# Molecular Biosciences and Biotechnology, BS

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

## Term 1 - 0 - 15 Credit Hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIA 101</td>
<td>Student Success in the College of Liberal Arts and Sciences</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 281</td>
<td>Conceptual Approaches to Biology for Majors I (SQ)</td>
<td>4</td>
<td>C</td>
<td>SAT, ACT, Accuplacer, IELTS, or TOEFL score determines placement into first-year composition courses</td>
</tr>
<tr>
<td>CHM 113</td>
<td>General Chemistry I (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>Mathematics Placement Assessment score determines placement in mathematics and science courses</td>
<td></td>
</tr>
<tr>
<td>STP 231</td>
<td>Statistics for Life Science (CS)</td>
<td>3</td>
<td>C</td>
<td>ASU 101 or college-specific First-Year Seminar required of all freshman students. LIA 101 satisfies this requirement</td>
</tr>
</tbody>
</table>

**Term hours subtotal:** 15

## Term 2 - 15 - 32 Credit Hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 282</td>
<td>Conceptual Approaches to Biology for Majors II</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>CHM 116</td>
<td>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>
<td></td>
</tr>
<tr>
<td>MAT 251</td>
<td>Calculus for Life Sciences (MA)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Complete ENG 101 OR ENG 105 OR ENG 107 course(s).**

**Term hours subtotal:** 17

## Term 3 - 32 - 46 Credit Hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBB 347</td>
<td>Molecular Genetics: From Genes to Proteins</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>
<td></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>
<td></td>
</tr>
<tr>
<td>Social-Behavioral Sciences (SB) AND Global Awareness (G)</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Complete First-Year Composition requirement.**  
**Complete Mathematics (MA) requirement.**

**Term hours subtotal:** 14

## Term 4 - 46 - 60 Credit Hours

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBB 343: Genetic Engineering and Society (L)</td>
<td>4</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIC 220: Biology of Microorganisms AND MIC 206: Microbiology Laboratory (SG)</td>
<td>4</td>
<td>C</td>
<td>Attend a Study Abroad 101 Session</td>
<td></td>
</tr>
</tbody>
</table>
Humanities, Arts and Design (HU) AND Historical Awareness (H) 3
Elective 3

Term hours subtotal: 14

Term 5 60 - 76 Credit Hours Necessary course signified by ★ Hours Minimum Grade Notes

★ MBB 484: Internship OR MBB 495: Undergraduate Research 3 C Pre-health students should take PHY 111 and PHY 113 instead of PHY 101. See pre-health website for more information
PHY 101: Introduction to Physics (SQ) 4 C MBB 484 or MBB 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
Humanities, Arts and Design (HU) AND Cultural Diversity in the U.S. (C) 3
Social-Behavioral Sciences (SB) 3
Elective 3

Term hours subtotal: 16

Term 6 76 - 90 Credit Hours Necessary course signified by ★ Hours Minimum Grade Notes

★ MBB 484: Internship OR MBB 495: Undergraduate Research 3 C Pre-health students should take PHY 111 and PHY 113 instead of PHY 101. See pre-health website for more information
PHY 101: Introduction to Physics (SQ) 4 C MBB 484 or MBB 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
BCH 361: Advanced Principles of Biochemistry AND BCH 367: Elementary Biochemistry Laboratory 4 C
Upper Division CLAS Science and Society Elective 3 C
Complete 2 courses:
Elective 4

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

Term hours subtotal: 14

Term 7 90 - 105 Credit Hours Necessary course signified by ★ Hours Minimum Grade Notes

★ MBB 490: Capstone: Issues in Biotechnology (L) 2 C Explore or apply for full-time career opportunities or graduate school
Upper Division Major Electives 3 C Meet with your advisor to verify remaining degree requirements have been met
Upper Division Social-Behavioral Sciences (SB) OR Upper Division Humanities, Arts and Design (HU) 3
Complete 2 courses:
Upper Division Elective 7

Term hours subtotal: 15

Term 8 105 - 120 Credit Hours Necessary course signified by ★ Hours Minimum Grade Notes

★ MBB 491: Capstone: Issues in Molecular Biosciences (L) 2 C Continue to apply for full-time career opportunities or graduate school
Upper Division Major Electives 4 C
Upper Division Elective 3
• 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.

---

**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 2018 - 2019 academic year.