












2021 - 2022 Major Map

Biochemistry (Medicinal Chemistry), BS

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

Term 1 0 - 15 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 117: General Chemistry for Majors I (SQ) AND CHM 111: General Chemistry Laboratory for Majors I (SQ) OR CHM 113: General Chemistry I (SQ)	4	C	<ul style="list-style-type: none"> ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students. Students placing into lower level math courses can still graduate in 4 years -- see an academic advisor for planning. Select your Career Interest Areas and play me3@ASU.
 MAT 270: Calculus with Analytic Geometry I (MA) OR MAT 265: Calculus for Engineers I (MA)	4-3	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	
LIA 101: Student Success in The College of Liberal Arts and Sciences	1		
Social-Behavioral Sciences (SB) AND Global Awareness (G)	3		
Term hours subtotal:		15-14	

Term 2 15 - 30 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 BIO 181: General Biology I (SQ)	4	C	<ul style="list-style-type: none"> Research timeline for health careers and professional program admissions preparation.
 CHM 118: General Chemistry for Majors II (SQ) AND CHM 112: General Chemistry Laboratory for Majors II (SQ) OR 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	
MAT 271: Calculus with Analytic Geometry II (MA) OR MAT 266: Calculus for Engineers II (MA)	4-3	C	
 Complete ENG 101 OR ENG 105 OR ENG 107 course(s).			
Term hours subtotal:		15-14	

Term 3 30 - 45 Credit Hours Critical course signified by 	Hours	Minimum Grade	Notes
 CHM 233: General Organic Chemistry I	3	C	<ul style="list-style-type: none"> Research admission requirements for health-related professional schools. Create a first draft resume.
 CHM 237: General Organic Chemistry Laboratory I	1	C	
 PHY 111: General Physics (SQ)	3	C	
BIO 182: General Biology II (SG)	4		
PHY 113: General Physics Laboratory (SQ)	1	C	



Complete First-Year Composition requirement.

Complete Mathematics (MA) requirement.

Term hours subtotal: 15

Term 4 45 - 60 Credit Hours Critical course signified by	Hours	Minimum Grade	Notes
---	-------	---------------	-------



PHY 112: General Physics (SQ)

3

C

CHM 234: General Organic Chemistry II

3

C

CHM 238: General Organic Chemistry Laboratory II

1

C

PHY 114: General Physics Laboratory (SQ)

1

C

Social-Behavioral Sciences (SB) AND Historical Awareness (H)

3

Elective

4

Term hours subtotal: 15

- Due to lower-division pre-requisites, pre-health students are encouraged to choose upper-division General Studies (HU or SB) and Science and Society courses.
- Explore internship opportunities within **industry** and **health fields**.
- Discuss **study abroad** opportunities with a School of Molecular Sciences advisor.

Term 5 60 - 75 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
--	-------	---------------	-------



BCH 341: Physical Chemistry with a Biological Focus

3

C

BCH 461: General Biochemistry

3

C

BIO 353: Cell Biology OR
BIO 360: Animal Physiology

3

CHM 343: Elementary Physical Chemistry Laboratory OR
BIO 361: Animal Physiology Laboratory

2

Humanities, Arts and Design (HU) AND Cultural Diversity in the U.S. (C)

3

Upper Division Elective

1

Term hours subtotal: 15

- Connect with a Career Advisor by registering for a **Handshake** account.
- Students choosing BIO 353 & CHM 343 should take a 3 credit hour elective in term 6.

Term 6 75 - 90 Credit Hours Necessary course signified by	Hours	Minimum Grade	Notes
--	-------	---------------	-------

BCH 462: General Biochemistry

3

C

BCH 463: Biophysical Chemistry

3

C

Science and Society Elective

3

C

Literacy and Critical Inquiry (L)

3

Elective

3

- This is an ideal semester to **study abroad**. BCH courses may be taken in final two terms.



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

Term 7 90 - 105 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ CHM 433: Advanced Organic Chemistry I	3	C	<ul style="list-style-type: none"> Apply for full-time career opportunities.
BCH 467: Analytical Biochemistry Laboratory (L)	3	C	
Upper Division Science and Society Elective	3	C	
Humanities, Arts and Design (HU)	3		
Upper Division Elective OR BCH 484: Internship	3		
Term hours subtotal:		15	

Term 8 105 - 120 Credit Hours Necessary course signified by ★	Hours	Minimum Grade	Notes
★ CHM 435: Medicinal Chemistry	3	C	<ul style="list-style-type: none"> Upper Division BCH or CHM Elective must be completed at Tempe campus and cannot be met with BCH 361, BCH 367, BCH 371, BCH 372, CHM 341, CHM 460, or CHM 480.
BCH OR CHM Upper Division Elective	3	C	
Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)	3		
<i>Complete 2 courses:</i> Upper Division Elective	6		
Term hours subtotal:		15	

- 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 2021 - 2022 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.