BOTANY, BS

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.

General Education
- Breadth—Humanities/Literature/Arts: 6 credits
- Breadth—Natural Science: 4 to 6 credits, consisting of one 4- or 5-credit course with a laboratory component; or two courses providing a total of 6 credits
- Breadth—Social Studies: 3 credits
- Communication Part A Part B *
- Ethnic Studies *
- Quantitative Reasoning Part A Part B *

* The mortarboard symbol appears before the title of any course that fulfills one of the Communication Part A or Part B, Ethnic Studies, or Quantitative Reasoning Part A or Part B requirements.

COLLEGE OF LETTERS & SCIENCE DEGREE REQUIREMENTS: BACHELOR OF SCIENCE (BS)

Students pursuing a Bachelor of Science 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 the Bachelor of Arts or the Bachelor of Science degree requirements.

BACHELOR OF SCIENCE DEGREE REQUIREMENTS

| Mathematics | Complete two courses of 3+ credits at the Intermediate or Advanced level in MATH, COMP SCI, or STAT subjects. A maximum of one course in each of COMP SCI and STAT subjects counts toward this requirement. |
| Language    | Complete the third unit of a language other than English. |

LS Breadth
- Complete:
  - 12 credits of Humanities, which must include at least 6 credits of Literature; and
  - 12 credits of Social Science; and
  - 12 credits of Natural Science, which must include 6 credits of Biological Science and 6 credits of Physical Science.

Liberal Arts and Science Coursework
Complete at least 108 credits.

Depth of Intermediate/Advanced Coursework
Complete at least 60 credits at the Intermediate or Advanced level.

Major
Declare and complete at least one major.

Total Credits
Complete at least 120 credits.

UW-Madison Experience
Complete both:
- 30 credits in residence, overall, and
- 30 credits in residence after the 86th credit.

Quality of Work
- 2.000 in all coursework at UW–Madison
- 2.000 in Intermediate/Advanced level 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. They do not need to complete the L&S 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>STAT 301</td>
<td>Introduction to Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>STAT 324</td>
<td>Introductory Applied Statistics for Engineers</td>
<td></td>
</tr>
<tr>
<td>STAT 371</td>
<td>Introductory Applied Statistics for the Life Sciences</td>
<td></td>
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<tr>
<td>CHEM 103 &amp; CHEM 104</td>
<td>General Chemistry I and General Chemistry II</td>
<td>5-9</td>
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<tr>
<td>CHEM 115 &amp; CHEM 116</td>
<td>Chemical Principles I and Chemical Principles II</td>
<td></td>
</tr>
<tr>
<td>CHEM 109</td>
<td>Advanced General Chemistry</td>
<td></td>
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<tr>
<td>CHEM 341 or CHEM 343</td>
<td>Elementary Organic Chemistry or Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>PHYSICS 115</td>
<td>Energy and Climate (preferred)</td>
<td>3-5</td>
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<tr>
<td>PHYSICS 103</td>
<td>General Physics</td>
<td></td>
</tr>
<tr>
<td>PHYSICS 104</td>
<td>General Physics</td>
<td></td>
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<td>PHYSICS 201</td>
<td>General Physics</td>
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<tr>
<td>PHYSICS 202</td>
<td>General Physics</td>
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<tr>
<td>PHYSICS 207</td>
<td>General Physics</td>
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PHYSICS 208  General Physics
PHYSICS 247  A Modern Introduction to Physics
PHYSICS 248  A Modern Introduction to Physics
PHYSICS 249  A Modern Introduction to Physics

Total Credits 14-20

BIOLOGY AND BOTANY REQUIREMENTS
30 credits from:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory Biology (Complete one option): 5-10</td>
<td></td>
<td></td>
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<tr>
<td>Option A, Recommended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOTANY/BIOLOGY 130</td>
<td>General Botany</td>
<td>5</td>
</tr>
<tr>
<td>Option B: Introductory Biology</td>
<td></td>
<td></td>
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<tr>
<td>BOTANY/BIOLOGY/ZOOLOGY 151</td>
<td>Introductory Biology</td>
<td></td>
</tr>
<tr>
<td>Option C: BIOCORE</td>
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<td></td>
</tr>
<tr>
<td>BIOCORE 381</td>
<td>Evolution, Ecology, and Genetics</td>
<td></td>
</tr>
<tr>
<td>BIOCORE 382</td>
<td>Evolution, Ecology, and Genetics Laboratory</td>
<td></td>
</tr>
<tr>
<td>BIOCORE 383</td>
<td>Cellular Biology</td>
<td></td>
</tr>
<tr>
<td>BIOCORE 384</td>
<td>Cellular Biology Laboratory</td>
<td></td>
</tr>
<tr>
<td>BIOCORE 485</td>
<td>Principles of Physiology</td>
<td></td>
</tr>
</tbody>
</table>

Code Title Credits
Botany Distribution - Five courses, to include at least one course in these areas: 15

Cell, Molecular, Physiology (1 course required):
- BOTANY 300  Plant Anatomy
- or BOTANY 500  Plant Physiology

Ecology (1 course required):
- BOTANY/F&w Ecol 455  The Vegetation of Wisconsin
- or BOTANY/F&w Ecol/Zoology 460  General Ecology

Genetics, Evolution (1 course required): 6
- BOTANY/Anthro/Zoology 410  Evolutionary Biology
- AGRONOMY/Hort 338  Plant Breeding and Biotechnology
- GENETICS 466  Principles of Genetics
- GENETICS 467  General Genetics 1
- GENETICS 468  General Genetics 2

Diversity
- BOTANY 305  Plant Morphology and Evolution
- BOTANY 330  Algae
- BOTANY/PL PATH 332  Fungi

Code Title Credits
Independent Research Experience—choose one: 3-6
- BOTANY 691 & BOTANY 692  Senior Thesis and Senior Thesis 4
- BOTANY 681 & BOTANY 682  Senior Honors Thesis and Senior Honors Thesis 6
- BOTANY 699  Directed Study 3-4
RESIDENCE AND QUALITY OF WORK

- 2.000 GPA in all BOTANY and major courses
- 2.000 GPA on 15 upper-level major credits, taken in residence\(^8\)
- 15 credits in BOTANY, taken on the UW–Madison campus

HONORS IN THE MAJOR

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

HONORS IN THE MAJOR IN BOTANY: REQUIREMENTS

To earn Honors in the Major in Botany, students must satisfy the requirements for the major (above) and the following additional requirements:

- 3.300 University GPA
- 3.400 GPA in all BOTANY and major courses
- Complete 12 Honors credits from coursework listed in the "Botany Distribution" requirements\(^9\) or from Intermediate/Advanced Honors coursework in Biocore
- Conduct Senior Honors Thesis research in BOTANY 681 & BOTANY 682 for a total of 6 credits

FOOTNOTES

1. STAT 371, MATH 211, or MATH 221 are strongly recommended for students preparing for graduate school, as these usually are required for entry into post-undergraduate programs.
2. CHEM 109 is the best option for chemistry if only one course is to be taken. However, for students who are preparing for graduate school, and depending on their post graduate goals (CHEM 103 & CHEM 104 OR CHEM 115 & CHEM 116) is strongly recommended as some graduate programs may require a sequence of organic chemistry courses.
3. CHEM 341 is the best option for organic chemistry if only one course is to be taken. However, for students who are preparing for graduate school, the three-course organic chemistry sequence (CHEM 343, CHEM 344, & CHEM 345) is strongly recommended instead of CHEM 341, as some graduate programs may require a sequence of organic chemistry courses.
4. PHYSICS 115 is the best choice if one course is to be taken. It is recommended that two semesters of PHYSICS be taken (PHYSICS 103-104 or PHYSICS 201-202 or PHYSICS 207-208).
5. In addition to BOTANY/BIOLOGY 130, ZOOLOGY/BIOLOGY 101 and/or ZOOLOGY/BIOLOGY 102 will count towards 30 credits of Botany major.
6. Completion of the BIOCORE sequence also satisfies the Genetics, Evolution area (BIOCORE 381 & BIOCORE 382 & BIOCORE 383 & BIOCORE 384 & BIOCORE 485).
7. 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.
8. BOTANY 300–BOTANY 699 are considered upper-level in the major.
9. Excluding BOTANY 681 and BOTANY 682.