HORTICULTURAL SCIENCE | HORTICULTURAL PRODUCTION

This major prepares students for careers in plant science, including management, production, applied research, molecular biology research, marketing, sales and a number of other areas. Students can receive training ranging from commodity production/cropping systems to basic plant science/molecular biology.

About this Program

- **College:** Agricultural and Life Sciences
- **Degree:** Bachelor in Science
- **Credits for Degree:** 120
- **Specializations:** Horticultural Production | Horticultural Science | Organic Crop Production | Plant Molecular and Cellular Biology
- **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. Details of the specializations are outlined below. An academic advisor will help develop the curriculum that best suits your career and educational goals.

Related Horticultural Science Programs

- Combined Degree
- Horticultural Science minor

Horticultural Production

This is a comprehensive program for students planning careers in any phase of the fruit and/or vegetable industry. This specialization emphasizes crop production and management. Career options include production management, agricultural sales, marketing, technical representation and many other opportunities.

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 may be used for transfer students.

Semester 1

- 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 2

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

Semester 3

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

Semester 4

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

Semester 5

- 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>
<th>Semester One</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IUF 1000</td>
<td>What is the Good Life (Gen Ed Humanities)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAC 1147</td>
<td>Precalculus Algebra and Trigonometry (Critical Tracking; State Core Gen Ed Mathematics)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Core Gen Ed Composition; Writing Requirement</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Core Gen Ed Social and Behavioral Sciences</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Credits</td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Semester Two</th>
<th>Select one:</th>
<th>3-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEB 2014</td>
<td>Economic Issues, Food and You (Gen Ed Social and Behavioral Sciences)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 2013</td>
<td>Principles of Macroeconomics (Gen Ed Social and Behavioral Sciences)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO 2023</td>
<td>Principles of Microeconomics (Gen Ed Social and Behavioral Sciences)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHM 2045</td>
<td>General Chemistry 1 and General Chemistry 1 Laboratory (Critical Tracking; State Core Gen Ed Biological Sciences and Physical Sciences)</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Core Gen Ed Humanities</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Credits</td>
<td>15-16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Semester Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEC 3033C</td>
<td>Research and Business Writing in Agricultural and Life Sciences (Writing Requirement)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Select one: 3-4

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

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

Gen Ed Composition; Writing Requirement 3
Gen Ed Mathematics 2
Electives 4

Semester Four Credits 15-16
AEC 3030C Effective Oral Communication 3
Select one: 4

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

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

Select one: 3

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

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

Electives Credits 5

Semester Five Credits 14
HOS 3020 Principles of Horticulture Crop Production 3
PLP 3002C Fundamentals of Plant Pathology 4
PLS 4601C Principles of Weed Science 3
Approved electives 4

Semester Six Credits 16
ENY 3005 Principles of Entomology 3
& 3005L Principles of Entomology Laboratory 3
HOS 4341C Nutrition of Horticultural Crops 3
HOS 4933 Professional Development in Horticulture 3
Approved electives 6
Commodity elective 2

Semester Seven Credits 14
AGR 3303 Genetics 3
HOS 4304 Horticultural Physiology 3
Commodity electives 2
Select 1-3 credits from practical work experiences: 1

HOS 4905 Independent Study in Horticultural Science 3
HOS 4941 Practical Work Experience in Horticultural Sciences 3

Semester Eight Credits 14-16
HOS 4341 Advanced Horticultural Physiology 3
SWS 3022 Introduction to Soils in the Environment and Introduction to Soils in the Environment Laboratory 4
Approved electives 6
PLS 3223 Plant Propagation and Plant Propagation Laboratory 3

Credits 16

Total Credits 120

1 Other practical work experience course options, such as relevant study abroad experiences, may be approved by the advisor.
2 Any FRC, VEC, or HOS course, 3000 level or above.

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:
  Code  Title  Credits
  HOS 3020 Principles of Horticulture Crop Production 3
  HOS 4304 Horticultural Physiology 3
  HOS 4341 Advanced Horticultural Physiology 3

• 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>
<th>SLO 5</th>
<th>SLO 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEC 3030C</td>
<td>I, R, A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEC 3033C</td>
<td>I, R, A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGR 3303 I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOS 3020 I, R, A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOS 4340 R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HOS 4343</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEC 3030C</td>
<td></td>
</tr>
<tr>
<td>AEC 3033C</td>
<td></td>
</tr>
<tr>
<td>AGR 3303 I</td>
<td></td>
</tr>
<tr>
<td>HOS 3020 I, R, A</td>
<td></td>
</tr>
<tr>
<td>HOS 4340 R</td>
<td></td>
</tr>
<tr>
<td>HOS 4343</td>
<td>R</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 2010 &amp; 2010L</td>
<td>Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1</td>
<td></td>
</tr>
<tr>
<td>ENY 3005 &amp; 3005L</td>
<td>Principles of Entomology and Principles of Entomology Laboratory</td>
<td></td>
</tr>
<tr>
<td>HOS 3430C</td>
<td>Nutrition of Horticultural Crops</td>
<td></td>
</tr>
<tr>
<td>HOS 4341C</td>
<td>Professional Development in Horticulture</td>
<td></td>
</tr>
<tr>
<td>PHY 2004</td>
<td>Applied Physics 1</td>
<td></td>
</tr>
<tr>
<td>PHY 2020</td>
<td>Introduction to Principles of Physics</td>
<td></td>
</tr>
<tr>
<td>PLS 3223 &amp; 3223L</td>
<td>Plant Propagation and Plant Propagation Laboratory</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-3</td>
</tr>
</tbody>
</table>
Assessment Types

- Class project
- Writing assignments
- Exams
- Final grades