

2023 - 2024 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		
Social-Behavioral Sciences (SB)	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 (MA)	3		
Term hours subtotal:	6		
Term 2 - A 13 - 20 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 113: General Chemistry I (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 (MA)	3		
Term hours subtotal:	7		
Term 2 - B 20 - 27 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 116: General Chemistry II (SQ)	4	C	
Computer/Statistics/Quantitative Applications (CS)	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 (SQ)	3	C	<ul style="list-style-type: none"> Research admission requirements for health-related professional schools. Create a first draft resume. Due to lower-division prerequisites, pre-health students are encouraged to choose upper-division General Studies (HU or SB) and Science and Society courses.
PHY 113: General Physics Laboratory (SQ)	1	C	
Social-Behavioral Sciences (SB) AND Cultural Diversity in the U.S. (C)	3		
Term hours subtotal:	7		
Term 3 - B 34 - 41 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 PHY 112: General Physics (SQ)	3	C	

PHY 114: General Physics Laboratory (SQ)	1	C
Literacy and Critical Inquiry (L)	3	
Complete First-Year Composition requirement.		
Complete Mathematics (MA) 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 (SQ)	4	C	• Explore internship opportunities within industry and health fields.
⚠ 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 (SG)	4		
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	• 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	• Connect with a career advisor by registering for a Handshake account.
CHM 343: Elementary Physical Chemistry Laboratory	1		
Term hours subtotal:	4		

Term 5 - B 61 - 67 Credit Hours	Hours	Minimum Grade	Notes
BCH 463: Biophysical Chemistry	3	C	
Humanities, Arts and Design (HU) AND Global Awareness (G)	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		
Humanities, Arts and Design (HU) AND Historical Awareness (H)	3		
Term hours subtotal:	6		

Term 6 - B 73 - 80 Credit Hours Necessary course signified by ⭐	Hours	Minimum Grade	Notes
Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)	3		
Upper Division Elective	4		
⭐ Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).			
Term hours subtotal:	7		

Term 7 - A 80 - 86 Credit Hours Necessary course signified by ⭐	Hours	Minimum Grade	Notes
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★ BCH 461: General Biochemistry	3	C	• Apply for full-time career opportunities
Elective	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	• 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 hours subtotal:	3		

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		
Term hours subtotal:	6		

Term 9 - A 108 - 114 Credit Hours	Hours	Minimum Grade	Notes
Upper Division Science and Society Elective	3	C	• Explore an internship.
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	
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)

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.

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 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.