**BOTANY, B.A.**

The Department of Botany provides an introduction to the living world: the diversity of its organisms; its historical origins through evolution; its principles of structure, function, and ecology; and its interactions, relationships, and effects on the nonliving world. Botany is the science of plants, algae, fungi, and bacteria—all living organisms except animals. Green plants and algae provide the photosynthetic energy for fueling all other life on earth and drive global water and carbon cycles. Fungi and bacteria are the fundamental recyclers of the earth.

The study of botany provides a broad background in the principles of modern biology and gives a solid foundation for careers in environmental studies, conservation biology, ecology, systematics, evolution, genetics, physiology, biotechnology, agriculture, and horticulture. Jobs requiring such preparation include teaching in secondary schools and colleges, research and development in industry and medicine, stewardship of our natural world through private and governmental programs, and research and teaching in academia.

**HOW TO GET IN**

Prospective botany majors should consult with the general undergraduate botany advisor by the beginning of the junior year to outline a course of study appropriate to the student’s needs. Major Declaration may occur by meeting with the undergraduate advisor in the major.

To be accepted as a major in botany, a student must have a grade point average of 2.5 for all science courses taken during the freshman and sophomore years.

**REQUIREMENTS**

**UNIVERSITY GENERAL EDUCATION REQUIREMENTS**

All undergraduate students at the University of Wisconsin–Madison are required to fulfill a minimum set of common university general education requirements to ensure that every graduate acquires the essential core of an undergraduate education. This core establishes a foundation for living a productive life, being a citizen of the world, appreciating aesthetic values, and engaging in lifelong learning in a continually changing world. Various schools and colleges will have requirements in addition to the requirements listed below. Consult your advisor for assistance, as needed. For additional information, see the university Undergraduate General Education Requirements (http://guide.wisc.edu/undergraduate/#requirementsforundergraduatetestudytext) section of the Guide.

**COLLEGE OF LETTERS & SCIENCE BREADTH AND DEGREE REQUIREMENTS: BACHELOR OF ARTS (B.A.)**

Students pursuing a bachelor of arts degree in the College of Letters & Science must complete all of the requirements below. The College of Letters & Science allows this major to be paired with either a bachelor of arts or a bachelor of science curriculum. View a comparison of the degree requirements here. (https://pubs.wisc.edu/home/archives/ug15/images/babs2009.pdf)

**BACHELOR OF ARTS DEGREE REQUIREMENTS**

**Requirements Detail**

**Mathematics**

Fulfilled with completion of University General Education requirements Quantitative Reasoning a (QR A) and Quantitative Reasoning b (QR B) coursework. Please note that some majors may require students to complete additional math coursework beyond the B.A. mathematics requirement.

**Foreign Language**

- Complete the fourth unit of a foreign language; OR
- Complete the third unit of a foreign language and the second unit of an additional foreign language

Note: A unit is one year of high school work or one semester/term of college work.

**L&S Breadth**

- Humanities, 12 credits: 6 of the 12 credits must be in literature
- Social Sciences, 12 credits
- Natural Sciences, 12 credits: must include one 3+ credit course in the biological sciences; must include one 3+ credit course in the physical sciences

**Liberal Arts and Science Coursework**

108 credits

**Depth of Intermediate/Advanced work**

60 intermediate or advanced credits

**Major**

Declare and complete at least one (1) major

**Total Credits**

120 credits

**UW-Madison Experience**

30 credits in residence, overall

30 credits in residence after the 90th credit
**Minimun GPAs**
- 2.000 in all coursework at UW–Madison
- 2.000 in intermediate/advanced coursework at UW–Madison

**NON–L&S STUDENTS PURSUING AN L&S MAJOR**
Non–L&S students who have permission from their school/college to pursue an additional major within L&S only need to fulfill the major requirements and do not need to complete the L&S breadth and degree requirements above.

## REQUIREMENTS FOR THE MAJOR
### MATH, CHEMISTRY, AND PHYSICS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Statistics/Mathematics</strong></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>STAT 301</td>
<td>Introduction to Statistical Methods</td>
<td></td>
</tr>
<tr>
<td>or STAT 371</td>
<td>Introductory Applied Statistics for the Life Sciences</td>
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<tr>
<td>STAT 371</td>
<td>Introductory Applied Statistics for the Life Sciences</td>
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<tr>
<td><strong>General Chemistry</strong></td>
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<td>5-9</td>
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<tr>
<td>CHEM 103</td>
<td>General Chemistry I</td>
<td></td>
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<tr>
<td>&amp; CHEM 104</td>
<td>and General Chemistry II</td>
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<tr>
<td>or CHEM 109</td>
<td>Advanced General Chemistry</td>
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<tr>
<td><strong>Organic Chemistry</strong></td>
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<td>3</td>
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<tr>
<td>CHEM 341</td>
<td>Elementary Organic Chemistry</td>
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<tr>
<td>or CHEM 343</td>
<td>Introductory Organic Chemistry</td>
<td></td>
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<tr>
<td><strong>Physics</strong></td>
<td></td>
<td>3-5</td>
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<tr>
<td>PHYSICS 115</td>
<td>Energy (preferred)</td>
<td></td>
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<tr>
<td>PHYSICS 103</td>
<td>General Physics</td>
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<td>PHYSICS 104</td>
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<td>PHYSICS 208</td>
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<tr>
<td>PHYSICS 247</td>
<td>A Modern Introduction to Physics</td>
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<tr>
<td>PHYSICS 248</td>
<td>A Modern Introduction to Physics</td>
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</tr>
<tr>
<td>PHYSICS 249</td>
<td>A Modern Introduction to Physics</td>
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**Total Credits:** 14-20

1 PHYSICS 115 is the best choice if one course is to be taken. It is recommended that two semesters of PHYSICS be taken (PHYSICS 103/PHYSICS 104 or PHYSICS 201/PHYSICS 202 or PHYSICS 207/PHYSICS 208). Please note PHYSICS 107 and PHYSICS 109 do not fulfill this requirement.

### Independent Research Experience—choose one:
- 2-6 credits
- BOTANY 691 & BOTANY 692 Senior Thesis and Senior Thesis
- BOTANY 681 & BOTANY 682 Senior Honors Thesis and Senior Honors Thesis

## BIOLOGY AND BOTANY REQUIREMENTS
30 credits from:

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td><strong>Introductory Biology</strong></td>
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<td>5-10</td>
</tr>
<tr>
<td><strong>Option A, Recommended</strong></td>
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<tr>
<td>BOTANY/ BIOLOGY 130</td>
<td>General Botany</td>
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<tr>
<td><strong>Option B: Introductory Biology</strong></td>
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**Botany Distribution—one course from four areas:**
- 12 credits
- **Plant Structure:**
  - BOTANY 300 Plant Anatomy
  - BOTANY 305 Plant Morphology and Evolution
- **Ecology:**
  - BOTANY 400 Plant Systematics
  - BOTANY 401 Vascular Flora of Wisconsin
  - BOTANY 422 Plant Geography
- **Cryptogamic Botany:**
  - BOTANY 330 Algae
  - BOTANY/ PL PATH 332 Fungi
  - MICROBIO 303 Biology of Microorganisms
- **Systematics:**
  - BOTANY 400 Plant Systematics
  - BOTANY 401 Vascular Flora of Wisconsin
  - BOTANY 422 Plant Geography
  - BOTANY/ AMER IND/ ANTHRO 474 Ethnobotany

**Total Credits:** 14-20
BOTANY 699  Directed Study  2-4

Students nearing completion of the major should seek out research opportunities with their advisor or faculty supervisor, and register for their project at the end of the junior year.

REQUIREMENTS

To earn the B.A. or B.S. degree with Honors in the Major in Botany, students must satisfy the requirements for the major and the following additional requirements:

1. Earn a 3.300 overall university GPA
2. Earn a 3.400 GPA in all BOTANY and courses accepted in the major
3. A Senior Honors Thesis in BOTANY 681 and BOTANY 682, for a total of 6 credits, and
4. 12 credits in Intermediate/Advanced BOTANY, taken for Honors
5. Earn a 3.400 GPA in all BOTANY and courses accepted in the major
6. Earn a 3.300 overall university GPA

HONORS IN THE MAJOR

Students may declare Honors in the Botany Major in consultation with the Botany undergraduate advisor.

LEARNING OUTCOMES

1. Acquire and demonstrate foundational understanding of the basic properties of plant life from the subcellular to the ecosystem level of organization.