

# ENVIRONMENTAL HORTICULTURE

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Not all courses are offered every semester. Refer to the schedule of courses for each term's specific offerings.

More Info (<https://one.ufl.edu/soc/>)

*Unless otherwise indicated in the course description, all courses at the University of Florida are taught in English, with the exception of specific foreign language courses.*

## Department Information

The Environmental Horticulture Department is a team of faculty, staff, and students dedicated to improving fruit and vegetable production for the benefit of farmers and consumers. Florida's climatic diversity and the facilities at UF provide opportunities for cutting-edge research in plant breeding & genetics, plant and environmental physiology, fruit & vegetable production, postharvest physiology, biochemistry, and other disciplines.

**Website** (<https://hort.ifas.ufl.edu/>)

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Map (<http://campusmap.ufl.edu/#/index/0717>)

### Curriculum

- Environmental Horticulture Management Certificate
- Environmental Horticulture Minor
- Horticultural Therapy Certificate

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## Courses

### BCH 3023 Elementary Organic and Biological Chemistry 3 Credits

**Grading Scheme:** Letter Grade

Elementary organic chemistry and biochemistry for students in the agricultural technical curricula. This is a terminal course and is not part of any sequence.

**Prerequisite:** CHM 2046 or CHM 2047.

### EVR 3323 Introduction to Ecosystem Restoration 4 Credits

**Grading Scheme:** Letter Grade

Restoration theory and planning, disturbed land reclamation, woodland/wetland/river restoration, invasive species, community involvement, and monitoring, and emphasizes plant selection, establishment and maintenance.

**Corequisite:** BOT 2010C or BSC 2010, or instructor permission.

### HOS 2002C Introductory Medicinal Plants 3 Credits

**Grading Scheme:** Letter Grade

Survey series of plants across the globe used in traditional and modern medicines to improve human health; learn about ethnobotany, several examples of plant-derived drugs and their metabolite classes at a basic level for non-experts along with underlying scientific evidence. Hands-on activities demonstrate medicinal properties of plant extracts and tours of medicinal plants around UF main campus and greenhouses to experience live plants.

### HOS 3305 Introduction to Plant Molecular Biology 3 Credits

**Grading Scheme:** Letter Grade

Introduces plant molecular biology and genetic engineering, emphasizing plant genes and genomes, transformation of plants and basic molecular biology.

**Prerequisite:** APB 2150 or BOT 2010C or BSC 2010.

### LDE 3410C Residential Landscape Design 3 Credits

**Grading Scheme:** Letter Grade

Basics of residential landscape design including preparation, evaluation and implementation of simple landscape plans. Emphasizes the use of ornamental plants for functional and aesthetic improvement of home environments. Expect to attend one or two Saturday field trips.

**Prerequisite:** ORH 3513C.

**LDE 4404C Advanced Residential Landscape Design 3 Credits**

**Grading Scheme:** Letter Grade

Sustainable landscape design concepts and practices to create regenerative and resilient residential landscapes that demonstrate advanced design skills and knowledge.

**Prerequisite:** LDE 3410C or LAA 2360C.

**ORH 1030 Plants, Gardening and You 1 Credit**

**Grading Scheme:** Letter Grade

A non-majors overview of environmental horticulture that emphasizes the art and science of growing, installing and maintaining plants used to enhance and improve the human environment indoors and outdoors. Gain familiarity with the science and the industries associated with environmental horticulture.

**ORH 1283 Survey of Orchids 1 Credit**

**Grading Scheme:** Letter Grade

Overview of the complexities of the orchid family, how selected genera are produced and the potential these plants offer to commercial nursery operators and hobbyists for profit or enjoyment.

**ORH 2752 Sensory Gardening 2 Credits**

**Grading Scheme:** Letter Grade

Hands-on, multidisciplinary approach to environmental horticulture delivered through the context of the human senses. Class activities, assignments, and projects enhance awareness and understanding of how horticulture relates to the natural and built world, as well as the ways in which people perceive those worlds.

**ORH 3222C Turfgrass Culture 4 Credits**

**Grading Scheme:** Letter Grade

Comparisons of turfgrass for their landscape and recreational uses. Covers growth characteristics, method of propagation, and basic management requirements, including control of important pest problems.

**Prerequisite:** (BOT 2010C or BSC 2010) and CHM 1025.

**ORH 3253C Introductory Nursery Management 4 Credits**

**Grading Scheme:** Letter Grade

Introduces the principles of planning, organizing and managing nursery operations. Emphasizes interactions between growing medium components, plant nutrition and irrigation. Nursery layout, growing structures, materials requirements and business practices are covered. Weekend field trips may be required.

**ORH 3324 Palm Short Course 1 Credit**

**Grading Scheme:** Letter Grade

Overview of how palm plants grow and how to diagnose and interpret problems with palm plants.

**Prerequisite:** BOT 2010C or instructor permission.

**ORH 3513 Environmental Plant Identification and Use 2 Credits**

**Grading Scheme:** Letter Grade

Identification, growth characteristics, culture and use of common landscape and greenhouse plants. Materials include trees, shrubs, vines, ground covers, lawn grasses and floriculture crops. Emphasizes temperate plants. Taught off campus.

**Corequisite:** ORH 3513L.

**ORH 3513C Environmental Plant Identification and Use 3 Credits**

**Grading Scheme:** Letter Grade

Combines lecture and laboratory for identification, growth characteristics, culture and use of common landscape and greenhouse plants. Materials include trees, shrubs, vines, ground covers, lawn grasses and floriculture crops. Emphasizes temperate plants. Taught on UF campus. (B)

**Attributes:** General Education - Biological Science

**ORH 3513L Environmental Plant Identification and Use Laboratory 1 Credit**

**Grading Scheme:** Letter Grade

Introductory, upper-division environmental laboratory course. Identify commonly used landscape plants, their use and their characteristics. Taught off campus.

**Corequisite:** ORH 3513.

**ORH 3773 Public Gardens 2 Credits**

**Grading Scheme:** Letter Grade

Operation and management of public gardens, including community and amusement parks, nature preserves, botanical gardens, arboreta, and zoological gardens. Explore issues relevant to principles and practices of management and psychological and sociological benefits of gardens and green spaces.

**Prerequisite:** ORH 3513C.

**ORH 3773L Public Gardens Laboratory 2 Credits****Grading Scheme:** Letter Grade

First-hand observation and evaluation of public gardens and parks to illustrate the management of such, as was discussed in ORH 3773. Consists of field trips to various botanical gardens, zoos and amusement parks.

**Corequisite:** ORH 3773.**ORH 3815C Florida Native Landscaping 3 Credits****Grading Scheme:** Letter Grade

An upper-division, environmental horticulture course designed to introduce students with a plant science background to the nomenclature, effective utilization and design elements of plants native to Florida.

**Prerequisite:** junior standing.**ORH 4223 Golf and Sports Turf Management 2 Credits****Grading Scheme:** Letter Grade

Strategies involved in golf course and athletic field operations, including development of management cultural practices, adherence to environment regulations, personnel management and budgeting. Students may be expected to attend Saturday field trips.

**Prerequisite:** ORH 3222C.**ORH 4236C Ornamental Landscape Management 3 Credits****Grading Scheme:** Letter Grade

Provide foundational knowledge and the skills needed to successfully manage and maintain residential and commercial landscapes. Additionally, provides students with a greater understanding of the landscape management industry and familiarizes students with sustainable landscape management techniques.

**Prerequisite:** ORH 3222C.**ORH 4242C Arboriculture 4 Credits****Grading Scheme:** Letter Grade

Introduces urban trees: biology, management requirements, design of urban spaces for trees, site modifications and construction techniques, tree selection, installation techniques, establishing trees in adverse sites, tree pruning and related tree management practices. A written tree management plan is required.

**Prerequisite:** ORH 3513C.**ORH 4256 Nutritional Management of Nursery Crops 3 Credits****Grading Scheme:** Letter Grade

Techniques for determining, interpreting and managing the nutritional status of container grown greenhouse and nursery crops. Includes water quality, substrate physical and chemical parameters, irrigation and fertilization practices.

**ORH 4264 Greenhouse and Nursery Crop Culture 3 Credits****Grading Scheme:** Letter Grade

Principles and practices used for commercial production of economically important environmental horticulture crops.

**ORH 4264L Greenhouse and Nursery Crop Culture Laboratory 1 Credit****Grading Scheme:** Letter Grade

Advanced hands-on laboratory growing a wide range of greenhouse plants through the application of crop cultural practices discussed in lecture.

**Prerequisite:** ORH 3513C;**Corequisite:** ORH 4264.**ORH 4280 Orchidology 3 Credits****Grading Scheme:** Letter Grade

Principles and practices involved in the production of orchid plants and flowers, including nomenclature, breeding, seed culture, harvesting and handling.

**Prerequisite:** BOT 2011C or BSC 2011.**ORH 4804 Annual and Perennial Gardening 2 Credits****Grading Scheme:** Letter Grade

Identification, selection, use and management of annuals, perennials, vines, ornamental grasses and ground covers in the landscape. Hands-on care for plants in the outdoor laboratory. Learn the irrigation, fertilization, pruning and cultural needs of these popular plants. Laboratory complements lecture.

**Prerequisite:** BOT 2010C or BSC 2010.**ORH 4804C Annual and Perennial Gardening 3 Credits****Grading Scheme:** Letter Grade

Identification, selection, use and management of annuals, perennials, vines, ornamental grasses and ground covers in the landscape. Hands-on care for plants in the outdoor laboratory. Learn the irrigation, fertilization, pruning and cultural needs of these popular plants. Laboratory complements lecture.

**Prerequisite:** Junior standing.

**ORH 4804L Annual and Perennial Gardening Laboratory 1 Credit**

**Grading Scheme:** Letter Grade

Taxonomy of ornamental landscape annuals and perennials. Site evaluation, diagnostics, preparation, installation and maintenance of the color portion of commercial and residential landscaping.

**Prerequisite:** BOT 2010C or BSC 2010;

**Corequisite:** ORH 4804.

**ORH 4848 Landscape Plant Establishment 2 Credits**

**Grading Scheme:** Letter Grade

Techniques for selecting and installing plants, building decks and patios, walls, trellises, landscape lighting, irrigation, water gardens and other landscape elements. Prepare balance sheets, bid specifications and contracts and perform landscape installations from completed landscape plants.

**ORH 4900 Supervised Extension Experience in Environmental Horticulture 0-3 Credits**

**Grading Scheme:** S/U

Firsthand, authentic extension experiences in agricultural and life sciences under the supervision of a faculty member. Projects may involve program planning, development, implementation, and evaluation.

**ORH 4905 Independent Study of Environmental Horticulture 1-5 Credits**

**Grading Scheme:** Letter Grade

Three topics for independent study: a research investigation and review of literature, drafting of proposal, conducting an experiment, collection of data, summation and interpretation of results and preparation of a report; a library or studio assignment, including analysis of several sources of information on a specific topic with a written evaluation and list of conclusions; or assist in teaching a laboratory of selected courses in environmental horticulture.

**ORH 4911 Supervised Research in Environmental Horticulture 0-3 Credits**

**Grading Scheme:** S/U

Firsthand, authentic research in environmental horticulture under the supervision of a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery or application.

**ORH 4915 Honors Thesis Research in Environmental Horticulture 0-3 Credits**

**Grading Scheme:** S/U

Independent research in environmental horticulture leading to an honors thesis. Student are mentored by a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery or application.

**Prerequisite:** junior standing, upper division GPA of 3.75 or higher and completed honors thesis proposal on file.

**ORH 4932 Special Topics in Environmental Horticulture 1-4 Credits**

**Grading Scheme:** Letter Grade

Topics of current interest concerning environmental plants.

**ORH 4933 Professional Seminar in Environmental Horticulture 1 Credit**

**Grading Scheme:** Letter Grade

A senior-level course for students seeking career opportunities in environmental horticulture. Special emphasis is placed on the expectations of and the relevant issues facing the landscape plant production, landscape management and turfgrass industries. Field trips and attendance at selected commercial trade shows are mandatory.

**Prerequisite:** AEC 3030C and AEC 3033C and ORH 3513C.

**ORH 4941 Practical Work Experience 1-3 Credits**

**Grading Scheme:** S/U

Practical work must be a new experience and related to student's field of study. A written and oral report is required.

**Prerequisite:** previous arrangement with advisor and department chair and dean permission.

**PLS 3080 Introduction to Horticultural Therapy 3 Credits**

**Grading Scheme:** Letter Grade

Examine the profession and practice of horticultural therapy including its history, current state, and relevant literature and theories. Explore people/plant relationships, therapeutic methods and benefits, and populations served, as well as being introduced to existing programs and the role of therapeutic gardens.

**Prerequisite:** Sophomore standing or higher.

**PLS 3223 Plant Propagation 2 Credits**

**Grading Scheme:** Letter Grade

Principles, practices and physiological aspects of the propagation of horticultural and agronomic crops by cuttage, graftage, seedage, micropropagation and other methods.

**Prerequisite:** BOT 2010C or BSC 2010;

**Corequisite:** PLS 3223L.

**PLS 3223L Plant Propagation Laboratory 1 Credit****Grading Scheme:** Letter Grade

Methods of propagating by seeds, bulbs, divisions, layering, cuttings, budding, grafting and micropropagation in a hands-on environment.

**Prerequisite:** BOT 2010C or BSC 2010.**PLS 4081 Techniques in Horticultural Therapy 3 Credits****Grading Scheme:** Letter Grade

Examine the effectiveness of horticultural therapy across a diverse range of client populations, programs, and environments, and the physical, cognitive, and psychosocial implications. Explore therapeutic, vocational, and social modalities employing plants, as well as task analysis, activity analysis and tool and site adaptations.

**Prerequisite:** PLS 3080 with a minimum grade of C.**PLS 4082 Program Management in Horticultural Therapy 3 Credits****Grading Scheme:** Letter Grade

Learn to develop, manage, and evaluate horticultural therapy programs in diverse environments. Explore strategies for program proposals and funding, along with recruitment of clients and required regulations and documentation. Discuss staff and volunteer management, as well as plant materials, gardens, and other program resources.

**Prerequisite:** PLS 3080 and PLS 4081 with minimum grades of C.**PLS 4105 Genome Editing and Plant Biotechnology 3 Credits****Grading Scheme:** Letter Grade

Plant biotechnology is one of the most prolific and influential areas of the plant sciences. This upper level undergraduate course will be focused on modern biotechnological tools and applications that have resulted in great advances for agriculture and society.

**Prerequisite:** PLS 3004C and AGR 3303.**PLS 4242C Micropropagation of Horticultural Crops 4 Credits****Grading Scheme:** Letter Grade

Lectures and laboratory exercises emphasizing the practical application of plant tissue culture for the clonal propagation of horticultural crops. Emphasis on aseptic technique, culture methodology and micropropagation systems development.

**Prerequisite:** ORH 3513C recommended.**PLS 4941 Practical Work Experience 1-3 Credits****Grading Scheme:** S/U

Practical, hands-on experience in the plant sciences through a paid internship in the industry. This must be a new experience and related to the student's field of study. One month of full-time work is required for each credit.

**Prerequisite:** Plant Science major of junior standing or higher.**PLS 4950 Plant Science Capstone 3 Credits****Grading Scheme:** Letter Grade

Identify a problem or topic in plant sciences and develop a poster presentation about this problem or topic. This course discusses the following topics: how to develop a hypothesis, how to complete a reliable literature review, the importance of peer review and how to present results and findings.

**Prerequisite:** PLS 3004C and PLS 4941 One year of employment experience in plant science may be substituted for PLS 4941 with instructor permission.