DEPARTMENT OF CHEMISTRY & BIOCHEMISTRY
B.A. IN BIOCHEMISTRY

UNIVERSITY OF ARIZONA, COLLEGE OF SCIENCE

CATALOG: FALL 2025

Name:

SID:

GENERAL EDUCATION REQUIREMENTS

English Composition

ENGL 101 or 107	3
ENGL 102 or 108	3
Or	
ENGL 109H	3

Second Language

4th Semester Proficiency or higher	4-5

Introduction to General Education

UNIV 101	1

Exploring Perspectives

Artist	3
Humanist	3
Natural Scientist *(fulfilled by CHEM 181 or PHYS 141)*	
Social Scientist	3

Building Connections

Course 1	3
Course 2	3
Course 3	3

General Education Portfolio

UNIV 301	1

FOUNDATIONAL MATH & SCIENCE

Mathematics

MATH 122A & B or MATH 125 – *Calculus*	3-5
MATH 263 – *Biostatistics (recommended)*	3
Or MATH 129 – *Calculus 2*	

Biology

MCB 181R – *Intro Biology 1*	3
MCB 181L – *Intro Biology Lab 1*	1
ECOL 182R – *Intro Biology 2*	3
ECOL 182L – *Intro Biology Lab 2*	1

Physics

PHYS 102 or 140 or 141 or 161H – *Intro Mechanics*	4
PHYS 103 or 240 or 241 or 261H – *Intro Electricity & Magnetism*	4

General Chemistry

CHEM 181 – *General Chemistry 1*	4
CHEM 182 – *General Chemistry 2*	4

BIOCHEMISTRY MAJOR REQUIREMENTS

CBC Majors First-Year Colloquium

CHEM 195A (F)	1

Organic Chemistry

CHEM 246 – *Principles of Organic Chem*	3
CHEM 256L – *Synthesis Lab*	2

Biochemistry Core

BIOC 296B – *Intro to Biochemistry Research*	1
BIOC 462A (F) – *Biochemistry I*	4
BIOC 462B (S) – *Biochemistry 2*	4
BIOC 463A – *Biochemistry Lab Techniques*	4

Chemistry Elective *(Choose one)*

CHEM 227 – *Principles of Analytical Chem*	*3*
CHEM 310 – *Principles of Inorganic Chem*	3
CHEM 385 – *Principles of Physical Chem*	3
CHEM 346 – *Advanced Organic Chemistry*	3

Biochemistry Electives *(6 units minimum)*

See Page 2 for complete electives list

Course 1
Course 2

UNIVERSITY REQUIREMENTS

UA Graduation Requirements

Total Units: 120
Upper-Division Units: 42
Cumulative GPA: 2.000+
Major GPA: 2.000+
Mid-Career Writing Assessment
Units in Residence @ UA: 30+
Upper-Division Units @ UA: 18+

Biochemistry Electives *(6 units minimum)*

BIOC 395B – *Scientific Writing*	1
BIOS 376 – *Intro. to Biostats (cannot also receive credit for MATH 263)*	3
BME 486 – *Biomaterial-Tissue Interactions*	3
CHEE 377 – *Microbiology for Engineers*	3
CHEM 325 – *Analytical Chemistry*	2
CHEM 326 – *Analytical Chemistry Lab*	2
CHEM 405A – *Basic Lab Safety*	1
CHEM 405B – *Advanced Lab Safety*	1
CHEM 405C – *Chemical Hygiene & Regulations*	1
CHEM 450 – *Synthetic & Mechanistic Organic Chemistry*	3
CHEM 485 – *Advanced Physical Chemistry*	3
ECOL 320(H) – *Genetics*	4-5
ECOL 326 – *Genomics*	3
ECOL 346 – *Bioinformatics*	4
ENVS 474 – *Aquatic Plants & the Environment*	4
ENVS 477 – *Principles of Ecotoxicology*	3
IMB 401 – *Medicinal Microbiology & Immunology*	4
MATH 363 – *Intro. To Statistical Methods*	3
MCB 304 – *Molecular Genetics*	4-5
MCB 325 – *The Biology of Cancer*	3-4
MCB 410 – *Cell Biology*	3-4
MCB 411 – *Molecular Biology*	3-4
MCB 416A – *Bioinformatics & Funct. Genomic Analysis*	3
MCB 425 – *Cancer Discoveries*	3
MCB 480 – *Intro. To Systems Biology*	3
MIC 328R – *Microbial Physiology*	3
MIC 419 – *Immunology*	4
MIC 452 – *Antibiotics-A Biological Perspective*	3
NSC 408 – *Nutritional Biology*	3
NSC 475 (S) – *Nutrigenomics for Dis. Prev. & Inter.*	3
NROS 307 – *Cellular Neurophysiology*	3-4
NROS 310 – *Molecular & Cellular Biology of Neurons*	3-4
NROS 430 – *Neurogenetics*	3
PCOL 320 – *Toxicology of Substances*	3
PCOL 410 – *Medicinal Chemistry*	5
PHCL 412 – *Intro. To Pharmacology*	3
PHCL 445 – *Drugs of Abuse*	3
PHYS 431 – *Molecular Biophysics*	3
PLP 320 – *Microbiomes*	3
PLP 329A – *Microbial Diversity*	3
PLP 428R – *Microbial Genetics*	3
PLS 312 – *Animal & Plant Genetics*	4
PLS 340 – *Intro. To Biotechnology*	3
PLS 359 – *Plant Cell Structure & Function*	3
PLS 360 – *Plant Growth & Physiology*	3
PLS 448A – *Plant Biochemistry & Metabolic Engineering*	3
PSIO 380 – *Fundamentals of Human Physiology*	4
PSIO 404 – *Advanced Topics in Cellular Physiology*	3
PSIO 420 – *Exercise & Environmental Physiology*	3
PSIO 431 – *Physiology of the Immune System*	3
PSIO 465 – *Neurophysiology*	3
PSIO 484 – *Cardiovascular Muscle Biology & Disease*	3
PSY 413 – *Drugs, Brain, and Behavior*	3
BIOC 362(H), 462(H) – *Directed Research*	1-3
BIOC 399(H), 499(H) – *Independent Study*	1-3
BIOC 498(H) – *Senior Capstone/Thesis*	3

Course offerings per semester are subject to change; if students cannot find the elective they desire, they can email an inquiry to the offering department. Please check the Schedule of Classes for most updated course information. Students are responsible for completing any pre-requisites or contacting the offering department if permission is required.

Recommended Academic Plan

Additional MATH pre-requisite coursework may be required to start Math & Chemistry. Please consult CBC Advisor for individualized academic plan.

1st Semester		2nd Semester		3rd Semester		4th Semester	
CHEM 181 *(F)*	4	CHEM 182 *(S)*	4	CHEM 246	3	BIOC 462A *(S)*	4
MATH 122A & 122B	5	MATH 263 or 129	3	CHEM 256L	2	BIOC 463A	4
CHEM 195A *(F)*	1	ENGL 102	3	MCB 181R/L	3/1	2nd Language	4-5
ENGL 101	3	Gen Ed EP or BC	3	BIOC 296B	1	ECOL 182R/L	3/1
UNIV 101	1	Gen Ed EP or BC	3	2nd Language	4-5		
Total Units	**14**	**Total Units**	**16**	**Total Units**	**15**	**Total Units**	**16**

5th Semester		6th Semester		7th Semester		8th Semester	
BIOC 462B *(F)*	4	Chem or Bioc elective	3	BIOC 498(H) *(1st)*	3	Chem or Bioc elective	3
PHYS 102 or 140	3	PHYS 103 or 240	3	Bioc Elective	3	BIOC 498(H) *(2nd)*	3
2nd Language	4-5	2nd Language	4-5	Gen Ed EP or BC	3	UNIV 301	1
Gen Ed EP or BC	3	Gen Ed EP or BC	3	Gen Ed EP or BC	3	Gen Ed EP or BC	3
Total Units	**15**	**Total Units**	**13**	**Total Units**	**12**	**Total Units**	**10**