

# ENVIRONMENTAL HORTICULTURE

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Environmental horticulture is the art and science of cultivating plants to improve human health, quality of life and the environment. It is a division of the broader field of horticulture involving the production and sales of greenhouse, florist and nursery plants as well as the design and management of landscapes, athletic fields, and interior spaces for public and private use.

## MISSION STATEMENT

The environmental horticulture program prepares graduates that value and use creative and critical thinking, are effective communicators and act as responsible, ethical and competent horticulturists. This is achieved by combining a solid liberal arts education with professional curricular and educational opportunities aimed at combining the important theoretical and practical aspects of the horticultural and biological sciences with the managerial skills necessary for preparing students for a successful career in environmental horticulture.

## LEARNING OUTCOMES AND GOALS

Students in the Environmental Horticulture program will:

1. Acquire, integrate, and apply knowledge of plant science to managed systems. Students will achieve this learning outcome through completion of the four educational goals below.
  - Use multiple sources, including current and historical literature, to find, evaluate, organize, and manage information related to horticultural systems
  - Apply scientific methods to test hypotheses
  - Demonstrate competence with both laboratory and field-based technologies used in modern horticulture
  - Apply concepts of plant biology, systematics, ecology, and genetics to manage and improve plants and their products
2. Demonstrate interdisciplinary knowledge and competency in managing horticultural systems. Students will achieve this outcome through completion of the five educational goals below.
  - Assess soils, soil health, fertility, water, and site limitations
  - Recommend and use appropriate application methods, materials, and diagnostic skills for addressing soil constraints and irrigation, nutrient, stress, and pest management issues
  - Assess potential and evaluate realized interactions with the abiotic and biotic environment in which plants are grown
  - Recommend appropriate, effective and integrated approaches to produce and maintain high-quality food and ornamental crops
  - Apply principles of accounting, business law, labor marketing and personnel management to a horticultural business and contribute to developing the various components of a business plan
3. Synthesize knowledge and use insight and creativity to better understand and improve plant systems. Students will accomplish this outcome by completing the following educational goals.
  - Anticipate and recognize problems, identify causes of those problems, quantify potential impacts, analyze options, identify viable solutions to the problems, and evaluate actions and consequences of treatments and interventions
  - Develop, identify, and employ best management practices that lead to sustainable solutions and outcomes
  - Understand how global issues including climate change, energy use, water availability, and/or food safety impact the sustainability of horticultural systems locally, nationally, and globally
4. Appreciate and communicate the diverse impacts of horticulture on people. Students will accomplish this outcome by completing the following educational goals.
  - Communicate effectively with various audiences using oral, written, and visual presentation skills, and contemporary networking technologies
  - Describe the various ways plants impact human well-being (mental; psychological and restorative; physical; medicinal and physiological)
  - Describe and assess the influence of plants and their management on environmental sustainability and restoration
  - Quantify the economic importance of plants in managed ecosystems and the impact of horticultural crops in food systems
  - Describe the social, spiritual, and cultural importance of plants to historical and contemporary communities of people
5. Demonstrate professionalism and proficiency in skills that relate to horticulture. Students will accomplish this learning outcome by achieving the following educational goals.
  - Demonstrate leadership and the ability to collaborate and work in teams
  - Demonstrate a high level of personal and social responsibility
  - Develop a plan for life-long learning as it relates to career choice and professionalism
  - Develop thoughtful, clear, and consistent perspectives on ethical and moral issues related to horticulture

- Demonstrate knowledge of a range of cultures, values, and political perspectives relevant for living and a global community
- Plan, engage, and learn from actions that demonstrate civic responsibility to community and society

Environmental horticulture is a 36-credit major. Students must also choose a 24-credit emphasis offered through the environmental horticulture major, a 24-credit minor, or a second major. Emphasis areas associated directly with the Environmental horticulture major include greenhouse and garden center management, plant breeding and genetics, international and professional landscape management.

Experiential learning is an important part of environmental horticulture course work. For this reason, students are required to complete a three-credit internship before graduation. Internships are available throughout the year at numerous locations across the United States. Students are also encouraged to participate in faculty-supervised research projects. Such projects may be in an area of environmental horticulture or plant biotechnology. Both internships and faculty-supervised research study projects provide students excellent practical experience while earning college credits.

Students that complete the program qualify for jobs in landscape horticulture, turf management, nursery and garden center operations, bedding plant production, greenhouse management, retail floral shops, seed production, or education and research. High school students should prepare for the environmental horticulture major by completing courses in math, science and plant science. Two or more years of Spanish is highly recommended. Summer jobs with a greenhouse, nursery or landscaping firm are beneficial.

## MAJOR

- Environmental Horticulture Major, B.S. (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/agriculture/environmental-horticulture/bs/>)
  - Greenhouse and Garden Center Management Emphasis
  - Professional Landscape Management Emphasis
  - Plant Breeding and Genetics Emphasis
  - International Emphasis

## FOUR-YEAR PLAN

- Environmental Horticulture Major, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/agriculture/environmental-horticulture/bs/four-year-plan/>)