The botany curriculum provides a broad background in the biology of plants, from the molecular to the organismic level. Students who major in botany will take courses in anatomy, ecology, genetics, physiology, taxonomy and molecular biology of plants and biochemistry.

About this Program

- **College**: Agricultural and Life Sciences
- **Degree**: Bachelor of Science
- **Credits for Degree**: 120
- **Specializations**: General Botany | Botanical Research

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

Small classes are taught by faculty who have a commitment to undergraduate education. Students participate in mentored research, assisting faculty with research projects on campus and abroad. The major prepares students for careers in industry and government agencies, for graduate and professional schools, and for teaching jobs in high schools.

The general botany specialization is for students who may not intend to pursue a graduate degree but are interested in a career in plant biology. This specialization provides some flexibility in tailoring the courses needed in order to pursue specific interests. Students are encouraged to consult with an advisor and botany faculty member when deciding on which courses to take.

The botanical research specialization is for students who intend to pursue a graduate degree and requires research with a faculty member. This specialization provides some flexibility in tailoring the courses needed in order to pursue specific interests. Students are encouraged to consult with an advisor and botany faculty member when deciding on which courses to take.

Coursework for the Major

Required coursework is dependent upon the specialization. Coursework for each specialization can be found below under Critical Tracking and Model Semester Plan.

Relevant Minors and/or Certificates

Students majoring in botany can minor in most other disciplines, and this is a good way to organize students’ electives around areas of interest. Note that botany majors cannot minor in biology, nor can biology majors minor in botany (the curricula for the botany and biology majors are too similar).

UFTeach Program

More Info

There is a severe shortage of qualified secondary science teachers in Florida and nationwide. Students interested in becoming part of this high-demand profession should see a botany advisor or the UFTeach advisor. UFTeach students complete the UFTeach minor in science teaching with their B.S. in botany and have the coursework and preparation for professional teacher certification in Florida when they graduate.

Research

More Info

Botany majors are strongly encouraged to participate in research, and research is required for the Botanical Research specialization. Research experience is valuable on many levels: it diversifies the college experience; it teaches students how scientists apply the knowledge gained in the classroom to real world questions; it provides the opportunity to work with and get to know researchers who are the best in their field; it introduces students to cutting edge scientific questions and techniques; it can enhance a student’s resume/CV when applying to graduate or professional school; and finally it is essential in helping students determine if science is a good career choice.

CALS botany majors may participate in research for course credit, as a scholar (e.g., University Scholar, Science for Life Scholar, Beckman Scholar), as a volunteer, or, in rare cases, as a paid research assistant. Please visit Undergraduate Research for information regarding course credit. Students who plan to enroll for course credit must contact potential research mentors, develop a project, and turn in the required application and proposal no later than the week before drop/add. If the window is missed, students should still contact potential research mentors, if only to discuss upcoming opportunities.

Related Botany Programs

- Combined Degree
- Bachelor of Science in Botany, CLAS
- Botany minor

General Botany

This option is intended for students who do not plan to attend graduate or professional school, but are planning a career in government, public service, or secondary education. A student must achieve a minimum grade of C in all required courses for the major.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOT 2010C</td>
<td>Introductory Botany</td>
<td>4-7</td>
</tr>
<tr>
<td>&amp; BOT 2011C</td>
<td>and Plant Diversity (preferred)</td>
<td></td>
</tr>
<tr>
<td>BSC 2010</td>
<td>Integrated Principles of Biology 1</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 2010L</td>
<td>and Integrated Principles of Biology</td>
<td></td>
</tr>
<tr>
<td>Laboratory 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSC 2011</td>
<td>Integrated Principles of Biology 2</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 2011L</td>
<td>and Integrated Principles of Biology</td>
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<tr>
<td>Laboratory 2</td>
<td></td>
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<tr>
<td>CHM 2045</td>
<td>General Chemistry 1</td>
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<tr>
<td>&amp; 2045L</td>
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<tr>
<td>CHM 2046</td>
<td>General Chemistry 2</td>
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<td>CHM 2200</td>
<td>Fundamentals of Organic Chemistry</td>
<td>4</td>
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<td>&amp; 2200L</td>
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<tr>
<td>MAC 1147</td>
<td>Precalculus Algebra and Trigonometry</td>
<td>4</td>
</tr>
<tr>
<td>or MAC 2311</td>
<td>Analytic Geometry and Calculus</td>
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</tr>
<tr>
<td>STA 2023</td>
<td>Introduction to Statistics 1</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:
Semester 1

- Complete 1 of 5 critical-tracking courses, including lab:
  BSC 2010/BSC 2010L or BOT 2010C, BSC 2011/BSC 2011L or
  BOT 2011C, CHM 2045/CHM 2045L, CHM 2046/CHM 2046L;
  MAC 1147, MAC 2311 or STA 2023
  • 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, including labs
  • 2.0 UF GPA required

Semester 3

- Complete 1 additional critical-tracking course, including labs, with a
  2.5 GPA required for all critical-tracking courses
  • 2.0 UF GPA required

Semester 4

- Complete 1 additional critical-tracking course, including labs, with 2.5
  GPA required for all critical-tracking courses
  • 2.0 UF GPA required

Semester 5

- Complete all critical-tracking courses, including labs, with 2.5 GPA
  required for all critical-tracking courses
  • 2.0 UF GPA required

Students are expected to complete the writing requirement while in
the process of taking the courses below. Students are also expected to
complete the general education international (GE-N) and diversity (GE-D)
requirements concurrently with another general education requirement
(typically, GE-C, H or S).

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.

Course Semester One Title Credits
Select one:
BSC 2010 & 2010L Integrated Principles of Biology 1 4
Integrated and Integrated Principles of Biology
Laboratory 1 (Critical Tracking: Gen Ed Biological Sciences)
BOT 2010C Introductory Botany (Critical Tracking: Gen Ed Biological Sciences)
IUF 1000 What is the Good Life (Gen Ed Humanities) 3
Select one:
MAC 1147 Precalculus Algebra and Trigonometry (Critical Tracking: State Core Gen Ed Mathematics)
MAC 2311 Analytic Geometry and Calculus 1 (Critical Tracking: State Core Gen Ed Mathematics)
State Core Gen Ed Composition; Writing Requirement 3
BSC 1920 First Year Introduction: Biology at UF (recommended elective) 1

Semester Two
Select one:

Credits 15
**Semester Four**

Select one:  
- AEB 2014: Economic Issues, Food and You (Gen Ed Social and Behavioral Sciences) 3-4  
- AEB 3025: Principles of Food and Resource Economics (Gen Ed Social and Behavioral Sciences) 3-4  
- ECO 2023: Principles of Microeconomics (Gen Ed Social and Behavioral Sciences) 3-4  
- PHY 2004: Applied Physics 1 and Laboratory for Applied Physics 1 3-4  
- STA 2023: Introduction to Statistics 1 (Gen Ed Mathematics) 3-4  
- COP 2800: Computer Programming Using JAVA (or equivalent) 3-4  
- COP 3275: Computer Programming Using C (or equivalent; Gen Ed Mathematics) 3-4  
- BSC 2891: Python Programming for Biology 3-4  
- Gen Ed Social and Behavioral Sciences 3

**Credits**: 14-15

**Semester Five**

CHM 2200: Fundamentals of Organic Chemistry 3-4  
and Fundamentals of Organic Chemistry Laboratory 3-4  
Select one:  
- PCB 4043C: General Ecology 3-4  
- PCB 3601C: Plant Ecology 3-4  
- BOT 3151C: Local Flora of North Florida 3-4  
- BSC 3307C: Climate Change Biology 3-4  
- PCB 4674: Evolution 3-4  
- Gen Ed Humanities 3

**Credits**: 14-15

**Semester Six**

AEC 3033C: Effective Oral Communication 3  
AGR 3303: Genetics 3-4  
or PCB 3063: Genomics or Genetics 3-4  
BOT 2710C: Practical Plant Taxonomy 3  
BOT 4935/5225C: Special Topics (Plant Anatomy) or Essential Cell Biology 3-4  
or PCB 3023: or Essential Cell Biology 3-4  

**Credits**: 13-14

**Gen Ed Mathematics**: 1 3

**Semester Seven**

BOG 3503: Physiology and Molecular Biology of Plants 5  
& 3503L: Physiology and Molecular Biology of Plants Laboratory 3-4  
Select one:  
- PCB 4043C: General Ecology 3-4  
- PCB 3601C: Plant Ecology 3-4  
- BOT 3151C: Local Flora of North Florida 3-4  
- BSC 3307C: Climate Change Biology 3-4  
- Elective 6

**Credits**: 15-17

**Semester Eight**

BSC 4936: Critical Analysis of Biological Research 2  
Select one:  
- Electives 10

**Credits**: 16

**Total Credits**: 120

1 Gen Ed Mathematics; if COP 2800 or BSC 2891 taken for computational requirement; or elective.
The botany major is offered by both the College of Liberal Arts and Sciences and the College of Agricultural and Life Sciences. This major provides a foundation in the life sciences with emphasis on plant systems. Students will learn the diversity of life, the structure of organisms and ecosystems and how they function (i.e., the acquisition, flow, organization and uses of information, energy and nutrients in living systems). Students will learn the scientific method and how it facilitates the discovery of new knowledge in botany and biology, including how to critically evaluate hypotheses and conclusions.

**Before Graduating Students Must**

- Achieve acceptable performance in all required botany courses.
- Complete requirements for the baccalaureate degree, as determined by faculty.

**Students in the Major Will Learn to**

**Student Learning Outcomes (SLOs)**

**Content**

1. Identify, describe and explain the basic terminology, concepts, methodologies and theories used within the biological sciences.

**Critical Thinking**

2. Analyze biological information and develop reasoned solutions to problems using the processes and applications of scientific inquiry.

3. Discriminate ethical behavior from unethical behavior in scientific research.

**Communication**

4. Communicate knowledge, ideas and reasoning clearly and effectively in written or oral forms appropriate to the biological sciences.

**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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<tbody>
<tr>
<td>BOT 2011C</td>
<td>R</td>
<td></td>
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<tr>
<td>BOT 2710C</td>
<td>R</td>
<td>R</td>
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<tr>
<td>BOT 3503 and R/A</td>
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<td>BOT 3503L</td>
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<td>BSC 2011</td>
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<td>PCB 3601C</td>
<td>R/A</td>
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<tr>
<td>PCB 4043C</td>
<td>R/A</td>
<td>R/A</td>
<td>R/A</td>
<td>R/A</td>
</tr>
</tbody>
</table>

**Assessment Types**

- Major field test for biology
- Bioethics quiz
- Scientific paper