## 2019 - 2020 Major Map
### Biological Sciences (Conservation Biology and Ecology), BS

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

### Term 1 0 - 15 Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIA 101: Student Success in the College of Liberal Arts and Sciences</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 281: Conceptual Approaches to Biology for Majors I (SQ)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>CHM 113: General Chemistry I (SQ)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

**Critical course signified by ■**  
**Hours**  
**Minimum Grade**  
**Term hours subtotal:** 15

- Mathematics Placement Assessment score determines placement in mathematics and science courses  
- LIA 101, ASU 101, or other First Year Seminar required of all freshman students  
- An SAT, ACT, Accuplacer, IELTS, or TOEFL score determines placement into first-year composition courses  
- Students transferring General Biology I (BIO 181) will fulfill BIO 281 requirement  
- Students transferring General Statistics (STP 226 or PSY 230) will fulfill STP 231 requirement  
- Select your career interest area.

### Term 2 15 - 30 Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 282: Conceptual Approaches to Biology for Majors II</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>CHM 116: General Chemistry II (SQ)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>STP 231: Statistics for Life Science (CS) OR STP 226: Elements of Statistics (CS)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

**Critical course signified by ■**  
**Hours**  
**Minimum Grade**  
**Term hours subtotal:** 15

- Join a student organization  
- Create a resume & Handshake account with the Career & Professional Development Center  
- Explore extracurriculars (i.e. service learning, community service, internships, research, student involvement, shadowing, etc.)  
- Attend a Pre-Health 101 Session  
- Students transferring General Biology II (BIO 182) will fulfill BIO 282 requirement  
- Students transferring Calculus (MAT 270 or MAT 210) will fulfill MAT 251 requirement

### Term 3 30 - 45 Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 320: Fundamentals of Ecology</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Physical Science Requirement Course</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>CLAS Science and Society Elective</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

**Critical course signified by ■**  
**Hours**  
**Minimum Grade**  
**Term hours subtotal:** 15

- Pre-health students should take CHM 233 and CHM 237 this term. See the pre-health website for more information
Humanities, Arts and Design (HU) AND Historical Awareness (H) 3

Literacy and Critical Inquiry (L) 3

1. Complete First-Year Composition requirement.
2. Complete Mathematics (MA) requirement.

Term hours subtotal: 15

### Term 4 45 - 61 Credit Hours

<table>
<thead>
<tr>
<th>Critical course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 340: General Genetics</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Humanities, Arts and Design (HU) AND Global Awareness (G)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social-Behavioral Sciences (SB)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete 2 courses:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Term hours subtotal: 16

### Term 5 61 - 76 Credit Hours

<table>
<thead>
<tr>
<th>Necessary course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 322: Conservation of Biodiversity</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Upper Division Human Dimensions of Conservation and Ecology</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>BIO 345: Organic Evolution</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Social-Behavioral Sciences (SB) AND Cultural Diversity in the U.S. (C)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Term hours subtotal: 15

### Term 6 76 - 91 Credit Hours

<table>
<thead>
<tr>
<th>Necessary course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Division Conservation Biology and Ecology Field Methods</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Upper Division CLAS Science and Society Elective</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Upper Division Social-Behavioral Sciences (SB) OR Upper Division Humanities, Arts and Design (HU)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Division Elective</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</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></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Term hours subtotal: 15

### Term 7 91 - 106 Credit Hours

<table>
<thead>
<tr>
<th>Necessary course signified by</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Division Advanced Ecology</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

- If CHM 233 and 237 are taken, then CHM 234 and 238 must be taken the following semester
- Explore extracurriculars (i.e. service learning, community service, internships, research, student involvement, shadowing, etc.)
- Attend a Study Abroad 101 Session
- Explore minors or certificates

- Meet with the Career & Professional Development Center to learn how to develop professional skills
- Explore extracurriculars (i.e. service learning, community service, internships, research, student involvement, shadowing, etc.)
- Pre-health students should take CHM 234 and CHM 238 this term. See the pre-health website for more information
- If CHM 233 and 237 are taken, then CHM 234 and 238 must be taken the following semester

- In these Human Dimensions courses, students learn about the human and social dimensions of conservation science
- Pre-health students should take PHY 111 and 113 instead of PHY 101 this term. See the pre-health website for more information
- Meet with your advisor to discuss ways to maximize your remaining time at ASU (i.e. pre-health; 4+1 Masters Programs; study abroad)
- Explore graduate school or full-time opportunities

- These Conservation Biology and Ecology courses teach students field (outdoor) and laboratory methods that are commonly used in conservation biology and ecology.
- Pre-health students should take PHY 112 and 114 this term. See the pre-health website for more information
- Use Handshake to research employment opportunities
- Explore graduate school or full-time opportunities

Page 2
Human Dimensions of Conservation and Ecology

BIO 304: Plants and Civilization or ENV 302: Plants and Civilization (L)
BIO 324: Environmental Ethics (HU) or PHI 310: Environmental Ethics (HU)
BIO 412: Conservation in Practice
BIO 427: Fire (H)
BIO 434: People and Nature: Ecosystem Services or SOS 434: People and Nature: Ecosystem Services
BIO 495: Undergraduate Research

Conservation Biology and Ecology Field Methods
BIO 410: Techniques in Conservation Biology and Ecology (L)
BIO 494: Discovering Biodiversity
BIO 494: Novel Ecosystems
BIO 498: Sonoran Desert Field Botany

Physical Science Requirement Courses
CHM 231: Elementary Organic Chemistry (SQ) AND CHM 235: Elementary Organic Chemistry Laboratory (SQ)
GIS 205: Geographic Information Science I (CS)
GIS 211: Geographic Information Science II (CS)
GLG 101: Introduction to Geology I (Physical) (SQ) AND GLG 103: Introduction to Geology I-Laboratory (SQ)
GPH 111: Introduction to Physical Geography (SQ)
PHY 101: Introduction to Physics (SQ) OR PHY 111: General Physics (SQ) AND PHY 113: General Physics Laboratory (SQ)

Quantitative & Spatial Analysis Course
Upper Division Literacy and Critical Inquiry (L)
Upper Division Elective
Elective
Term hours subtotal: 15

Term 8 106 - 120 Credit Hours Necessary course signified by ⭐  
<table>
<thead>
<tr>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>⭐ Upper Division Advanced Ecology, Biodiversity, Field or Research Course</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>⭐ Upper Division Advanced Human Dimensions of Conservation and Ecology</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>Upper Division Elective</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Elective OR BIO 484: Internship OR MIC 484: Internship OR MBB 484: Internship</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Term hours subtotal:</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

- All students pursuing a B.S. or B.S.P. degree in the College of Liberal Arts and Sciences must complete two courses from the Science and Society list found at https://clas.asu.edu/resources/science-society. At least one of the two courses must be upper division. Students must earn a C or better in the courses, and no more than one of the two can also be used to simultaneously fill a requirement of the major, minor or related area. Science and Society courses cannot also be used to fill the general studies HU, SB, SQ or SG requirements.

- These Advanced Ecology courses focus on the sub-disciplines of ecology across levels of biological organization, from individuals to landscapes.
- Please note that BIO 421 and BIO 422 are only offered in fall terms. BIO 423 is offered in spring terms. Students who do not complete BIO 421 or BIO 422 in fall of their senior year will need to complete BIO 423 in the spring term immediately following.
- Explore or apply for full-time career opportunities or graduate school
- Meet with your advisor to verify remaining degree requirements have been met prior to Term 8

- Students must complete BIO 421 or BIO 422 or BIO 423 no later than the eighth term
- Continue to apply for full-time career opportunities or graduate school
### 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.
Total Hours: 120
Upper Division Hours: 45 minimum
Major GPA: 2.00 minimum
Cumulative GPA: 2.00 minimum
Total hrs at ASU: 30 minimum
Hrs Resident Credit for Academic Recognition: 56 minimum
Total Community College Hrs: 64 maximum
Total College Residency Hrs: 12 minimum

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 2019 - 2020 academic year.