## 2020 - 2021 Major Map

**Biological Sciences (Biology and Society), BS**

**School/College:** The College of Liberal Arts and Sciences  
**Location:** Tempe campus

<table>
<thead>
<tr>
<th>Term 1</th>
<th>0 - 15 Credit Hours</th>
<th>Critical course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
</table>
| **BIO 281:** Conceptual Approaches to Biology for Majors I (SQ)  
**OR** **BIO 181:** General Biology I (SQ) | 4 | C | • Mathematics Placement Assessment score determines placement in mathematics and science course  
• LIA 101, ASU 101, or other First-Year Seminar required of all first-year students |
| **LIA 101:** Student Success in The College of Liberal Arts and Sciences | 1 | |  
**CHM 113:** General Chemistry I (SQ) | 4 | C |
| **ENG 101**  
**OR** **ENG 102:** First-Year Composition  
**OR** **ENG 105:** Advanced First-Year Composition  
**OR** **ENG 107**  
**Eng 108:** First-Year Composition | 3 | C | • An SAT, ACT, Accuplacer, IELTS, or TOEFL score determines placement into first-year composition courses  
• Students transferring General Statistics (STP 226 or PSY 230) will fulfill STP 231 requirement  
• Select your career interest area and play me3@ASU |
| **STP 231:** Statistics for Life Science (CS) | 3 | C |
| **Term hours subtotal:** | 15 | | |

<table>
<thead>
<tr>
<th>Term 2</th>
<th>15 - 32 Credit Hours</th>
<th>Critical course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
</table>
| **BIO 282:** Conceptual Approaches to Biology for Majors II  
**OR** **BIO 182:** General Biology II (SQ) | 4 | C | • Join a student organization  
• Create a resume & Handshake account with the Career & Professional Development Center  
• Explore Research Opportunities  
• Attend a Pre-Health 101 Session  
• Explore extracurriculars (i.e. service learning, community service, internships, research, student involvement, shadowing, etc.)  
• Students transferring Calculus (MAT 270 or MAT 210) will fulfill MAT 251 requirement |
| **CHM 116:** General Chemistry II (SQ) | 4 | C |
| **ENG 101**  
**OR** **ENG 102:** First-Year Composition  
**OR** **ENG 105:** Advanced First-Year Composition  
**OR** **ENG 107**  
**Eng 108:** First-Year Composition | 3 | C |
| **MAT 251:** Calculus for Life Sciences (MA)  
**Social-Behavioral Sciences (SB) AND Global Awareness (G) | 3 | C |
| **Complete ENG 101 OR ENG 105 OR ENG 107 course(s).** | | | |
| **Term hours subtotal:** | 17 | | |

<table>
<thead>
<tr>
<th>Term 3</th>
<th>32 - 48 Credit Hours</th>
<th>Critical course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
</table>
| **BIO 340:** General Genetics | 4 | C | • Pre-health students should take CHM 233 and CHM 237 instead of the elective in this term. See pre-health website for more information.  
• If CHM 233 and 237 are taken, then CHM 234 and 238 must be taken the following semester  
• It is not recommended to take more than two lab courses in a term. |
| **BIO 311:** Biology and Society  
**OR** **HPS 340:** Biology and Society  
**Humanities, Arts and Design (HU) AND Cultural Diversity in the U.S. (C) | 3 | C | |
| **Complete 2 courses:**  
**Elective** | 6 | | |
Complete Mathematics (MA) requirement.

Term hours subtotal: 16

**Term 4 48 - 63 Credit Hours** Critical course signified by ★

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>★ BIO 345: Evolution</td>
<td>3</td>
<td>C</td>
<td>Pre-health students should take CHM 234 and CHM 238 instead of the elective in this term. See pre-health website for more information.</td>
</tr>
<tr>
<td>Literacy and Critical Inquiry (L)</td>
<td>3</td>
<td></td>
<td>If CHM 233 and 237 are taken, then CHM 234 and 238 must be taken the following semester.</td>
</tr>
<tr>
<td>Social-Behavioral Sciences (SB)</td>
<td>3</td>
<td></td>
<td>Explore or pursue internship opportunities</td>
</tr>
<tr>
<td>Complete 2 courses:</td>
<td>6</td>
<td></td>
<td>Meet with the Career &amp; Professional Development Center to learn how to develop professional skills</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Term hours subtotal: 15

**Term 5 63 - 77 Credit Hours** Necessary course signified by ★

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>★ BIO 314: Research Colloquium in Biology and Society I (L)</td>
<td>2</td>
<td>C</td>
<td>Pre-health students should take PHY 111 and 113 instead of an elective this term. See the pre-health website for more information.</td>
</tr>
<tr>
<td>Upper Division Science in Contemporary Society Interface Course</td>
<td>3</td>
<td>C</td>
<td>BIO 314 is recommended in this term, but can also be taken in Term 7</td>
</tr>
<tr>
<td>Science and Society Elective</td>
<td>3</td>
<td>C</td>
<td>BIO 314 is only taught in the Fall semester</td>
</tr>
<tr>
<td>Humanities, Arts and Design (HU) AND Historical Awareness (H)</td>
<td>3</td>
<td></td>
<td>Meet with your advisor to discuss ways to maximize your remaining time at ASU (i.e. pre-health; 4+1 Masters Programs; study abroad)</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td></td>
<td>Some upper-division Science in Contemporary Society Interface courses require lower-division prerequisites which may be taken as electives</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Explore graduate school or full-time career opportunities</td>
</tr>
</tbody>
</table>

Term hours subtotal: 14

**Term 6 77 - 93 Credit Hours** Necessary course signified by ★

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>★ Upper Division History and Philosophy of Science Interface Course</td>
<td>3</td>
<td>C</td>
<td>Pre-health students should take PHY 112 and 114 instead of electives this term. See the pre-health website for more information.</td>
</tr>
<tr>
<td>★ Upper Division Major Biological Sciences Elective</td>
<td>3</td>
<td>C</td>
<td>Research employment opportunities or graduate school programs</td>
</tr>
<tr>
<td>Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete 2 courses:</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Term hours subtotal: 16

**Term 7 93 - 107 Credit Hours** Necessary course signified by ★

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>★ Upper Division History and Philosophy of Science Interface Course</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>★ Upper Division Major Biological Sciences Elective</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete 2 courses:</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Term hours subtotal: 16
Science in Contemporary Society Interface Courses

AFR 383: Blacks in Science, Medicine and Public Health
ASB 355: Death and Dying in Cross-Cultural Perspective ((HU or SB) & G)
BIO 302: Cancer--Mother of All Diseases (L)
BIO 304: Plants and Civilization (L) or ENV 302: Plants and Civilization (L)
BIO 317: History of Science (HU & H)
BIO 320: Conservation of Biodiversity
BIO 323: Ecosystem Restoration and Management
BIO 412: Conservation in Practice or SOS 412: Conservation in Practice
BIO 427: Fire (H)
HPS 311: Origins, Evolution, and Creation

Major Biological Sciences Elective Courses

BIO 303: Plant Diversity and Evolution (L or SG) or ENV 300: Plant Diversity and Evolution (L or SG)
BIO 308: Plant Physiology
BIO 309: Plant Anatomy
BIO 312: Bioethics (HU) or PHI 320: Bioethics (HU)
BIO 313: The Flora of Arizona
BIO 316: History of Biology: Conflicts and Controversies (H) or HPS 330: History of Biology: Conflicts and Controversies (H)
BIO 320: Fundamentals of Ecology
BIO 322: Conservation of Biodiversity
BIO 323: Ecosystem Restoration and Management
BIO 324: Environmental Ethics (HU) or PHI 310: Environmental Ethics (HU)

Upper Division Additional Major Core Elective Courses

Complete 2 courses:
Upper Division Major Biological Sciences Elective
BIO 484: Internship OR BIO 492: Honors Directed Study OR BIO 493: Undergraduate Research
Upper Division Elective
Complete 2 courses:
Elective

Term hours subtotal: 14

<table>
<thead>
<tr>
<th>Term 8 107 - 120 Credit Hours Necessary course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 414: Research Colloquium in Biology and Society II (L)</td>
<td>1</td>
<td>C</td>
</tr>
<tr>
<td>Upper Division Major Biological Sciences Elective</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>BIO 484: Internship OR BIO 492: Honors Directed Study OR BIO 493: Undergraduate Research</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Upper Division Elective</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Complete 2 courses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Term hours subtotal:</td>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

- All students pursuing a BS or BSP degree in The College of Liberal Arts and Sciences must complete two courses from the Science and Society list found at https://thecollege.asu.edu/resources/science-society. At least one of the two courses must be upper-division and students must earn a C or better in the courses. Both Science and Society courses (i.e., all six credits) may count towards any major, minor, related fields, and ASU General Studies requirements.

- Meet with your advisor to verify remaining degree requirements have been met prior to Term 8
- Explore or apply for full-time career opportunities or graduate school

- BIO 414 is only taught in the Spring semester
- Students who complete less than 3 hours of BIO 484 or BIO 495 should plan to complete additional elective hours to reach the minimum 120 total hours required for this degree.
- BIO 484 or BIO 495 requires the completion of an individualized instruction form and meeting with a faculty member before the semester begins. These are positions and research experience secured by the student on their own.
- Continue to apply for full-time career opportunities or graduate school

Hide Course List(s)/Track Group(s)

Science in Contemporary Society Interface Courses

AFR 383: Blacks in Science, Medicine and Public Health
ASB 355: Death and Dying in Cross-Cultural Perspective ((HU or SB) & G)
BIO 302: Cancer--Mother of All Diseases (L)
BIO 304: Plants and Civilization (L) or ENV 302: Plants and Civilization (L)
BIO 317: History of Science (HU & H)
BIO 320: Conservation of Biodiversity
BIO 323: Ecosystem Restoration and Management
BIO 412: Conservation in Practice or SOS 412: Conservation in Practice
BIO 427: Fire (H)
HPS 311: Origins, Evolution, and Creation

Major Biological Sciences Elective Courses

BIO 303: Plant Diversity and Evolution (L or SG) or ENV 300: Plant Diversity and Evolution (L or SG)
BIO 308: Plant Physiology
BIO 309: Plant Anatomy
BIO 312: Bioethics (HU) or PHI 320: Bioethics (HU)
BIO 313: The Flora of Arizona
BIO 316: History of Biology: Conflicts and Controversies (H) or HPS 330: History of Biology: Conflicts and Controversies (H)
BIO 320: Fundamentals of Ecology
BIO 322: Conservation of Biodiversity
BIO 323: Ecosystem Restoration and Management
BIO 324: Environmental Ethics (HU) or PHI 310: Environmental Ethics (HU)

Additional Major Core Elective Courses

BIO 302: Cancer--Mother of All Diseases (L)
BIO 304: Plants and Civilization (L) or ENV 302: Plants and Civilization (L)
BIO 312: Bioethics (HU) or PHI 320: Bioethics (HU)
BIO 316: History of Biology: Conflicts and Controversies (H) or HPS 330: History of Biology: Conflicts and Controversies (H)
BIO 322: Conservation of Biodiversity
BIO 323: Ecosystem Restoration and Management
BIO 324: Environmental Ethics (HU) or PHI 310: Environmental Ethics (HU)
BIO 412: Conservation in Practice or SOS 412: Conservation in Practice
BIO 416: Biomedical Research Ethics (L) or HPS 410: Biomedical Research Ethics (L)
Notes:

- Please keep in mind that the applicability of a specific transfer course toward an ASU degree program depends on the requirements of the department, division, college or school in which you are enrolled at ASU. Transfer agreements that guarantee the completion of university level requirements do not necessarily meet college and major requirements. Please consult with an advisor for more information.

**General University Requirements Legend**

General Studies Core Requirements:
- Literacy and Critical Inquiry (L)
- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Arts and Design (HU)
- Social-Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)
General Studies Awareness Requirements:

- Cultural Diversity in the U.S. (C)
- Global Awareness (G)
- Historical Awareness (H)

First-Year Composition

General Studies designations listed on the major map are current for the 2020 - 2021 academic year.