PLANT SCIENCE | TURFGRASS SCIENCE

Plant science is a diverse major offered collaboratively by the departments of Agronomy, Entomology and Nematology, Environmental Horticulture, Plant Pathology, and Soil and Water Sciences. Students may earn B.S. or B.A. degrees, depending on their specialization. B.S. specializations include Native Plant Conservation, General Plant Science, Greenhouse and Landscape Industries, Plant Breeding and Genetics, Plant Health and Protection, Soil Management and Plant Productivity, Sustainable Crop Production and Turfgrass Science. The B.A. specialization is Community Food Systems.

About this Program

- **College:** Agricultural and Life Sciences
- **Degrees:** Bachelor of Arts | Bachelor of Science
- **Credits for Degree:** 120
- **Specializations:** Community Food Systems | General Plant Science | Greenhouse and Landscape Industries | Native Plant Conservation | Plant Breeding and Genetics | Plant Health and Protection | Soil Management and Plant Productivity | Sustainable Crop Production | Turfgrass Science
- **Additional Information**
- **Related Plant Science Programs**

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

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 2 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; ECO 2013; MAC 1147
- 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 2 additional critical-tracking courses, excluding labs
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 4

- Complete all critical-tracking course, 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

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>
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</thead>
<tbody>
<tr>
<td>BOT 2010C</td>
<td>Introductory Botany (Critical Tracking; State Core Gen Ed Biological Sciences and Physical Sciences)</td>
<td>3-4</td>
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<tr>
<td>BSC 2010 &amp; 2010L</td>
<td>Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (Critical Tracking; State Core Gen Ed Biological Sciences and Physical Sciences)</td>
<td>3-4</td>
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<tr>
<td>ENC 1101</td>
<td>Expository and Argumentative Writing (State Core Gen Ed Composition; Writing Requirement: 6,000 words)</td>
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<tr>
<td>MAC 1147</td>
<td>Precalculus Algebra and Trigonometry (Critical Tracking; State Core Gen Ed Mathematics)</td>
<td>3</td>
</tr>
<tr>
<td>MUL 2010</td>
<td>Experiencing Music (State Core Gen Ed Humanities and International)</td>
<td>3</td>
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<tr>
<td>AEC 3030C or SPC 2608</td>
<td>Effective Oral Communication or Introduction to Public Speaking</td>
<td>3</td>
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<tr>
<td>AMH 2020</td>
<td>United States since 1877 (Gen Ed Social and Behavioral Sciences and Diversity)</td>
<td>3</td>
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</tbody>
</table>
CHM 2045  General Chemistry 1  4
& 2045L  and General Chemistry 1 Laboratory (Critical Tracking: State Core Gen Ed Biological and Physical Sciences)

ECO 2013  Principles of Macroeconomics (Critical Tracking: State Core Gen Ed Social and Behavioral Sciences)  4

Semester Four
ALS 3133  Agricultural and Environmental Quality  3
PHY 2004  Applied Physics 1  4
& 2004L  and Laboratory for Applied Physics 1 (Gen Ed Biological and Physical Sciences)
SWS 3022  Introduction to Soils in the Environment  4
& 3022L  and Introduction to Soils in the Environment Laboratory (Gen Ed Biological and Physical Sciences)

Agribusiness elective  3

Summer After Semester Four
Select one:
ENY 3005  Principles of Entomology  3
& 3005L  and Principles of Entomology Laboratory (Gen Ed Biological and Physical Sciences)
ENY 3510C  Turf and Ornamental Entomology  3

Elective (Writing Requirement: 6,000 words)  3

Semester Five
BCH 3023  Elementary Organic and Biological Chemistry  3
ORH 3222C  Turfgrass Culture  4
ORH 3513C  Environmental Plant Identification and Use  3
PLS 3004C  Principles of Plant Science  3

Agribusiness elective  3

Semester Six
AGR 4512  Physiology and Ecology of Crops  3
or HOS 4304  or Horticultural Physiology
ORH 4223  Golf and Sports Turf Management  2
ORH 4236C  Ornamental Landscape Management  3
SWS 4116  Environmental Nutrient Management  3

Agribusiness elective  3

Summer After Semester Six
PLS 4941  Practical Work Experience  3

Semester Seven
AEB 4126  Agricultural and Natural Resource Ethics (Gen Ed Humanities or Social and Behavioral Sciences; Writing Requirement: 6,000 words)  3
PLP 3002C  Fundamentals of Plant Pathology  4
PLS 3223  Plant Propagation  3
& 3223L  and Plant Propagation Laboratory
PLS 4601C  Principles of Weed Science  3

Agribusiness elective  3

Semester Eight
ORH 4933  Professional Seminar in Environmental Horticulture  1
PLS 4950  Plant Science Capstone  3
Pest Management electives  6

Approved electives  4

Credits  14

Total Credits  120

Approved Electives: Minimum 19 Credits
Students must consult with their advisor for assistance in selecting the designated listed electives in order to take applicable and appropriate courses for the students’ job and career aspirations. Consult an advisor for other options, which may include study abroad courses.

Pest Management: Minimum 6 Credits
Code  Title  Credits
AOM 3333  Pesticide Application Techniques  3
ENY 4161  Insect Classification  3
IPM 3022  Fundamentals of Pest Management  3
IPM 4254  Landscape Integrated Pest Management: Ornaments and Turf  3
NEM 3002  Principles of Nematology  3

Professional Electives: Minimum 4 Credits
Code  Title  Credits
AOM 3734  Irrigation Principles and Practices in Florida  3
ORH 4242C  Arboriculture  4
ORH 4804  Annual and Perennial Gardening  3
& 4804L  and Annual and Perennial Gardening Laboratory
ORH 4848  Landscape Plant Establishment  2
ORH 4905  Independent Study of Environmental Horticulture  1-3
WIS 4443C  Wetland Wildlife Ecology  4

Agribusiness: Minimum 9 Credits
Code  Title  Credits
AEB 3133  Principles of Agribusiness Management  3
AEB 3144  Introduction to Agricultural Finance  3
AEB 3300  Agricultural and Food Marketing  3
AEB 3341  Selling Strategically  3
AEB 4424  Human Resources Management in Agribusiness  3

The plant science major, offered jointly by the departments of Agronomy and Plant Pathology, enables students to apply principles associated with production and improvement of agronomic crops. Students will acquire knowledge about the scientific fundamentals of plant growth of field and forage crops. They will acquire knowledge about fungi, bacteria and viruses, as well as environmental factors that cause plant disease. This program prepares students to work in the lab and field settings and to develop applied skills for research and extension.

Before Graduating Students Must
• Complete a research paper and an oral presentation with satisfactory faculty evaluation.
• 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 plant growth and development in terms of plant morphology and physiology and evaluate the abiotic and biotic factors that impact plant growth and management.
2. Recommend practices that growers and managers can implement to address the abiotic and biotic components of their cropping system.

Critical Thinking
3. Analyze and apply science-based data to solve problems in plant production, distribution and/or utilization.
4. Design and evaluate a project that addresses a problem or challenge related to their area of interest.

Communication
5. Create, interpret and analyze written text and multimedia presentations.
6. Communicate effectively through oral and multimedia presentations.

Curriculum Map

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<th>Courses</th>
<th>SLO 1</th>
<th>SLO 2</th>
<th>SLO 3</th>
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Assessment Types

- Standardized post-test
- Capstone and individual projects
- Final grades