Horticultural Science graduates have a foundation of knowledge in the science behind fruit and vegetable production, including commodity production, cropping systems, basic plant science, and molecular biology. Horticultural Science students study genetics, crop nutrition, plant physiology, chemistry, physics, entomology and nematology, and soil and water sciences.

About this Program
- **College:** Agricultural and Life Sciences (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL)
- **Degree:** Bachelor in Science
- **Specializations:** Horticultural Production (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/HOS_BS/HOS_BS05) | Horticultural Science (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/HOS_BS/HOS_BS02) | Organic Crop Production (p. 1) | Plant Molecular and Cellular Biology (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/HOS_BS/HOS_BS04)
- **Credits for Degree:** 120
- **Additional Information**
- **Related Horticultural Science Programs**

To graduate with this major, students must complete all university, college, and major requirements.

The department offers four specializations: horticultural sciences, horticultural production, organic crop production, and plant molecular and cellular biology. These options provide a strong science background and flexibility when choosing elective courses. An academic advisor will help develop the curriculum that best suits your career and educational goals.

Related Horticultural Science Programs
- Combined Degree (http://catalog.ufl.edu/UGRD/academic-programs/combined-degrees)
- Horticultural Science minor (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/HOS_UMN)

Organic Crop Production
This specialization emphasizes the cultural practices that maintain ecological and economical balance in horticultural crop production systems. This is a flexible option with many electives available to meet education and career objectives. Graduates will be prepared for a range of careers related to conventional, sustainable and organic crop production.

Critical Tracking

*Note that critical tracking is the same for all specializations of this major except Plant Molecular and Cellular Biology.*

Critical Tracking records each student’s progress in courses that are required for entry to each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites (http://www.flvc.org/cpp/displayRecord.jsp?cip=011103&track=01) may be used for transfer students.

### Semester One
- Complete 1 of 5 critical-tracking courses, excluding labs: BOT 2010C or BSC 2010/BSC 2010L, BOT 2011C or BSC 2011/BSC 2011L, CHM 2045/CHM 2045L, MAC 1147, PHY 2004 or PHY 2020
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

### Semester Two
- Complete 1 additional critical-tracking course, excluding labs
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

### Semester Three
- Complete 1 additional critical-tracking course, excluding labs
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

### Semester Four
- Complete 2 additional critical-tracking courses, excluding labs
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

### Semester Five
- Complete all critical-tracking courses, including labs
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

#### Model Semester Plan
To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

*This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student’s academic record and scheduling availability of courses. Prerequisites still apply.*

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDS 1161</td>
<td>What is the Good Life (Gen Ed Humanities)</td>
<td>3</td>
</tr>
<tr>
<td>MAC 1147</td>
<td>Precalculus Algebra and Trigonometry (Critical Tracking; State Core Gen Ed Mathematics)</td>
<td>4</td>
</tr>
<tr>
<td>State Core Gen Ed Composition (<a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a>); Writing Requirement</td>
<td></td>
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<tr>
<td>State Core Gen Ed Social and Behavioral Sciences (<a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a>)</td>
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<td>3</td>
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<tr>
<td>Elective</td>
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<td>2</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td><strong>15</strong></td>
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</tbody>
</table>

**Semester Two**
Select one:
- AEB 2014 | Economic Issues, Food and You (Gen Ed Social and Behavioral Sciences) | 3-4
**Horticultural Science | Organic Crop Production**

**ECO 2013**  
Principles of Macroeconomics (Gen Ed Social and Behavioral Sciences)

**ECO 2023**  
Principles of Microeconomics (Gen Ed Social and Behavioral Sciences)

**CHM 2045 & 2045L**  
General Chemistry I and General Chemistry I Laboratory (Critical Tracking; State Core Gen Ed Biological Sciences and Physical Sciences)

State Core Gen Ed Humanities (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursetext) 3

**Semester Three**

**AEC 3033C**  
Research and Business Writing in Agricultural and Life Sciences (Writing Requirement) 3

Select one: 3-4

**AEC 3033C**  
Research and Business Writing in Agricultural and Life Sciences (Writing Requirement) 3

**BOT 2010C**  
Introductory Botany (Critical Tracking; Gen Ed Biological Sciences and Physical Sciences) 3

**BSC 2010 & 2010L**  
Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (Critical Tracking; Gen Ed Biological Sciences and Physical Sciences) 3

Gen Ed Composition: Writing Requirement 3

Electives 4

Gen Ed Mathematics 2

**Semester Four**

**AEC 3030C**  
Effective Oral Communication 3

Select one: 4

**BOT 2011C**  
Plant Diversity (Critical Tracking; Gen Ed Biological Sciences) 4

**BSC 2011 & 2011L**  
Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (Critical Tracking; Gen Ed Biological Sciences) 3

Select one: 3

**PHY 2004**  
Applied Physics 1 (Critical Tracking; Gen Ed Physical Sciences) 3

**PHY 2020**  
Introduction to Principles of Physics (Critical Tracking; Gen Ed Physical Sciences) 3

Electives 5

**Semester Five**

**ENY 3005 & 3005L**  
Principles of Entomology and Principles of Entomology Laboratory 3

**HOS 3020C**  
Principles of Horticulture Crop Production 4

**PLP 3002C**  
Fundamentals of Plant Pathology 4

Commodity electives or approved electives 5

**Semester Six**

**AGR 3303**  
Genetics 3

**AGR 4212**  
Alternative Cropping Systems 3

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

Commodity electives or approved electives 6

**Semester Seven**

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

**HOS 4304**  
Horticultural Physiology 3

**SWS 3022 & 3022L**  
Introduction to Soils in the Environment and Introduction to Soils in the Environment Laboratory 4

Commodity elective or approved elective 3

Practical work experience 1-3

**Semester Eight**

**HOS 4283C**  
Advanced Organic and Sustainable Crop Production 3

**HOS 4341**  
Advanced Horticultural Physiology 3

**HOS 4393**  
Professional Development in Horticulture 1

Commodity electives or approved electives 5-6

Select one pest management course: 3

**HOS 4932**  
Special Topics in Horticultural Sciences (Organic Weed Management; spring semester even years) 3

**PLS 4601C**  
Principles of Weed Science (fall semester) 15-16

Total Credits 120

**Approved Electives**

**Commodity Electives | Select 19-20 Credits**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FRC 3212</td>
<td>Introduction to Citrus Culture and Production</td>
<td>3</td>
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<tr>
<td>FRC 3252</td>
<td>Tropical and Subtropical Fruits (fall semester odd years)</td>
<td>2</td>
</tr>
<tr>
<td>FRC 3274</td>
<td>Tree and Small Fruit Production (fall semester, odd years)</td>
<td>3</td>
</tr>
<tr>
<td>HOS 3222C</td>
<td>Greenhouse and Protected Agriculture</td>
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<tr>
<td>VEC 3221C</td>
<td>Vegetable Production (fall semester)</td>
<td>4</td>
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</table>

For other approved electives, see advisor

**Practical Work Experience | Select One**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>HOS 4905</td>
<td>Independent Study in Horticultural Science</td>
<td>1-6</td>
</tr>
<tr>
<td>HOS 4941</td>
<td>Practical Work Experience in Horticultural Sciences</td>
<td>1-4</td>
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</tbody>
</table>

Other practical work experience course options, such as relevant study abroad experiences, may be approved by the advisor

**Academic Learning Compact**

The horticultural science major prepares students for a career in plant science, including management, production, research, marketing and sales. Students will gain knowledge ranging from commodity production and cropping systems to basic plant science and molecular biology. They will develop skills to describe how plant physiology and genetics relate to plant growth and development as well as developing knowledge of plant diseases and other factors that affect horticultural crops.

**Before Graduating Students Must**

- Pass the horticultural sciences competency test, given in three parts.
  
  One part will be given in each of these required courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HOS 3020C</td>
<td>Principles of Horticulture Crop Production</td>
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<tr>
<td>HOS 4304</td>
<td>Horticultural Physiology</td>
<td>3</td>
</tr>
<tr>
<td>HOS 4341</td>
<td>Advanced Horticultural Physiology</td>
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</table>

- Achieve minimum grades of C in AEC 3030C and AEC 3033C. These courses are graded using rubrics developed by a faculty team.
• Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to

Student Learning Outcomes (SLOs)

Content
1. Describe fundamental concepts, skills and processes in horticultural science.

2. Apply fundamental concepts, skills and processes in horticultural science.

Critical Thinking
3. Critically analyze and interpret data in horticultural science.

4. Solve problems in horticultural science.

Communication
5. Communicate effectively in written form in a manner appropriate in the field of horticultural science.

6. Communicate effectively orally in a manner appropriate in the field of horticultural science.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

<table>
<thead>
<tr>
<th>Courses</th>
<th>SLO 1</th>
<th>SLO 2</th>
<th>SLO 3</th>
<th>SLO 4</th>
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</table>

Assessment Types

• Class project
• Writing assignments
• Exams
• Final grades