











2024 - 2025 Major Map




Biochemistry (Medicinal Chemistry), BS

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



Term 1 - A 0 - 7 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
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	<ul style="list-style-type: none"> ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students. Select your Career Interest Areas and play me3@ASU.
ASU 101-LA: The ASU Experience	1		
Humanities, Arts and Design (HUAD)	3		
Term hours subtotal:	7		
Term 1 - B 7 - 13 Credit Hours	Hours	Minimum Grade	Notes
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	<ul style="list-style-type: none"> View ASU Online first-year student registration information here.
MAT 265: Calculus for Engineers I (MATH OR MA)	3	C	
Term hours subtotal:	6		
Term 2 - A 13 - 20 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 113: General Chemistry I (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> Research timelines for health careers and professional program admissions preparation.
MAT 266: Calculus for Engineers II (MATH OR MA)	3	C	
Term hours subtotal:	7		
Term 2 - B 20 - 27 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 116: General Chemistry II (SCIT OR SQ)	4	C	
Quantitative Reasoning (QTRS)	3		
Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Term hours subtotal:	7		
Term 3 - A 27 - 34 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 PHY 111: General Physics (SCIT OR SQ)	3	C	<ul style="list-style-type: none"> Research admission requirements for health-related professional schools.
PHY 113: General Physics Laboratory (SCIT OR SQ)	1	C	
Social and Behavioral Sciences (SOBE)	3		
Term hours subtotal:	7		
Term 3 - B 34 - 41 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 PHY 112: General Physics (SCIT OR SQ)	3	C	
PHY 114: General Physics Laboratory (SCIT OR SQ)	1	C	
Humanities, Arts and Design (HUAD)	3		
Complete First-Year Composition requirement.			



Complete Mathematics (MATH) requirement.

Term hours subtotal: 7

Term 4 - A 41 - 48 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 BIO 181: General Biology I (SCIT OR SQ)	4	C	<ul style="list-style-type: none"> • Connect with a career advisor by registering for a Handshake account. • Create a first draft resume.
 CHM 233: General Organic Chemistry I	3	C	
Term hours subtotal:	7		

Term 4 - B 48 - 55 Credit Hours	Hours	Minimum Grade	Notes
BIO 182: General Biology II (SCIT OR SG)	4	C	
CHM 234: General Organic Chemistry II	3	C	
Term hours subtotal:	7		

Summer 4 55 - 57 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 237: General Organic Chemistry Laboratory I	1	C	<ul style="list-style-type: none"> • ASU Online students will complete all experiments for the Organic Chemistry labs at the ASU Tempe campus during a one-week session in summer. Lab reports will be completed in subsequent weeks during the same summer term.
CHM 238: General Organic Chemistry Laboratory II	1	C	
Term hours subtotal:	2		

Term 5 - A 57 - 61 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 BCH 341: Physical Chemistry with a Biological Focus	3	C	<ul style="list-style-type: none"> • Consider applying for a Pre-Health Internship to gain hands-on clinical experience. For other types of internship opportunities, students can go to Handshake or connect with an academic advisor to discuss options.
CHM 343: Elementary Physical Chemistry Laboratory	1	C	
Term hours subtotal:	4		

Term 5 - B 61 - 67 Credit Hours	Hours	Minimum Grade	Notes
BCH 463: Biophysical Chemistry	3	C	
American Institutions (AMIT)	3		
Term hours subtotal:	6		

Term 6 - A 67 - 73 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 BIO 353: Cell Biology	3	C	
Governance and Civic Engagement (CIVI)	3		
Term hours subtotal:	6		

Term 6 - B 73 - 80 Credit Hours	Hours	Minimum Grade	Notes
Sustainability (SUST)	3		
Upper Division Elective	4		
Term hours subtotal:	7		

Term 7 - A 80 - 86 Credit Hours Necessary course signified by 	Hours	Minimum Grade	Notes
 BCH 461: General Biochemistry	3	C	
Global Communities, Societies and Individuals (GCSI)	3		
Term hours subtotal:	6		

Term 7 - B 86 - 92 Credit Hours	Hours	Minimum Grade	Notes
BCH 462: General Biochemistry	3	C	
Science and Society Elective	3	C	
Term hours subtotal:	6		

Summer 7 92 - 95 Credit Hours	Hours	Minimum Grade	Notes
BCH 467: Analytical Biochemistry Laboratory (L)	3	C	
Term hours subtotal:	3		<ul style="list-style-type: none"> ASU Online students will complete all experiments for the Analytical Biochemistry lab at the ASU Tempe campus during a one-week session in summer. Lab reports will be completed in subsequent weeks during the same summer term.

Term 8 - A 95 - 102 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ CHM 433: Advanced Organic Chemistry I	3	C	
Upper Division Elective	4		
Term hours subtotal:	7		

Term 8 - B 102 - 108 Credit Hours	Hours	Minimum Grade	Notes
BCH OR CHM Upper Division Elective	3	C	
Elective	3		<ul style="list-style-type: none"> Upper Division BCH or CHM Elective cannot be met with BCH 361, BCH 367, BCH 371, BCH 372, BCH 373, CHM 341, CHM 460, or CHM 480. Talk with your academic advisor for options.
Term hours subtotal:	6		

Term 9 - A 108 - 114 Credit Hours	Hours	Minimum Grade	Notes
Upper Division Science and Society Elective	3	C	
Upper Division Elective OR BCH 484: Internship	3		
Term hours subtotal:	6		

Term 9 - B 114 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ CHM 435: Medicinal Chemistry	3	C	
Upper Division Elective	3		<ul style="list-style-type: none"> Apply for full-time career opportunities.
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)

- 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.