# 2018 - 2019 Major Map

**Biological Sciences (Genetics, Cell and Developmental Biology), BS**

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

## LABSCGBS

### Term 1  
**0 - 15 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>LIA 101: Student Success in the College of Liberal Arts and Sciences</td>
<td>1</td>
<td></td>
<td>• Mathematics Placement Assessment score determines placement in mathematics and science courses</td>
</tr>
<tr>
<td>BIO 281: Conceptual Approaches to Biology for Majors I (SQ)</td>
<td>4</td>
<td>C</td>
<td>• LIA 101 or other First Year Seminar required of all freshman students</td>
</tr>
<tr>
<td>CHM 113: General Chemistry I (SQ)</td>
<td>4</td>
<td>C</td>
<td>• An SAT, ACT, Accuplacer, IELTS, or TOEFL score determines placement into first-year composition courses</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>• Select your career interest area and play me3@ASU.</td>
</tr>
<tr>
<td>STP 231: Statistics for Life Science (CS)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

**Term hours subtotal:** 15

### Term 2  
**15 - 32 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 282: Conceptual Approaches to Biology for Majors II</td>
<td>4</td>
<td>C</td>
<td>• Join a student organization</td>
</tr>
<tr>
<td>CHM 116: General Chemistry II (SQ)</td>
<td>4</td>
<td>C</td>
<td>• Create a resume &amp; Handshake account with the Career &amp; Professional Development Center</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>• Explore research opportunities</td>
</tr>
<tr>
<td>MAT 251: Calculus for Life Sciences (MA)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Social-Behavioral Sciences (SB) AND Global Awareness (G)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete BIO 281 AND BIO 282 course(s).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete ENG 101 OR ENG 105 OR ENG 107 course(s).</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**Term hours subtotal:** 17

### Term 3  
**32 - 46 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 340: General Genetics</td>
<td>4</td>
<td>C</td>
<td>• Pre-health students should take CHM 233 and CHM 237 instead of CHM 231 and CHM 235 this term. See pre-health website for more information</td>
</tr>
<tr>
<td>CHM 231: Elementary Organic Chemistry (SQ) AND CHM 235: Elementary Organic Chemistry Laboratory (SQ)</td>
<td>4</td>
<td>C</td>
<td>• If CHM 233 and 237 are taken, then CHM 234 and 238 must be taken the following semester</td>
</tr>
<tr>
<td>CLAS Science and Society Elective</td>
<td>3</td>
<td>C</td>
<td>• Explore extracurriculars (i.e. service learning, community service, internships, research, student involvement, shadowing, etc.)</td>
</tr>
<tr>
<td>Humanities, Arts and Design (HU) AND Historical Awareness (H)</td>
<td>3</td>
<td></td>
<td>• Attend a Study Abroad 101 Session</td>
</tr>
<tr>
<td>Complete First-Year Composition requirement.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete Mathematics (MA) requirement.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Term hours subtotal:** 14

### Term 4  
**46 - 61 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: Organic Evolution</td>
<td>3</td>
<td>C</td>
<td>• Pre-health students should take CHM 234 and CHM 238 instead of an elective this</td>
</tr>
</tbody>
</table>
Complete 2 courses:

**BIO 351: Developmental Biology OR BIO 353: Cell Biology OR BCH 361: Advanced Principles of Biochemistry**

PHY 101: Introduction to Physics (SQ)

*Humanities, Arts and Design (HU)*

Upper Division Elective

**Term hours subtotal:** 16

Pre-health students should take PHY 111 and PHY 113 instead of PHY 101 this term. See pre-health website for more information.

Pre-health students should take PHY 112 and PHY 114 instead of an elective this term. See pre-health website for more information.

Use Handshake to research employment opportunities.

Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).

**Term hours subtotal:** 15

**Term 7 92 - 107 Credit Hours Necessary course signified by **

**Upper Division Major Laboratory/Research Course**

**Upper Division Major Elective**

**Upper Division CLAS Science and Society Elective**

**Upper Division Literacy and Critical Inquiry (L)**

**Elective OR BIO 484: Internship OR MIC 484: Internship OR MBB 484: Internship**

**Term hours subtotal:** 15

Explore or apply for full-time career opportunities or graduate school.

Meet with your advisor to verify remaining degree requirements have been met.

**Term 8 107 - 120 Credit Hours Necessary course signified by **

**Major Laboratory/Research Course**

**BIO 360: Animal Physiology OR BIO 446: Principles of Human Genetics (L) OR MBB 440: Functional Genomics OR MIC 420: Immunology: Molecular and Cellular Foundations**

**Upper Division Major Elective**

**Upper Division Elective**

**Term hours subtotal:** 15

Continue to apply for full-time career opportunities or graduate school.
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.
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.

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**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)

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**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

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**General Studies Awareness Requirements:**

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

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First-Year Composition

General Studies designations listed on the major map are current for the 2018 - 2019 academic year.