PLANT SCIENCE | COMMUNITY FOOD SYSTEMS

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.

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
The B.S. degree is 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.

The B.A. degree is 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
- Golf and Sports Turf Management minor
- Plant Science minor
- Environmental Horticulture Management certificate

Bachelor of Arts: Community Food Systems
This specialization is for students who want to learn about contemporary food systems from an interdisciplinary perspective. Students will learn about different food production systems and their ecological and environmental impacts and services, including consideration of political, economic, ethical, social and cultural aspects of food systems. Graduates could work in community or government food-based programs, urban agriculture and the food industry.

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 may be used for transfer students.

Semester 1
- Complete 2 of 5 critical-tracking courses, excluding labs: AEB 2014 or ECO 2013 or ECO 2023; BOT 2010C or BSC 2010/BSC 2010L; BOT 2011C or BSC 2011/BSC 2011L; CHM 1030; 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 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>Semester One</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BOT 2010C</td>
<td>Select one:</td>
<td>Introductory Botany (Critical Tracking; 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; Gen Ed Biological Sciences and Physical Sciences)</td>
<td>3</td>
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<tr>
<td>MAC 1147</td>
<td>Precalculus Algebra and Trigonometry (Critical Tracking; State Core Gen Ed Mathematics)</td>
<td>4</td>
<td></td>
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<tr>
<td>State Core Gen Ed Composition; Writing Requirement</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Core Gen Ed Biological or Physical Sciences</td>
<td>2</td>
<td></td>
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<tr>
<td>State Core Gen Ed Humanities</td>
<td>3</td>
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<td>Credits</td>
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Semester Two

Select one:

<table>
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<tbody>
<tr>
<td>BOT 2011C</td>
<td>Plant Diversity (Critical Tracking; Gen Ed Biological Sciences and Physical Sciences)</td>
</tr>
<tr>
<td>BSC 2011 &amp; 2011L</td>
<td>Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (Critical Tracking; Gen Ed Biological Sciences and Physical Sciences)</td>
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<tr>
<td>IUF 1000</td>
<td>What is the Good Life (Gen Ed Humanities)</td>
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<td>STA 2023</td>
<td>Introduction to Statistics 1 (Gen Ed Mathematics)</td>
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<td>Select one:</td>
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<tr>
<td>ESC 1000</td>
<td>Introduction to Earth Science (Gen Ed Physical Sciences)</td>
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<tr>
<td>GEO 2200</td>
<td>Physical Geography (Gen Ed Physical Sciences)</td>
</tr>
<tr>
<td>PHY 2004</td>
<td>Applied Physics 1 (Gen Ed Physical Sciences)</td>
</tr>
<tr>
<td>PHY 2020</td>
<td>Introduction to Principles of Physics (Gen Ed Physical Sciences)</td>
</tr>
<tr>
<td>SWS 2007</td>
<td>The World of Water (Gen Ed Physical Sciences)</td>
</tr>
<tr>
<td>State Core Gen Ed Social and Behavioral Sciences</td>
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Semester Three

Select one:

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<tr>
<td>AEB 2014</td>
<td>Economic Issues, Food and You (Critical Tracking; Gen Ed Social and Behavioral Sciences)</td>
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<tr>
<td>ECO 2013</td>
<td>Principles of Macroeconomics (Critical Tracking; Gen Ed Social and Behavioral Sciences)</td>
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<tr>
<td>ECO 2023</td>
<td>Principles of Microeconomics (Critical Tracking; Gen Ed Social and Behavioral Sciences)</td>
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<tr>
<td>AEC 3033C</td>
<td>Research and Business Writing in Agricultural and Life Sciences (Writing Requirement)</td>
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<td>CHM 1030</td>
<td>Basic Chemistry Concepts and Applications 1 (Critical Tracking; Gen Ed Physical Sciences)</td>
</tr>
<tr>
<td>HUN 2201</td>
<td>Fundamentals of Human Nutrition</td>
</tr>
<tr>
<td>Select one:</td>
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<tr>
<td>Gen Ed Humanities</td>
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<td>Gen Ed Social and Behavioral Sciences</td>
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Semester Four

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<tr>
<td>AEC 3030C OR SPC 2608</td>
<td>Effective Oral Communication or Introduction to Public Speaking</td>
</tr>
<tr>
<td>CHM 1031</td>
<td>Basic Chemistry Concepts and Applications 2 (Gen Ed Biological and Physical Sciences)</td>
</tr>
<tr>
<td>Select one (Gen Ed Physical Sciences):</td>
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</tr>
<tr>
<td>ESC 1000</td>
<td>Introduction to Earth Science</td>
</tr>
<tr>
<td>GEO 2200</td>
<td>Physical Geography</td>
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<tr>
<td>PHY 2004</td>
<td>Applied Physics 1</td>
</tr>
<tr>
<td>PHY 2020</td>
<td>Introduction to Principles of Physics</td>
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<tr>
<td>SWS 2007</td>
<td>The World of Water</td>
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<tr>
<td>Gen Ed Composition; Writing Requirement</td>
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<td>Elective</td>
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Semester Five

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<tr>
<td>FYC 3001</td>
<td>Principles of Family, Youth and Community Sciences</td>
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<tr>
<td>PLS 3004C</td>
<td>Principles of Plant Science</td>
</tr>
<tr>
<td>Cultural and social issues elective</td>
<td>3</td>
</tr>
<tr>
<td>Ecology and the environment elective</td>
<td>3</td>
</tr>
<tr>
<td>Ethics elective</td>
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<td>Credits</td>
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Semester Six

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<tbody>
<tr>
<td>SWS 3022</td>
<td>Introduction to Soils in the Environment</td>
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<tr>
<td>Business and organizational management elective</td>
<td>3</td>
</tr>
<tr>
<td>Ecology and the environment elective</td>
<td>3</td>
</tr>
<tr>
<td>Economic issues elective</td>
<td>3</td>
</tr>
<tr>
<td>Production issues elective</td>
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<tr>
<td>Credits</td>
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Summer After Semester Six

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<tbody>
<tr>
<td>PLS 4941</td>
<td>Practical Work Experience</td>
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<tr>
<td>Credits</td>
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Semester Seven

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>URP 4000</td>
<td>Preview of Urban and Regional Planning</td>
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<tr>
<td>Approved elective</td>
<td>3</td>
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<tr>
<td>Business and organizational management elective</td>
<td>3</td>
</tr>
<tr>
<td>Cultural and social issues elective</td>
<td>3</td>
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<tr>
<td>Economic issues elective</td>
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<td>Credits</td>
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Semester Eight

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<tbody>
<tr>
<td>PLS 4950</td>
<td>Plant Science Capstone</td>
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<tr>
<td>URP 4273</td>
<td>Survey of Planning Information Systems</td>
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<tr>
<td>Approved elective</td>
<td>3</td>
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<tr>
<td>Production issues elective</td>
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<tr>
<td>Credits</td>
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<td>Total Credits</td>
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Approved Electives

Minimum 39 Credits
Choose courses from each focus area; minimum credits for each area listed 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.

Ethics: Minimum 3 Credits

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>AEC 4126</td>
<td>Agricultural and Natural Resource Ethics</td>
<td>3</td>
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<tr>
<td>REL 3171</td>
<td>Ethics in America</td>
<td>3</td>
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</table>

Ecology and the Environment: Minimum 6 Credits

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AGG 3501</td>
<td>Environment, Food and Society</td>
<td>3</td>
</tr>
<tr>
<td>AGR 4212</td>
<td>Alternative Cropping Systems</td>
<td>3</td>
</tr>
<tr>
<td>ALS 3133</td>
<td>Agricultural and Environmental Quality</td>
<td>3</td>
</tr>
<tr>
<td>AOM 2520</td>
<td>Global Sustainable Energy: Past, Present and Future</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3372</td>
<td>Conservation of Resources</td>
<td>3</td>
</tr>
<tr>
<td>IPM 3022</td>
<td>Fundamentals of Pest Management</td>
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</table>

Cultural and Social Issues: Minimum 6 Credits

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>EES 4103</td>
<td>Applied Ecology (Food and Culture)</td>
<td>2</td>
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<tr>
<td>FYC 3401</td>
<td>Introduction to Social and Economic Perspectives on the Community</td>
<td>3</td>
</tr>
<tr>
<td>FYC 4126</td>
<td>Urban and Rural America in Transition</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3100</td>
<td>Geography for a Changing World</td>
<td>3</td>
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<tr>
<td>GEO 2410</td>
<td>Social Geography</td>
<td>3</td>
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<tr>
<td>GEO 2420</td>
<td>Introduction to Human Geography</td>
<td>3</td>
</tr>
<tr>
<td>SYD 4020</td>
<td>Population</td>
<td>3</td>
</tr>
<tr>
<td>URP 3001</td>
<td>Cities of the World</td>
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Production Issues: Minimum 6 Credits

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>AGR 4214C</td>
<td>Applied Field Crop Production</td>
<td>3</td>
</tr>
<tr>
<td>AGR 4932</td>
<td>Agronomy Topics (Tropical Cropping Systems)</td>
<td>3</td>
</tr>
<tr>
<td>GEO 3315</td>
<td>Geography of Crop Plants</td>
<td>3</td>
</tr>
<tr>
<td>HOS 3281C</td>
<td>Organic and Sustainable Crop Production</td>
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</tr>
<tr>
<td>PLS 2003C</td>
<td>Plants That Feed the World</td>
<td>3</td>
</tr>
<tr>
<td>VEC 2100</td>
<td>World Herbs and Vegetables</td>
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Economic Issues: Minimum 6 Credits

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<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>AEB 3450</td>
<td>Introduction to Natural Resource and Environmental Economics</td>
<td>3</td>
</tr>
<tr>
<td>AEB 3671</td>
<td>Comparative World Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>AEB 4123</td>
<td>Agricultural and Natural Resource Law</td>
<td>3</td>
</tr>
<tr>
<td>AEB 4283</td>
<td>International Development Policy</td>
<td>3</td>
</tr>
<tr>
<td>GEO 2500</td>
<td>Global and Regional Economies</td>
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<tr>
<td>GEO 3502</td>
<td>Economic Geography</td>
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Business and Organizational Management: Minimum 6 Credits

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<th>Title</th>
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<tbody>
<tr>
<td>AEC 3413</td>
<td>Working with People: Interpersonal Leadership Skills</td>
<td>3</td>
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Academic Learning Compact

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

<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>
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I = Introduced; R = Reinforced; A = Assessed
Assessment Types

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