













# 2023 - 2024 Major Map



## Biology, BS




School/College: New College of Interdisciplinary Arts and Sciences  
ASLSCBS

Term 1 0 - 15 Credit Hours <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes
 BIO 181: General Biology I (SQ)	4	C	<ul style="list-style-type: none"> <li>MAT 210 or higher-level (MA) accepted. MAT 251 (MA) recommended. Students considering research or graduate/medical/professional school may consider the MAT 270 and MAT 271 calculus sequence as an alternative (this may require more than 120 credits to complete degree).</li> <li>ASU 101 or college-specific First-Year Seminar required of all first-year students. NEW 101-M satisfies this requirement.</li> <li>IAS 300 (three credit hours) is required for all transfer students in place of NEW 101-M.</li> <li>Select your <a href="#">Career Interest Communities</a> and play <a href="#">me3@ASU</a>.</li> <li>Activate your <a href="#">Handshake</a> account and build out your profile.</li> </ul>
 MAT 210: Brief Calculus (MA) OR MAT 251: Calculus for Life Sciences (MA)	3	C	
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 or ENG 108: First-Year Composition	3	C	
NEW 101-M: The ASU New College Experience	1		
Term hours subtotal:	15		
Term 2 15 - 30 Credit Hours <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes
 BIO 182: General Biology II (SG)	4	C	<ul style="list-style-type: none"> <li>Students taking MAT 270 AND MAT 271 in place of MAT 210 still must complete a Statistics course. Students wishing to take STP 226 can take MAT 271 in place of STP 226 in Term 2, and then take STP 226 in a later term.</li> <li>Students considering medical school, graduate school, or research are encouraged to enroll in STP 280 (and 281 the following semester) in place of STP 226 so that they have a full year of statistics. Note that MAT 270 and 271 are prerequisites for STP 280 and 281 respectively. This may require more than 120 hours to complete the degree.</li> <li>Create a first draft <a href="#">resume</a>.</li> <li>Join a <a href="#">student club</a> or professional organization.</li> <li>Secure a <a href="#">part-time job</a> or <a href="#">volunteer experience</a>.</li> </ul>
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 or ENG 108: First-Year Composition	3	C	
STP 226: Elements of Statistics (CS)	3	C	
Elective	1		
 Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Term hours subtotal:	15		
Term 3 30 - 44 Credit Hours <b>Critical course signified by</b> 	Hours	Minimum Grade	Notes

	PHY 111: General Physics (SQ) AND PHY 113: General Physics Laboratory (SQ)	4	C	<ul style="list-style-type: none"> <li>Develop your <b>research skills</b>.</li> <li>Develop your <b>professional skills</b>.</li> </ul>
	CHM 233: General Organic Chemistry I AND CHM 237: General Organic Chemistry Laboratory I	4	C	
	Humanities, Arts and Design (HU)	3		
	Social-Behavioral Sciences (SB)	3		
	Complete First-Year Composition requirement.			
	Complete Mathematics (MA) requirement.			
Term hours subtotal:		14		

Term 4 44 - 60 Credit Hours <b>Critical course signified by</b> 		Hours	Minimum Grade	Notes
	PHY 112: General Physics (SQ) AND PHY 114: General Physics Laboratory (SQ)	4	C	<ul style="list-style-type: none"> <li>Explore an internship, an IGLE international experience, or ASU Study Abroad.</li> </ul>
	CHM 234: General Organic Chemistry II AND CHM 238: General Organic Chemistry Laboratory II	4	C	
	Humanities, Arts and Design (HU) AND Global Awareness (G)	3		
	Social-Behavioral Sciences (SB)	3		
	Elective	2		
	Complete CHM 113 AND CHM 116 course(s).			
Term hours subtotal:		16		

Term 5 60 - 76 Credit Hours <b>Necessary course signified by</b> 		Hours	Minimum Grade	Notes
	LSC 347: Fundamentals of Genetics AND LSC 348: Fundamentals of Genetics Laboratory	4	C	<ul style="list-style-type: none"> <li>See note below regarding Upper Division Related Area Elective requirements.</li> <li>IAS 300 (three credit hours) is required for all transfer students.</li> <li>Thinking about graduate school? Consider registering for a grad school <b>test prep course</b>.</li> <li>Develop your <b>professional online presence</b>.</li> </ul>
	Upper Division Related Area Elective	3	C	
	Upper Division Literacy and Critical Inquiry (L) OR IAS 300: Career Strategies and Personal Resilience (L or SB)	3		
	Cultural Diversity in the U.S. (C)	3		
	Historical Awareness (H)	3		
Term hours subtotal:		16		

Term 6 76 - 90 Credit Hours <b>Necessary course signified by</b> 		Hours	Minimum Grade	Notes
	BIO 320: Fundamentals of Ecology AND LSC 322: Fundamentals of Ecology Laboratory	4	C	<ul style="list-style-type: none"> <li>Use Handshake to research <b>employment opportunities</b>.</li> <li>Complete an in person or virtual <b>practice interview</b>.</li> </ul>
	BIO 353: Cell Biology AND BIO 354: Cell Biology Laboratory	4	C	

Upper Division Language and Cultures: Requirement satisfied through the following:  
 \* Completion of six semester hours of upper-division courses that have a Global Awareness (G) or Cultural Diversity (C) designation, in addition to the courses used to meet the University General Studies requirements or four (4) sequential semesters of one foreign language or two (2) semesters of a current computer language. Adjustment to upper division hours is required if lower division courses are used.

Literacy and Critical Inquiry (L) ( BIO 306 recommended) 3

★ 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 - 106 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ Upper Division Biology Distribution Course	4	C	<ul style="list-style-type: none"> <li>Students must select a minimum of one lecture or lecture/lab combined course from each one of the three distribution areas: Cellular, Molecular, and Physiological Biology; Integrative Systems Ecology; Organismal Biology.</li> <li>See note below regarding Upper Division Related Area Elective requirement.</li> <li>Gather professional references.</li> </ul>
Upper Division Related Area Elective	3	C	
Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB) ( ASB 353 OR SOC 353 recommended)	3		
Complete 2 courses: Elective	6		
Term hours subtotal:	16		

Term 8 106 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ Complete 2 courses: Upper Division Biology Distribution Course	8	C	<ul style="list-style-type: none"> <li>Students must select a minimum of one lecture or lecture/lab combined course from each one of the three distribution areas: Cellular, Molecular, and Physiological Biology; Integrative Systems Ecology; Organismal Biology.</li> <li>Apply for full-time career opportunities.</li> </ul>
Upper Division Language and Cultures: Requirement satisfied through the following: * Completion of six semester hours of upper-division courses that have a Global Awareness (G) or Cultural Diversity (C) designation, in addition to the courses used to meet the University General Studies requirements or four (4) sequential semesters of one foreign language or two (2) semesters of a current computer language. Adjustment to upper division hours is required if lower division courses are used.	3	C	
Upper Division Elective	3		
Term hours subtotal:	14		

- Students must select a minimum of one lecture or lecture/lab combined course from each of the three Biology Distribution Areas: Cellular, Molecular and Physiological Biology; Integrative Systems Ecology; and Organismal Biology.
  - Upper Division Related Area Electives limited to courses designated for Biology (or related) majors in BCH, BIO, ENV, LSC, MIC, PLB, or PTX courses with BIO 182 as a prerequisite. Courses taken that do not require BIO 182 as a prerequisite will be used towards general university elective requirements. Not from BIO 305, 310, 312, 365. Special Topics 394/494 may be taken with prior approval. Up to three credit hours of LSC 388, LSC 484, LSC/BIO 493, LSC/BIO 499, and BIO 495 may be applied to this requirement.

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

<div>Biology Distribution: Cellular, Molecular and Physiological Biology</div> <div>BCH 371: Modern Concepts in Biochemistry AND BCH 372: Modern Concepts in Biochemistry Laboratory</div> <div>BIO 431: Genes, Development, and Evolution (L)</div> <div>BIO 443: Applied Molecular Genetics and Genomics AND LSC 447: Molecular Genetics Laboratory</div> <div>PTX 301: Basics of Pharmacology and Toxicology</div> <div>PTX 432: Fundamentals of Pharmacology or LSC 432: Fundamentals of Pharmacology</div>	<div>Biology Distribution: Integrative Systems Ecology</div> <div>BIO 345: Evolution</div> <div>BIO 412: Conservation in Practice</div> <div>BIO 422: Ecosystem Ecology</div> <div>BIO 438: Marine Biology</div> <div>ENV 410: Soil Science</div> <div>LSC 362: The Human Environment</div> <div>LSC 434: Marine Ecology</div> <div>PLB 300: Plant Diversity and Evolution (L or SG)</div>	<div>Biology Distribution: Organismal Biology</div> <div>BIO 360: Animal Physiology AND LSC 359: Animal Physiology Laboratory</div> <div>BIO 370: Vertebrate Zoology</div> <div>BIO 385: Comparative Invertebrate Zoology</div> <div>BIO 474: Herpetology</div> <div>ENV 394: Animal Behavior in a Changing Environment or LSC 394: Animal Behavior in a Changing Environment</div> <div>MIC 443: The Microbial Universe AND MIC 444: The Microbial Universe Laboratory</div> <div>PLB 302: Plants and Civilization (L)</div> <div>PLB 308: Plant Physiology</div> <div>PLB 310: The Flora of Arizona</div>
<div>Upper Division Related Area Electives</div> <div>BCH Upper Division Elective</div> <div>BIO Upper Division Elective</div> <div>ENV Upper Division Elective</div> <div>LSC Upper Division Elective</div> <div>PLB Upper Division Elective</div> <div>PTX Upper Division Elective</div>		

## Notes:

- First-Year Composition: All students are placed in ENG 101 unless submission of SAT, ACT, Accuplacer, IELTS, or TOEFL score, or college-level transfer credit or test credit equivalent to ASU's first-year composition course(s), determine otherwise. Students on Polytechnic, Downtown Phoenix and West Campuses are encouraged to complete the Directed Self-Placement survey to choose the first-year composition option they believe best suits their needs. Visit: <https://cisa.asu.edu/DSP>
- Mathematics Placement Assessment score determines placement in first mathematics course.

**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 next to courses on the major map were valid for the 2023 - 2024 academic year. Please refer to the course catalog for current General Studies designations at time of class registration. General Studies credit is applied according to the designation the course carries at the time the class is taken.