PLANT SCIENCE | GENERAL PLANT SCIENCE

Plant scientists sustain and improve our current and future world as they work with foods, fibers, fuel, flowers, pharmaceuticals, urban forests, soil health, plant pests, and our natural environs. Plant Science students study biology, plant morphology and physiology, chemistry, entomology, physics, soil and water sciences, plant identification, plant pathology, plant propagation, and environmental horticulture.

About this Program

- **College**: Agricultural and Life Sciences (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL)
- **Degrees**: Bachelor of Arts | Bachelor of Science
- **Credits for Degree**: 120
- **Additional Information**
- **Related Plant Science Programs**

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

The plant science degree offers diverse specializations that provide a wide range of professional opportunities. The specializations provide students with an interdisciplinary perspective of these areas and pursue coursework that tracks them into a variety of job opportunities.

The University of Florida offers some of the specializations in this major to transfer students who have the appropriate credentials through the statewide programs at the Fort Lauderdale Research and Education Center in Ft. Lauderdale, the Mid-Florida Research and Education Center in Apopka, or the West Florida Research and Education Center in Milton.

Course Requirements

**Bachelor of Science**

Designed for students with different professional objectives. All students, regardless of degree or specialization, are required to take an introductory plant science course, an introductory statistics course, an economics course, a technical writing course, a speech course, a soil science course, a plant physiology course, a plant pathology course, a professional development course, and a capstone experience course. All students must also complete an internship related to their area of interest.

**Bachelor of Arts**

Designed for students who want to learn about contemporary food systems from an interdisciplinary perspective. All students are required to take an introductory plant science course, a capstone experience course, and must complete an internship related to their area of interest.

Each specialization has a specific set of required core courses and a number of upper-division electives to choose from that represent important interdisciplinary topic areas. Core courses provide students with the knowledge and fundamental concepts essential to the specialization. Upper-division electives are designed to build knowledge, competency and skills applicable to professional development.

Students should meet with an advisor as early as possible in their academic careers to choose their specialization and to plan their course of study.

**Related Plant Science Programs**

- Environmental Horticulture minor (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/EVH_UMN)
- Golf and Sports Turf Management minor (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/GST_UMN)
- Plant Science minor (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/PLS_UMN)
- Environmental Horticulture Management certificate (http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/AGL_UCT02)

**Bachelor of Science | General Plant Science**

This specialization focuses on the biology and science of growing plants. It combines courses in propagation, plant identification and use, soils and plant nutrition, plant diseases, weed identification, and insects to give students a well-rounded background on plant management. This specialization develops skills that allow students to increase plant productivity and improve plant quality with less labor while controlling pests and weeds safely and effectively. Career opportunities include research and development, plant management, plant production, and preparation for graduate school. Employment opportunities exist in laboratories, government agencies, and commercial operations.

**Critical Tracking**

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=011101&track=01) 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

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>
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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 2011 &amp; 2011L</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>
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<tr>
<td>ENC 2110</td>
<td>Technical Writing (Gen Ed Composition; Writing Requirement: 6,000 words)</td>
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<tr>
<td>IDS 1161</td>
<td>What is the Good Life (Gen Ed Humanities)</td>
<td>3</td>
</tr>
<tr>
<td>STA 2023</td>
<td>Introduction to Statistics 1 (Gen Ed Mathematics)</td>
<td>3</td>
</tr>
<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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<tr>
<td>CHM 2045 &amp; 2045L</td>
<td>General Chemistry 1 and General Chemistry 1 Laboratory (Critical Tracking; State Core Gen Ed Biological and Physical Sciences)</td>
<td>4</td>
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<tr>
<td>ECO 2013</td>
<td>Principles of Macroeconomics (Critical Tracking; State Core Gen Ed Social and Behavioral Sciences)</td>
<td>4</td>
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<tr>
<td>ENY 3005 &amp; 3005L</td>
<td>Principles of Entomology and Principles of Entomology Laboratory</td>
<td>3</td>
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<tr>
<td>PHY 2004 &amp; 2004L</td>
<td>Applied Physics 1 and Laboratory for Applied Physics 1 (Gen Ed Biological and Physical Sciences)</td>
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<td>PLS 3004C</td>
<td>Principles of Plant Science (Gen Ed Biological and Physical Sciences)</td>
<td>3</td>
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<tr>
<td>SWS 3022 &amp; 3022L</td>
<td>Introduction to Soils in the Environment and Introduction to Soils in the Environment Laboratory (Gen Ed Biological and Physical Sciences)</td>
<td>4</td>
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<tr>
<td>ORH 3513 &amp; 3513L</td>
<td>Environmental Plant Identification and Use and Environmental Plant Identification and Use Laboratory</td>
<td>3</td>
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<tr>
<td>Elective</td>
<td>(Writing Requirement: 6,000 words)</td>
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<tr>
<td>AEB 4126</td>
<td>Agricultural and Natural Resource Ethics (Gen Ed Humanities or Social and Behavioral Sciences; Writing Requirement: 6,000 words)</td>
<td>3</td>
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<tr>
<td>BCH 3023</td>
<td>Elementary Organic and Biological Chemistry</td>
<td>3</td>
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<tr>
<td>PLP 3002C</td>
<td>Fundamentals of Plant Pathology</td>
<td>4</td>
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<tr>
<td>PLS 4601C</td>
<td>Principles of Weed Science</td>
<td>3</td>
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<tr>
<td>AGR 4512 or HOS 4304</td>
<td>Physiology and Ecology of Crops or Horticultural Physiology</td>
<td>3</td>
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<td>Approved electives</td>
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<td>Credits</td>
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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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<tr>
<th>SLO 1</th>
<th>SLO 2</th>
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Assessment Types
- Standardized post-test
- Capstone and individual projects
- Final grades

Approved Electives | Minimum 34 Credits
Choose courses from the focus areas below. 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.