**Horticultural Sciences**

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

More Info [here](http://registrar.ufl.edu/soc)

Courses at the University of Florida, with the exception of specific foreign language courses and courses in the online Master of Arts in Mass Communication program, are taught in English.

**Department Information**

The Horticultural Sciences 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 [here](https://hos.ifas.ufl.edu)

**Contact**

Email curtisr@ufl.edu | 352.392.1928

P.O. Box 110690
2550 Hull Road
FIFIELD HALL
GAINESVILLE FL 32611-0690

Map [here](http://campusmap.ufl.edu/#/index/0717)

**Curriculum**

- Combination Degrees
- Horticultural Science
- Horticultural Science Minor
- Organic and Sustainable Crop Production Minor
- Plant Molecular and Cellular Biology Minor

**Courses**

**FRC 1010** Growing Fruit for Fun and Profit 1 Credit

**Grading Scheme:** Letter Grade

Especially for non-majors who desire a concise mini-course in fruit growing and marketing. Fruit crops include citrus, pecan, blueberry, strawberry, peach, grape, apple, mango and avocado.

**FRC 3212** Introduction to Citrus Culture and Production 3 Credits

**Grading Scheme:** Letter Grade

Citrus botany, scion and rootstock selection, site selection, fruit quality, grove design and production practices.

**FRC 3252** Tropical and Subtropical Fruits 2 Credits

**Grading Scheme:** Letter Grade

Culture and management of important tropical and subtropical fruit, including avocado, banana, mango, papaya, loquat, persimmon, pineapple, coffee and others.

**FRC 3274** Tree and Small Fruit Production 3 Credits

**Grading Scheme:** Letter Grade

Current principles and cultural practices in deciduous tree, bush and vine crops. Emphasizes practical aspects of production.

**FRC 3802** Viticulture for Table Grapes and Wine 2 Credits

**Grading Scheme:** Letter Grade

Teaches current practices for establishing a vineyard and maintaining its health and productivity into the final quality of the grape. Topics covered include grape varietal selection, site selection and preparation, vine growth, training and trellis systems, and equipment used in vineyard and wine production.

**Prerequisite:** BSC 2005 or BOT 2010C or BOT 2011C.

**HOS 1014** Vegetable Gardening 1 Credit

**Grading Scheme:** Letter Grade

Primarily for non-majors who desire to learn the basic principles of vegetable gardening. A garden is required of each student.

**HOS 3020C** Principles of Horticultural Crop Production 4 Credits

**Grading Scheme:** Letter Grade

This course introduces students to concepts and practices used to produce fruit and vegetable crops in Florida, the U.S., and globally. Topics covered include production regions, crop biology, crop nutrition, types of fruits and vegetables, disease and pest management, and marketing. This course includes a hands-on practicum.

**Prerequisite:** BOT 2010C or equivalent.

**HOS 3222C** Greenhouse and Protected Agriculture 3 Credits

**Grading Scheme:** Letter Grade

Principles and practices of crop production in protected structures. Emphasizes structure type, media, fertilization and pest control practices.

**HOS 3281C** Organic and Sustainable Crop Production 3 Credits

**Grading Scheme:** Letter Grade

Emphasizes organic agriculture production systems, including soil/water management, pest control, harvest, handling and marketing.

**HOS 3285** The Organic Debate: Organic Agriculture Development & Regulations 1 Credit

**Grading Scheme:** Letter Grade

Explains organic agriculture as a rapidly developing production system. This introductory course provides a critical analysis of organic agriculture growth, consumer perceptions, and regulations at the national and international level. This course also focuses on organic agriculture transdisciplinary innovations and challenges in advancing environmental, economic, and social sustainability of food production.

**Prerequisite:** BSC 2005 or equivalent.

**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.

**HOS 3430C** Nutrition of Horticultural Crops 3 Credits

**Grading Scheme:** Letter Grade

Study and discussion of physiological, biochemical and environmental factors influencing nutritional status and productivity of horticultural crops.

**HOS 4241C** Genetics and Breeding of Vegetable Crops 3 Credits

**Grading Scheme:** Letter Grade

Traditional and molecular breeding methods for vegetable crops and the influence of scientific research, government policies, industry needs, and consumer preferences on vegetable crop improvement.

**Prerequisite:** AGR 3303.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite(s)</th>
<th>Grading Scheme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOS 4283C</td>
<td>Advanced Organic and Sustainable Crop Production</td>
<td>3</td>
<td></td>
<td>Letter Grade</td>
<td>Intensive examination of the methods and techniques necessary for organic and sustainable production and marketing of horticultural products. Prerequisite: HOS 3281C.</td>
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<tr>
<td>HOS 4304</td>
<td>Horticultural Physiology</td>
<td>3</td>
<td>HOS 3020C or ALS 3153.</td>
<td>Letter Grade</td>
<td>Basic concepts and processes of physiology as they relate to plant growth and development.</td>
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<tr>
<td>HOS 4313C</td>
<td>Laboratory Methods in Plant Molecular Biology</td>
<td>2</td>
<td>HOS 3020C or PLS 3004C.</td>
<td>Letter Grade</td>
<td>Hands-on laboratory experience in plant molecular biology. Utilizing current techniques for isolation, purification and cloning of plant DNA, students learn many basic techniques in plant biotechnology. Prerequisite: (AGR 3303 or HOS 3305) and PCB 3063.</td>
</tr>
<tr>
<td>HOS 4332C</td>
<td>Principles of Postharvest Horticulture</td>
<td>3</td>
<td>HOS 4304.</td>
<td>Letter Grade</td>
<td>Biological principles involved in harvesting, grading, packaging, transportation, and marketing horticultural crops, and their effects on quality maintenance. Commercial postharvest practices explained. Prerequisite: HOS 4304.</td>
</tr>
<tr>
<td>HOS 4900</td>
<td>Supervised Extension Experience in Horticulture</td>
<td>0-3</td>
<td>HOS 4304.</td>
<td>S/U</td>
<td>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. (S-U)</td>
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<tr>
<td>HOS 4905</td>
<td>Independent Study in Horticultural Science</td>
<td>1-6</td>
<td>HOS 4918.</td>
<td>Letter Grade</td>
<td>Selected research topics in molecular biology, physiology and/or genetics of horticultural crops.</td>
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<tr>
<td>HOS 4911</td>
<td>Supervised Research in Horticultural Sciences</td>
<td>0-3</td>
<td>HOS 4918.</td>
<td>S/U</td>
<td>Firsthand, authentic research in horticultural sciences under the supervision of a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery or application. (S-U)</td>
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<tr>
<td>HOS 4915</td>
<td>Honors Thesis Research in Horticultural Sciences</td>
<td>0-3</td>
<td>HOS 4918.</td>
<td>S/U</td>
<td>Independent research in horticultural sciences leading to an honors thesis. Student will be mentored by a faculty member. Projects may involve inquiry, design, investigation, scholarship, discovery or application. (S-U)</td>
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<tr>
<td>HOS 4918</td>
<td>Capstone Planning in Horticultural Sciences</td>
<td>1</td>
<td>HOS 4918.</td>
<td>S/U</td>
<td>Focuses on planning service learning, scientific research, cooperative extension, or industry liaison projects for the Horticultural Sciences capstone. Also fosters reflection of academic and professional development in the major. Prerequisite: HOS 4933.</td>
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<tr>
<td>HOS 4921</td>
<td>Horticultural Sciences Capstone</td>
<td>2-4</td>
<td>HOS 4918.</td>
<td>S/U</td>
<td>Focuses on executing service learning, scientific research, cooperative extension, or industry liaison projects designed during capstone planning. Perfect professional portfolios and present the outcomes of the capstone project. Prerequisite: HOS 4918.</td>
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<tr>
<td>HOS 4932</td>
<td>Special Topics in Horticultural Sciences</td>
<td>1-3</td>
<td>HOS 4918.</td>
<td>Letter Grade</td>
<td>Critical review of selected topics in specific areas not covered in other horticultural sciences courses. Prerequisite: instructor permission.</td>
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<tr>
<td>HOS 4941</td>
<td>Practical Work Experience in Horticultural Sciences</td>
<td>1-4</td>
<td>HOS 4918.</td>
<td>S/U</td>
<td>Practical work that must be a new experience and related to the field of study. (S-U) Prerequisite: advisor arrangement and permission.</td>
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<tr>
<td>PLS 3421C</td>
<td>Hydroponic Systems</td>
<td>3</td>
<td>HOS 4918.</td>
<td>Letter Grade</td>
<td>This course offers students foundational information and hands-on experience on hydroponic and soilless cultivation of horticultural crops. Production practices, growing systems, new technologies and current challenges are discussed. Prerequisite: HOS 3020C or PLS 3004C.</td>
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<tr>
<td>VEC 2100</td>
<td>World Herbs and Vegetables</td>
<td>3</td>
<td>HOS 3020C or PLS 3004C.</td>
<td>Letter Grade</td>
<td>Introduces a variety of vegetables and culinary herbs. Emphasizes genetic, phytochemical and botanical diversity and importance of food phytochemicals and role of vegetables in nutrition. (B) Attributes: General Education - Biological Science</td>
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<tr>
<td>VEC 3221C</td>
<td>Vegetable Production</td>
<td>4</td>
<td>HOS 3020C or PLS 3004C.</td>
<td>Letter Grade</td>
<td>Principles and practices of successful commercial vegetable production, including crop requirements, growth patterns and production techniques along with consumption/marketing patterns and U.S./Florida production areas.</td>
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<tr>
<td>WDS 4001</td>
<td>Organic Weed Management</td>
<td>3</td>
<td>HOS 3020C or ALS 3153.</td>
<td>Letter Grade</td>
<td>Apply ecological principles in agroecosystems to manage weeds sustainably. Emphasizes alternative weed management approaches that are less dependent on herbicides and utilize ecological processes detrimental to weeds and their propagules. Learn actively by critically analyzing pertinent literature and participating in discussions of supplemental reading. Prerequisite: HOS 4918.</td>
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