

# HORTICULTURE/ ARBORICULTURE/ LANDSCAPE/ORGANIC FARMING (HOR)

Many horticulture classes will transfer as Lower Division Collegiate (LDC) credits to Oregon State University. For additional information contact April Chastain, Horticulture Department Advisor, 503-594-3055.

## **HOR-111 Horticulture Practicum/Fall** 2 credits, Fall

Practical experience with seasonal horticulture activities in the areas of container nurseries, greenhouses, landscape management, arboriculture, and organic food production.

## **HOR-112 Horticulture Career Exploration** 2 credits, Spring

This course is a survey of the various career options available to students in the horticulture industry, with emphasis on nursery and greenhouse production, retail nursery, organic fruit and vegetable production, and landscape maintenance/installation. Includes field trips to local businesses. Oregon State University transfer course.

## **HOR-113 Organic Farming Practicum/Fall** 3 credits, Fall

Essential organic farming practices, including seasonal activities such as crop rotation, cover cropping, four-season production strategies, soil testing, and calculating soil amendment needs. Class lecture, field trips, and lab are all included components of this course. This format has been selected to create a hands-on experience for each student in seasonal crop production.

## **HOR-115 Horticulture Safety** 1 credits, Fall

Introduction to situational awareness and safe practices in the horticulture workplace to reduce the risk or chance for accidents and injuries.

## **HOR-118 Spanish for Horticulture** 4 credits, Fall

This course introduces basic vocabulary and structures of the Spanish language for students to be able to communicate in the Horticultural environment. The class introduces students to the culture of the Spanish speaking people, especially those that reside in their own area and within the United States. The course emphasizes oral communication, but all four skills of language are introduced: listening, speaking, reading and writing.

## **HOR-120 Pesticide Laws & Safety** 1 credits, Spring

This course engages students with the laws, regulations, and best management practices used to control pests, weeds, and diseases. Focus on applicator safety, environmental protection, and storage and handling requirements. Prepares students to sit for the Oregon Pesticide Laws & Safety exam.

## **HOR-122 Greenhouse I** 3 credits, Winter

Environmental influences on plant growth, crop scheduling, greenhouse structures and equipment. Emphasis on foliage and flowering potted plant production.

## **HOR-123 Landscape Maintenance** 3 credits, Spring

Principles and practices of sustainable landscape maintenance, plant growth and development, soil-water-fertilizer management, pruning, turf, pest control, diagnosis of problems in trees and shrubs, and maintenance scheduling.

## **HOR-124 Food Harvest** 3 credits, Fall

This course provides a basic knowledge of aspects of harvesting, handling, storing, and marketing of produce from small-scale, organic operations. Topics include: food safety laws and practices, harvest and storage requirements for a variety of crops, factors that impact quality and storage ability, post-harvest biology, Organic certification standards, and regulations for selling value added products. Students in this class will be actively harvesting, washing, packing, and selling produce from the Student Organic Farm.

## **HOR-130 Plant Propagation Techniques** 3 credits, Fall

Covers plant anatomy and reproduction techniques of plants from seed, cuttings, grafting, division, and micro-propagation (tissue culture). Offers an in-depth overview of plant propagation practices.

## **HOR-131 Tree & Shrub Pruning** 3 credits, Winter

Emphasis on dormant pruning of fruiting and ornamental plants. Pruning and training techniques for grapes, fruit trees, and both evergreen and deciduous ornamental trees and shrubs. Basic woody plant anatomy, growth and development.

## **HOR-133 Horticulture Practicum/Winter** 2 credits, Winter

Practical experience with seasonal (winter) horticulture activities in the areas of container nurseries, greenhouses, and landscape management. Prerequisites: HOR-111

## **HOR-135 Propagation of Edible Plants** 3 credits, Spring

Reproduce food plants using a variety of methods, including seed, cutting and grafting techniques. Instruction will focus on methods suitable for sustainable farm operations.

## **HOR-136 Organic Farming Practicum/Winter** 3 credits, Winter

Essential organic farming practices, including seasonal activities such as ground preparation and planning for crop production. Also covers farm business structures, financial management, recordkeeping, and marketing and distribution techniques. Field trips to area farms included. Class lecture, field trips, and lab are essential components of this course. This format has been selected to create a hands-on experience for each student in seasonal crop production.

## **HOR-140 Soils** 3 credits, Spring

Soil characteristics and management, including nutritional elements and the relationship between the soil and plant growth.

## **HOR-141 Organic Farming Practicum/Spring** 4 credits, Spring

Essential organic farming practices, including seasonal activities such as production of transplants, direct seeding, pest, disease, and weed management strategies, bed preparation, equipment operations, and soil, water and fertilizer management. Class lecture, field trips, and lab are all included in this course. This format has been selected to create a hands-on experience for each student in seasonal crop production.

**HOR-142 Greenhouse II**

3 credits, Spring

Detailed study of environmental influences on individual crops, their requirements, scheduling, including annual, biennial, and perennial plant production.

Prerequisites: HOR-122

**HOR-143 Horticulture Practicum/Spring**

2 credits, Spring

Practical experience with seasonal (spring) horticulture activities in the areas of container nurseries, greenhouses, and landscape management.

Prerequisites: HOR-133

**HOR-146 Fruit & Berry Growing**

3 credits, Summer

Regionally appropriate fruit and berry production practices that are suitable for urban areas and small farms. Class will utilize the Home Orchard Education Center demonstration arboretum located on campus.

**HOR-211 Native Plant Identification**

1 credits, Summer

Students will learn to identify 50 native plants within the cultural and ecological context of the Pacific Northwest bioregion.

**HOR-212 Flower Arranger's Garden**

2 credits, Fall

Learn essential fall flower farming techniques including planting, season extension, harvest, and conditioning of cut-flowers. Includes basic floral design and installation techniques. Instruction includes production of bouquets, dried arrangements, wreaths, and small installations. Ideal for garden designers, home flower gardeners, and growers of commercial cutting gardens.

**HOR-213 Computer-Aided Landscape Design**

3 credits, Not Offered Every Year

Develop skills with Computer-aided design (CAD) software for creating landscape designs. Practice techniques utilized in common CAD programs used in the landscape industry.

Prerequisites: HOR-229

Recommended Prerequisites: CS-120 or comparable computer skills

**HOR-214 Organic Cut Flower Farming**

2 credits, Spring

Essential organic flower farming techniques, including seasonal activities such as planning, propagation of cut flowers, transplanting, direct seeding, weeding, harvesting, bed preparation, and soil, water, and fertilizer management as they pertain to cut flower growing. Class lecture, field trips, and lab are all included in this course. This format has been selected to create a hands-on experience for each student in producing cut flowers for market.

**HOR-215 Herbaceous Perennials**

3 credits, Spring

The identification, propagation, selection and garden culture as well as individual attributes of herbaceous perennial plants, including the evolution of perennial garden design and current gardening styles.

Oregon State University transfer course.

**HOR-216 Integrated Pest Management**

3 credits, Winter

Learn the components of, and develop an Integrated Pest Management (IPM) plan for landscape, nursery, greenhouse or organic farming. The plan will incorporate pest detection, control practices and an evaluation of effectiveness.

**HOR-222 Horticultural Computer Applications**

2 credits, Winter

Utilizes database, spreadsheet, word-processing, PowerPoint, social media and other computer programs for record keeping and management and marketing for horticulture businesses.

Recommended Prerequisites: CS-120 or comparable computer skills

**HOR-223 Applied Plant Science**

4 credits, Fall

An overview of the practical aspects of plant growth and development, classification systems, plant breeding and environmental factors in managing plant growth.

**HOR-224 Landscape Installation**

3 credits, Fall

Materials and practices in landscape installation, including plan reading, materials take-off, estimating, bidding, scheduling, grading, construction materials, and plant installation. Provides an overview of Oregon state landscape contracting and licensing requirements.

Recommended Prerequisites: MTH-050

**HOR-225 Arboriculture I**

3 credits, Fall

Management of trees in residential, commercial, and urban landscapes.

Follows course materials prepared by the International Society of Arboriculture (ISA). Topics covered include tree anatomy, selection, installation, response to damage, soil characteristics, pruning techniques and diagnosis of pest problems. Prepares student for HOR-260.

**HOR-226 Plant Identification/Fall**

4 credits, Fall

Identification of deciduous trees, shrubs, and groundcovers, including their cultural requirements in the landscape. Oregon State University transfer course.

**HOR-227 Plant Identification/Winter**

4 credits, Winter

Identification of conifers and broadleaf evergreens, shrubs, and groundcovers, including their cultural requirements in the landscape.

**HOR-228 Plant Identification/Spring**

4 credits, Spring

Identification of flowering trees, shrubs, and groundcovers, including their cultural requirements in the landscape. Oregon State University transfer course.

**HOR-229 Introduction to Landscape Design**

3 credits, Winter

Introduction to landscape planning, including basic drafting skills, grading, drainage, and site planning.

**HOR-230 Equipment Operation & Maintenance**

2 credits, Winter

The selection, safe operation, and maintenance of power driven machines in horticultural operations. Includes hands on experience with mowing equipment, rototillers, chain saws, edgers, shears, tractors, chippers, and skid steer.

Corequisites: HOR-230L

**HOR-231 Irrigation Design**

3 credits, Winter

Principles of irrigation system design for various situations, including underground, above-ground, residential, commercial, and urban farm systems.

**HOR-234 Advanced Landscape Design**

3 credits, Not Offered Every Year

Further skill development in drawing, site analysis, and design, including two & three dimensional design concepts. Graphic exercises will be included as well as the study of creative and practical solutions for various site and program requirements of small commercial and residential landscape sites.

Prerequisites: HOR-229

Recommended Prerequisites: Prior Plant ID knowledge or HOR-226, HOR-227, and HOR-228

**HOR-235 Weed Identification**

2 credits, Fall

Identification and life cycles of weeds commonly found in landscapes, nurseries, and farms.

**HOR-236 Insect Identification**

2 credits, Fall

Develop skills to identify common pest and insect life stages that damage or benefit plants in the landscape, farm, and greenhouse.

**HOR-237 Disease Identification**

2 credits, Winter

Identification of ornamental plant diseases which occur in greenhouses, landscapes, nurseries, and farms.

**HOR-239 Tree Climber Training**

1 credits, Winter

The safe use of rope and saddle tree climbing procedures will be covered through lecture, discussion, and field practice. For beginner to moderately experienced climbers. May be repeated for up to 3 credits.

**HOR-240 Irrigation Practices**

3 credits, Spring

Materials, equipment, and methods used to install and repair irrigation systems in landscape areas.

Recommended Prerequisites: HOR-231

**HOR-244 Ecological Landscape Design**

3 credits, Not Offered Every Year

Overview of landscape design features that will benefit the natural environment, provide habitat for wildlife and require minimal inputs of energy, water and other materials. Includes basic design concepts, design terminology and techniques, as well as ideas for marketing of sustainable designs.

Prerequisites: HOR-229

Recommended Prerequisites: Prior Plant ID knowledge or HOR-226, HOR-227, and HOR-228

**HOR-246 Organic Gardening**

2 credits, Spring

Growing organically addresses two of today's common concerns: health and sustainability. Learn organic gardening skills like how to create a garden plan, build healthy soil, make and use your own compost, add fertility with cover crops, choose the best crop varieties for our region, and practice proper planting and harvest techniques. This class is great for beginners, and gardeners who are looking to take their skills to a deeper level.

**HOR-249 Landscape Bidding and Estimating**

1 credits, Spring

This class is an introduction to bidding and estimating landscape projects. Students will interpret and measure landscape plans in order to perform take-offs and calculate quantities of materials needed; calculate direct costs using price lists and production rates; calculate and analyze overhead costs, net and gross profit margins, and break-even points; and review computer software options.

Recommended Prerequisite or Corequisite: HOR-123 or HOR-224

**HOR-250 Organic Herb Growing**

1 credits, Spring

Study of herb propagation, growing, and use. Identification of herbs, planning, site requirements and care of plants are covered. Learn how to plan for garden, small-scale, and larger farm production.

**HOR-251 Herbal Products**

1 credits, Winter

Instruction in making herbal teas, skin lotion, tincture, infused oil, vinegar, spritzers and herbal mixes. Instruction includes the use of specific ingredients, methods for effective usage and storage, and their importance.

**HOR-252 Kitchen Herbs**

1 credits, Fall

Instruction will focus on how to grow and use common culinary herbs. This includes how to incorporate common herbs on market farms and how to plan for production, drying, and sales of herbs.

**HOR-260 Arboriculture II**

3 credits, Winter

Evaluation, assessment and management of trees in the urban environment. Covers monetary and ecosystem values for trees, property development considerations, tree appraisals, tree inventories, risk assessments, and crew management. Together with HOR-225, this class will prepare students for passing the ISA Certified Arborist exam.

Prerequisites: HOR-225

**HOR-261 Tree Diagnostics**

2 credits, Spring

Theory and practice in diagnosing specific biotic and abiotic causes of poor tree health. Includes identification of symptoms, use of monitoring tools and effective customer communications.

Prerequisites: HOR-120, HOR-216, HOR-225. HOR-236 or HOR-237

**HOR-262 Treework Practicum I**

2 credits, Fall

Experience with the implementation of basic requirements, equipment and techniques employed by arborists who work aloft. Covers personal protective equipment, safe operation, and common cutting techniques in accordance with current industry standards. Students operate chainsaws in a variety of field exercises, and will gain exposure to other pieces of industry equipment, such as chipper, truck and trailer, and aerial lift. Students will participate as members of a crew, gaining introductory experience in tree pruning, rigging, hardware installation, electrical hazard awareness, aerial rescue, ground work, and work site management.

Prerequisites: HOR-115, HOR-131, and HOR-239

**HOR-263 Plant Health Care Practicum**

2 credits, Spring

Experience best management practices in Plant Health Care for trees and shrubs of the Pacific Northwest. Synthesize information from pre-requisite courses to evaluate work sites for risk, plant health, and pathogens. Propose maintenance schedules and adapt them based on customer interaction. Working as a team, maintain landscapes on CCC properties using hand and power tools such as shears, saws, mowers, chippers, and sprayers.

Prerequisites: HOR-115, HOR-131 and HOR-216. HOR-236 or HOR-237

**HOR-264 Treework Practicum II (Aerial)**

2 credits, Fall

Experience with the implementation of intermediate requirements, using equipment and techniques employed by arborists who work aloft. Reinforces personal protective equipment, safe operation, and common cutting techniques in accordance with current industry standards. Students operate chainsaws in a variety of field exercises, and will gain exposure to other pieces of industry equipment, such as chipper, truck and trailer, and aerial lift. Students will participate as members of a crew, gaining additional experience in tree pruning, rigging, hardware installation, electrical hazard awareness, aerial rescue, ground work, and work site management.

Prerequisites: HOR-262

**HOR-280 Horticulture/CWE**

3 credits, Fall/Winter/Spring/Summer

Cooperative work experience. On-the-job experience in the student's major course of study. Students are expected to work a minimum of 90 job site hours. May be repeated for up to 6 credits. Required: Student Petition.

Corequisites: CWE-281

**HOR-281 Horticulture/CWE**

6 credits, Fall/Winter/Spring/Summer

Cooperative work experience. On-the-job experience in the student's major course of study. Students are expected to work a minimum of 180 job site hours. May be repeated for up to 12 credits. Required: Student Petition.

Corequisites: CWE-281

**HOR-282 Horticulture/CWE**

3 credits, Fall/Winter/Spring/Summer

Cooperative work experience. On-the-job experience in the student's major course of study. Students are expected to work a minimum of 90 job site hours. May be repeated for up to 6 credits. Required: Student Petition.

Required: Students are expected to work a minimum of 90 job site hours

Corequisites: CWE-281

**HOR-284 Organic Farming Practicum/Summer**

3 credits, Summer

Experiential learning of organic farming techniques, while working on the Student Farm. Students learn ecological and sustainable practices, principles, and management strategies. This course includes the seasonal activities of a working, small scale Organic Farm: seed sowing, planting, cultivation, irrigation, harvest, packing, selling at farmers market and to restaurants. An important aspect of this course is participating in the on-campus, weekly farmers market. All tasks are hands-on and guided by the instructor. This format has been selected to create a hands-on experience for each student in seasonal crop production and marketing.

Prerequisites: HOR-141 or Student Petition

**HOR-285 Organic Farming/CWE**

3 credits, Fall/Winter/Spring/Summer

Cooperative work experience. On-the-job experience working with an agricultural business/farm. Students are expected to work a minimum of 90 job site hours. May be repeated for up to 6 credits. Required: Student Petition.

Required: Students are expected to work a minimum of 90 job site hours

Corequisites: CWE-281

**HOR-290 Special Topics in Horticulture**

1-3 credits, Winter

This course gives students an opportunity to gain knowledge in a specific area relevant to the field of horticulture, landscaping, arboriculture or organic farming. This topic will be pulled from a comprehensive list of areas identified by horticulture professionals as having importance for students pursuing work in the field. May be repeated for up to 6 credits.

Required: Student Petition.