUCTURE	
BOT 321	PLANT SYSTEMATICS	
BOT 323	^FLOWERING PLANTS OF THE WORLD	
BOT 425	FLORA OF THE PACIFIC NORTHWEST	
CROP 200	CROP ECOLOGY AND MORPHOLOGY	
FES 241	DENDROLOGY	
HORT 226	LANDSCAPE PLANT MATERIALS I: DECIDUOUS HARDWOODS AND CONIFERS	
HORT 228	LANDSCAPE PLANT MATERIALS II: SPRING FLOWERING TREES AND SHRUBS	
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	
Ecology		
HORT 318	^APPLIED ECOLOGY OF MANAGED ECOSYSTEMS	3
Technology		
HORT 414/CROP 433	PRECISION AGRICULTURE	4
Horticultural Communication		
HORT 318	^APPLIED ECOLOGY OF MANAGED ECOSYSTEMS	3
HORT 407	SEMINAR	1
HORT 411	HORTICULTURE BOOK CLUB	1
Capstone		
HORT 481	HORTICULTURE PRODUCTION CASE STUDIES	4
Horticultural Production		
HORT 300/CROP 300	CROP PRODUCTION IN PACIFIC NORTHWEST AGROECOSYSTEMS	4
HORT 360	IRRIGATION AND DRAINAGE	4
PBG 430	PLANT GENETICS	3
Select 1 of the following courses:		3-4
HORT 260	ORGANIC FARMING AND GARDENING	
HORT 351	FLORICULTURE AND GREENHOUSE SYSTEMS	
HORT 361	PLANT NURSERY SYSTEMS	
HORT 451	TREE FRUIT PHYSIOLOGY AND CULTURE	
HORT 452	BERRY AND GRAPE PHYSIOLOGY AND CULTURE	
HORT 453	GRAPEVINE GROWTH AND PHYSIOLOGY	
HORT 454	PRINCIPLES AND PRACTICES OF VINEYARD PRODUCTION	
HORT 456	PHYSIOLOGY AND PRODUCTION OF BERRY CROPS	
Horticultural Electives		
CROP 280	INTRODUCTION TO THE COMPLEXITY OF OREGON CROPPING SYSTEMS	
ENT 322	HONEY BEE BIOLOGY AND BEEKEEPING	
HORT 199	SPECIAL TOPICS	
HORT 299	SPECIAL TOPICS	
HORT 399	SPECIAL TOPICS	
HORT 499	SPECIAL TOPICS	
HORT 285	PERMACULTURE DESIGN AND THEORY: CERTIFICATE COURSE	
HORT 314	PRINCIPLES OF TURFGRASS MAINTENANCE	
HORT 421	HERBS, SPICES, AND MEDICINAL PLANTS	
HORT 444/ENT 444	INSECT AGROECOLOGY	
HORT 463/CROP 463	SEED BIOLOGY	
HORT 480/CROP 480	CASE STUDIES IN CROPPING SYSTEMS MANAGEMENT	
HORT 485	ADVANCED PERMACULTURE DESIGN TOOLS FOR CLIMATE RESILIENCE	
HORT 499	SPECIAL TOPICS (Introduction to Organic Certification)	
PBG 441	PLANT TISSUE CULTURE	
PBG 450	PLANT BREEDING	
SOIL 316	NUTRIENT CYCLING IN AGROECOSYSTEMS	
SOIL 399	SPECIAL TOPICS (Soil Management for Organic Production)	
SOIL 455	BIOLOGY OF SOIL ECOSYSTEMS	
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	
Government and Policy		
Select 1 of the following courses:		3-4
AEC 243	*GLOBAL POVERTY AND SUSTAINABLE DEVELOPMENT	
AEC 250	*INTRODUCTION TO ENVIRONMENTAL ECONOMICS AND POLICY	
AEC 251	*INTRODUCTION TO AGRICULTURAL AND FOOD ECONOMICS	
AEC 253	*ENVIRONMENTAL LAW, POLICY, AND ECONOMICS	
AEC 351	*NATURAL RESOURCE ECONOMICS AND POLICY	
AGRI 411	*INTRODUCTION TO FOOD SYSTEMS: LOCAL TO GLOBAL	
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
PS 201	*INTRODUCTION TO UNITED STATES GOVERNMENT AND POLITICS
PS 205	*INTRODUCTION TO INTERNATIONAL RELATIONS
PS 331	*STATE AND LOCAL POLITICS
PS 458	*INTERNATIONAL POLITICAL ECONOMY
PS 461	ENVIRONMENTAL POLITICAL THEORY
PS 470	GLOBAL FOOD POLITICS AND POLICY
PS 473	US ENERGY POLICY
PS 475	ENVIRONMENTAL POLITICS AND POLICY
PS 476	*SCIENCE AND POLITICS
PS 477	INTERNATIONAL ENVIRONMENTAL POLITICS AND POLICY
PS 478	RENEWABLE ENERGY POLICY
SUS 304	*SUSTAINABILITY ASSESSMENT
SUS 350	*SUSTAINABLE COMMUNITIES
Ecology and Sustainability Ecosystems Courses	
Meets Synthesis requirements. Each course must be from a different department.	
Contemporary Global Issues	
Select 1 of the following courses:	3-4
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	*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	47-55

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Course	Title	Hours
First Year		
Fall		
CH 121	GENERAL CHEMISTRY	5
HORT 112	INTRODUCTION TO HORTICULTURAL SYSTEMS, PRACTICES AND CAREERS	2
WR 121	*ENGLISH COMPOSITION	3
Math Course		4
	Hours	14
Winter		
CH 122	*GENERAL CHEMISTRY	5
COMM 211	*COMMUNICATING ONLINE	3
SOIL 205 & SOIL 206	SOIL SCIENCE and *SOIL SCIENCE LABORATORY FOR SOIL 205	4
Bacc Core Perspectives Course		3-4
	Hours	15-16
Spring		
CH 123	*GENERAL CHEMISTRY	5
HHS 231	*LIFETIME FITNESS FOR HEALTH	2
HHS 241	*LIFETIME FITNESS	1
HORT Production Elective		3-4
Bacc Core Writing II Course		3
	Hours	14-15
Second Year		
Fall		
BI 211	*PRINCIPLES OF BIOLOGY	4
Electives		0-2
HORT Production Elective		3-4
Perspectives Course		3-4
Plant Materials Course		2-4
	Hours	12-18
Winter		
BI 212	*PRINCIPLES OF BIOLOGY	4
HORT 316	PLANT NUTRITION	4
HORT 318	^APPLIED ECOLOGY OF MANAGED ECOSYSTEMS	3
Bacc Core Perspectives Course		3-4
	Hours	14-15
Spring		
BI 213	*PRINCIPLES OF BIOLOGY	4
HORT 360	IRRIGATION AND DRAINAGE	4
BA/AEC Course		4
Plant Materials Course		2-4
	Hours	14-16
Third Year		
Fall		
HORT 300/CROP 300	CROP PRODUCTION IN PACIFIC NORTHWEST AGROECOSYSTEMS	4
HORT 301	GROWTH AND DEVELOPMENT OF HORTICULTURAL CROPS	3
Electives		4-5
Bacc Core Perspectives Course		3-4
	Hours	14-16
Winter		
BOT 331	PLANT PHYSIOLOGY	4
HORT 311	PLANT PROPAGATION	4

HORT 412	CAREER EXPLORATION: INTERNSHIPS AND RESEARCH PROJECTS	1
Electives		2-3
Bacc Core Perspectives Course		3-4
	Hours	14-16
Spring		
ENT 311	INTRODUCTION TO INSECT PEST MANAGEMENT	4
HORT 414/CROP 414	PRECISION AGRICULTURE	4
Government and Policy Course		4
HORT Production Elective		3-4
	Hours	15-16
Fourth Year		
Fall		
BOT 350	INTRODUCTORY PLANT PATHOLOGY	4
CROP 440	WEED MANAGEMENT	4
Electives		3-4
Bacc Core Synthesis Course		3-4
	Hours	14-16
Winter		
HORT 411	HORTICULTURE BOOK CLUB	1
Electives		3-4
HORT Production Elective		3-4
Bacc Core Synthesis Course		3-4
	Hours	10-13
Spring		
HORT 407	SEMINAR	1
HORT 410	INTERNSHIP	6
HORT 481	HORTICULTURE PRODUCTION CASE STUDIES	4
Electives		4
	Hours	15
	Total Hours	165-186