

2024 - 2025 Major Map

Biological Sciences, BS

School/College: The College of Liberal Arts and Sciences
LABSCBS



Term 1 - A 0 - 8 Credit Hours Critical course signified by !	Hours	Minimum Grade	Notes
! ASU 101-LA: The ASU Experience	1		<ul style="list-style-type: none"> ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students
! BIO 181: General Biology I (SCIT OR 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	
Term hours subtotal:	8		

Term 1 - B 8 - 18 Credit Hours Critical course signified by !	Hours	Minimum Grade	Notes
! BIO 182: General Biology II (SCIT OR SG)	4	C	<ul style="list-style-type: none"> View ASU Online first-year student registration information here. Create a resume and Handshake account with the Career & Professional Development Center to explore research or internship opportunities Explore extracurriculars (i.e. service learning, community service, internships, research, student involvement, shadowing, etc.) Join a student organization Students transferring Calculus (MAT 270 or MAT 210) will fulfill MAT 251 requirement Students not transferring mathematics courses must take the Mathematics Placement Assessment.
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	
MAT 251: Calculus for Life Sciences (MATH OR MA)	3	C	
Term hours subtotal:	10		



Term 2 - A 18 - 22 Credit Hours	Hours	Minimum Grade	Notes
CHM 113: General Chemistry I (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> Select your career interest area and play me3@ASU.
Term hours subtotal:	4		

Term 2 - B 22 - 29 Credit Hours Critical course signified by !	Hours	Minimum Grade	Notes
CHM 116: General Chemistry II (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> If interested in health-related professional programs, research the timeline for admissions preparation and general admission requirements. Explore extracurriculars (i.e. service learning, community service, internships, research, student involvement, shadowing, etc.)
STP 231: Statistics for Life Science (QTRS OR CS)	3	C	
! Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Term hours subtotal:	7		

- Students transferring General Statistics (STP 226 or PSY 230) will fulfill STP 231 requirement

Term 3 - A 29 - 36 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 BIO 340: General Genetics	4	C	<ul style="list-style-type: none"> • It is not recommended to take more than two lab courses in a term. • Review the Career Guide for ASU Online students to learn about available career planning resources.
Humanities, Arts and Design (HUAD)	3		
Term hours subtotal:	7		

Term 3 - B 36 - 42 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
Humanities, Arts and Design (HUAD)	3		<ul style="list-style-type: none"> • Meet with the Career & Professional Development Center to learn how to develop professional skills
Social and Behavioral Sciences (SOBE)	3		
 Complete First-Year Composition requirement.			
 Complete Mathematics (MATH) requirement.			
Term hours subtotal:	6		

Term 4 - A 42 - 48 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 BIO 345: Evolution	3	C	<ul style="list-style-type: none"> • Develop your professional online presence • Pre-health students may need CHM 233 and CHM 237 instead of CHM 231 and CHM 235. See the pre-health website for more information. • If CHM 233 is taken, then CHM 234 must be taken the following semester • Organic Chemistry labs (CHM 237 for CHM 233, and CHM 238 for CHM 234) are required and available at ASU over the summer. Please speak with an advisor for more information.
CHM 231: Elementary Organic Chemistry (SCIT OR SQ)	3	C	
Term hours subtotal:	6		



Term 4 - B 48 - 55 Credit Hours	Hours	Minimum Grade	Notes
Governance and Civic Engagement (CIVI)	3		
Elective	4		
Term hours subtotal:	7		

Summer 4 55 - 56 Credit Hours	Hours	Minimum Grade	Notes
CHM 235: Elementary Organic Chemistry Laboratory (SCIT OR SQ)	1	C	<ul style="list-style-type: none"> • ASU Online students will complete all experiments for the CHM 235 organic chemistry lab at the Tempe Campus of ASU during a one-week session in summer. Lab reports will be completed in later weeks during the same summer term. • Some pre-health students may need to complete CHM 237 and CHM 238 organic chemistry labs instead of CHM 235. Please see your advisor for more information.
Term hours subtotal:	1		



Term 5 - A 56 - 63 Credit Hours	Hours	Minimum Grade	Notes
PHY 101: Introduction to Physics (SCIT OR SQ)	4	C	

Global Communities, Societies and Individuals (GCSI)	3
Term hours subtotal:	7

- If interested in health-related professional programs, use [ASU's Health Professions Advising](#) to prepare for application.
- Some pre-health students may need PHY 111 and PHY 113 instead of PHY 101 in 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; Accelerated Masters Programs; study abroad)
- Explore [graduate school](#) or full-time [career opportunities](#)

Term 5 - B 63 - 69 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 Upper Division Additional Major Requirement Course	3-4	C	
Elective	3		
Term hours subtotal:	6-7		

- Some pre-health students may need PHY 112 and PHY 114 instead of an elective this term. See the pre-health [website](#) for more information.
- [Network](#) in your career interest area.

Term 6 - A 69 - 75 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 Upper Division Additional Major Requirement Course	3	C	
Science and Society Elective	3	C	
Term hours subtotal:	6		

- Work with your academic advisor to align your additional major requirements and major elective courses with your career aspirations
- Use [Handshake](#) to research employment opportunities

Term 6 - B 75 - 82 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 Upper Division Additional Major Requirement Course	3	C	
 Major Laboratory Research Course	1-4	C	
American Institutions (AMIT)	3		
Term hours subtotal:	7-10		

Term 7 - A 82 - 87 Credit Hours	Hours	Minimum Grade	Notes
Upper Division Major Laboratory Research Course	2-4	C	
Sustainability (SUST)	3		
Term hours subtotal:	5-7		

- 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

Term 7 - B 87 - 96 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 Upper Division Major Elective Course	3	C	
Complete 2 courses:	6		
Upper Division Elective			
Term hours subtotal:	9		

Term 8 - A 96 - 102 Credit Hours	Hours	Minimum Grade	Notes
Upper Division Science and Society Elective	3	C	
Upper Division Elective	3		

Term hours subtotal: 6

- Explore other resources available through ASU's **Career and Professional Development Center**

Term 8 - B 102 - 108 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
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★ Upper Division Major Elective Course

3 C

- Gather **professional references**

Upper Division Elective

3

Term hours subtotal: 6

Term 9 - A 108 - 114 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
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★ Upper Division Additional Major Requirement Course

3 C

Elective

3

Term hours subtotal: 6

Term 9 - B 114 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
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★ Upper Division Additional Major Requirement Course

3 C

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

Elective

3

Term hours subtotal: 6

- 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.

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

Major Laboratory Research Course	Major Electives	Additional Major Requirements Courses
BCH 367: Elementary Biochemistry Laboratory	BCH 361: Advanced Principles of Biochemistry	Ethics, History, and Philosophy of Science
BIO 321: Introductory Ecology Laboratory	BIO OR HPS OR MBB OR MIC 3** Elective	BIO 311: Biology and Society or HPS 340: Biology and Society
BIO 342: General Genetics Laboratory	BIO OR HPS OR MBB OR MIC 4** Elective	BIO 312: Bioethics (HUAD OR HU) or PHI 320: Bioethics (HUAD OR HU)
BIO 357: Cell and Molecular Biology Laboratory		BIO 318: History of Medicine (HUAD OR HU & H) or HPS 331: History of Medicine (HUAD OR HU & H)
BIO 361: Animal Physiology Laboratory		BIO 416: Biomedical Research Ethics (L) or HPS 410: Biomedical Research Ethics (L)
BIO 370: Vertebrate Zoology		HPS 314: Philosophy of Science (HUAD OR HU) or PHI 314: Philosophy of Science (HUAD OR HU)
BIO 415: Statistical Models for Biology (QTRS OR CS)		Ecology, Conservation Biology and Evolution
BIO 475: Advanced Human Anatomy		BIO 320: Fundamentals of Ecology
BIO 484: Internship		BIO 322: Conservation of Biodiversity
BIO 492: Honors Directed Study or MIC 492: Honors Directed Study or MBB 492: Honors Directed Study		BIO 422: Ecosystem Ecology
BIO 495: Undergraduate Research		

MIC 220: Biology of Microorganisms AND
MIC 206: Microbiology Laboratory (SCIT
OR SG)

BIO 423: Population and Community
Ecology

**Microbiology, Molecular, & Cellular
Biology**

BCH 361: Advanced Principles of
Biochemistry

BIO 351: Developmental Biology

BIO 353: Cell Biology

BIO 420: Immunology: Molecular and
Cellular Foundations or MIC 420:
Immunology: Molecular and Cellular
Foundations

BIO 440: Functional Genomics

MIC 220: Biology of Microorganisms AND
MIC 206: Microbiology Laboratory (SCIT
OR SG)

Organismal Biology

BIO 331: Animal Behavior

BIO 360: Animal Physiology

BIO 370: Vertebrate Zoology

BIO 462: Endocrine Physiology

- **Total Hours:** 120
- **Upper Division Hours:** 45 minimum
- **University Undergraduate Graduation Requirements**

Notes:

Mathematics Placement Assessment score determines placement in first mathematics course.

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 Studies designations listed next to courses on the major map were valid for the 2024 - 2025 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.