BS in BIOLOGY (282022) MAP Sheet
Department of Biology
For students entering the degree program during the 2015–2016 curricular year.

<table>
<thead>
<tr>
<th>UNIVERSITY CORE REQUIREMENTS</th>
<th>PROGRAM REQUIREMENTS (60 total hours*)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNIVERSITY CORE REQUIREMENTS</strong></td>
<td><strong>Classes</strong></td>
</tr>
<tr>
<td>Religion Cornerstones</td>
<td>1</td>
</tr>
<tr>
<td>Teachings &amp; Doctrine, Book of Mormon</td>
<td>1</td>
</tr>
<tr>
<td>Jesus Christ &amp; the Everlasting Gospel</td>
<td>1</td>
</tr>
<tr>
<td>Foundations of the Restoration</td>
<td>1</td>
</tr>
<tr>
<td>The Individual and Society</td>
<td>1</td>
</tr>
<tr>
<td>Citizenship</td>
<td>1</td>
</tr>
<tr>
<td>Citizenship</td>
<td>3–6.0</td>
</tr>
<tr>
<td>Skills</td>
<td>1</td>
</tr>
<tr>
<td>Skills</td>
<td>0–3.0</td>
</tr>
<tr>
<td>Languages of Learning (Math or Language)</td>
<td>1</td>
</tr>
<tr>
<td>Arts, Letters, and Sciences</td>
<td>2</td>
</tr>
<tr>
<td>Civilization 1 and 2</td>
<td>1</td>
</tr>
<tr>
<td>Arts</td>
<td>1</td>
</tr>
<tr>
<td>Letters</td>
<td>1</td>
</tr>
<tr>
<td>Biological Science</td>
<td>1</td>
</tr>
<tr>
<td>Physical Science</td>
<td>2</td>
</tr>
<tr>
<td>Social Science</td>
<td>1</td>
</tr>
<tr>
<td>Core Enrichment: Electives</td>
<td>3–4</td>
</tr>
<tr>
<td>Religion Electives</td>
<td>Variable</td>
</tr>
<tr>
<td>Open Electives</td>
<td>Variable</td>
</tr>
<tr>
<td><strong>GRADUATION REQUIREMENTS:</strong></td>
<td></td>
</tr>
<tr>
<td>Minimum residence hours required</td>
<td>30.0</td>
</tr>
<tr>
<td>Minimum hours needed to graduate</td>
<td>120.0</td>
</tr>
</tbody>
</table>

*These classes fill both University Core and Program Requirements (15 hours overlap)

Note: Bio 220 and Bio 230, if taken for requirement 2, do not double count here.

Recommended Courses for Career Options

Botany
Students seeking career and graduate school opportunities in botanical fields should build their electives on a foundation of basic plant biology courses. Coupled with the broad integrative biology core, the following courses provide students with the greatest diversity of options for postgraduate work or training in plant biology:

- Bio 430, 455, 475, 510, 511, 512
- PWS 282, 283, 355, 440, 515

Students completing Bio 430, PWS 330 and 355 often find summer employment opportunities with government land agencies.

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BS in BIOLOGY (282022)
2015–2016

Students interested in applying to veterinary medicine schools should take the following courses as part of the biology major:

**Required:**
- Bio 220, 291R, 380, 392R.
- Chem 351, 352, 353 (1 hr req.), 481.
- MMBio 221, 222.
- Psych 111.
- PWS 335.
- Stat 201.
- StDev 150.

**Recommended:**
- MMBio 261, 407, 417.
- PDBio 325, 360, 484.

**Premedical and Predental**

Students interested in applying to medical or dental schools should take the following courses as part of the biology major:

- Chem 351, 352, 353 (2 hours suggested), 481.
- PDBio 220, 305.

**Suggested Sequence of Courses:**

**FRESHMAN YEAR**

1st Semester
- Bio 130 (FW) (Biological Science) 4.0
- Chem 105 (FWSp) 4.0
- First-Year Writing 3.0
  - or A Htg 100 (FWSpSu) (3.0)
- Quantitative Reasoning (if needed) 0–3.0
- Religion Cornerstone course 2.0

**Total Hours** 13–16.0

2nd Semester
- Chem 106, 107 (FWSpSu) 4.0
- Math 112 4.0
  - or A Htg 100 (FWSpSu) 3.0
  - or First-Year Writing (3.0)
- General Elective 3.0
- Religion Cornerstone course 2.0

**Total Hours** 16.0

**SOPHOMORE YEAR**

3rd Semester
- Bio 220 or 230 (FW) 4.0
- Phscs 105 & 107 (FWSp) (Physical Science) 4.0
- MMBio 240 (FWSp) 3.0
- Civilization 1 elective 3.0
- Religion Cornerstone course 2.0

**Total Hours** 16.0

4th Semester
- Phscs 106 & 108 4.0
- Biology elective 3.0
- Civilization 2 elective 3.0
- Arts or Letters elective (FWSpSu) 3.0
- Religion Cornerstone course 2.0

**Total Hours** 15.0

**JUNIOR YEAR**

5th Semester
- Bio 350 (FW) 3.0
- PWS 340 (FW) 3.0
- Biology elective 3.0
- Religion elective 3.0
- Religion elective 2.0

**Total Hours** 14.0

6th Semester
- Biology elective 4.0
- Biology elective 3.0
- Adv. Written & Oral Communication 3.0
- Religion elective 2.0

**Total Hours** 15.0

**SENIOR YEAR**

7th Semester
- Biology elective 5.0
- General elective 4.0
- Social Science elective 3.0
- Religion elective 2.0

**Total Hours** 14.0

8th Semester
- Bio 420 & 421 3.0
- Biology elective 3.0
- Global & Cultural Awareness elective 3.0
- General electives 4.0

**Total Hours** 13.0

**THE DISCIPLINE:**

The biology degree provides students with current, practical knowledge of plants and animals, emphasizing whole organism biology in both ecological and evolutionary contexts. Broad, synthetic training, from molecular to community levels of organization, equips students to address critical issues and contemporary biological problems associated with the long-term preservation of earth’s biodiversity. Elective flexibility allows students to emphasize the botanical or zoological fields, or create a combined program of study. Undergraduate research opportunities may include internships, museum collections curation, bioinventory and database activities, applied molecular genetics, and field and laboratory research in ecology, conservation biology, and evolutionary biology.

**RESEARCH OPPORTUNITIES:**

One objective of this program is to provide solid preparation for postgraduate studies. For that reason students should take advantage of research opportunities. Department faculty conduct field and laboratory research on diverse topics (including genetics of human diseases, conservation biology, molecular systematics, evolution of life history strategies, biogeographical ecology, bioinventories, aquatic ecology, and bioassessment). Undergraduates have studied black bears in Utah, mouse systematics in Mexico, stenofly and trout biogeography in the western U.S., turtles in Amazonia, insects in Borneo, and fish predation in the Provo River. The mentoring option allows up to 2 hours of Bio 494R research credit.

**FINANCING:**

Students in this major may apply for university, college, and departmental scholarships. A number of research or teaching assistant positions for undergraduates also exist.

**PROFESSIONAL TRAINING, INTERNSHIPS, CO-OP EDUCATION, AND PRACTICAL EXPERIENCE:**

Undergraduates can seek paid positions in research laboratories. Cooperative programs with the U.S. Forest Service and the U.S. Fish and Wildlife Service may be available, as is summer employment with state and federal agencies. This can lead to permanent employment. Completing Bio 430, PWS 330 and 355 can increase summer employment options with government agencies.

**CAREERS:**

Post-graduate study in a wide-variety of sub disciplines in biology (molecular biology, genetics, ecology, evolutionary biology, conservation biology, etc.), as well as preparation for medical or dental school. Students may also pursue employment as a biologist in state and federal agencies, non-government organizations, and research laboratories.

**Note:** This degree program requires a minimum of 120.0 hours for graduation. Students are encouraged to complete an average of 15 credit hours each semester or 30 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.