



DEPARTMENT OF CHEMISTRY & BIOCHEMISTRY
BIOCHEMISTRY BACHELOR OF SCIENCE
CLASS OF 2024



NAME: _____

TERM 1	TERM 2	TERM 3	TERM 4	TERM 5	TERM 6	TERM 7	TERM 8
GE B1 & B3 CHEM 120A 5 units	CHEM 120B 5 units	CHEM 301A 3 units	CHEM 301B 3 units	CHEM 423A 3 units	CHEM 423B 3 units	CHEM 361A 3 units	CHEM 361B 3 units
GE B4 MATH 150A 4 units	MATH 150B 4 units	CHEM 306A 2 units	CHEM 315 3 units	CHEM 316 2 units	CHEM 422 2 units	CHEM 495 1 unit	CHEM 495 2 units
GE A1 or A2 3 units	GE B2 BIOL 151 4 units	BIOL 251 3 units	GE C1 or C2 3 units	PHYS 211,211L 4 units	PHYS 212,212L 4 units	CHEM Elective 3 units	CHEM Elective 3 units
CHEM 190 1 unit	GE A1 or A2 3 units	GE C1 3 units	GE D2 3 units	UD GE B5 3 units	Electives 3 units	Elective 2 units	Electives 3 units
GE A3 CNSM 101 3 units		GE D1 3 units	GE C2 3 units	UD writing 3 units	GE D3 3 units	UD GE C3 3 units	UD GE D4/Z 3 units
						GE E/Z 3 units	
16 units	16 units	14 units	15 units	15 units	15 units	15 units	14 units

27	GE lower division
9	GE upper division
3	CNSM required
3	Upper division writing
47	Biochemistry BS required
23	Biochemistry BS related
8	Elective
120	TOTAL UNITS

INSTRUCTIONS FOR COMPLETING THE BIOCHEMISTRY BACHELOR OF SCIENCE

1. Meet with your assigned faculty advisor each semester to plan and review your academic progress.
2. Visit your College of Natural Sciences and Mathematics Student Success Team in MH 488 to review GE and graduation requirements.
3. Complete GE courses in areas A1, A2, A3 and B4 with a C or better.
4. Complete a total of 12 units in GE Area B.
One course from GE Area Z can also fulfill a requirement in another category (e.g., D4). Check your Titan Degree Audit for courses that appear in both categories.
5. Apply for Graduation through your Student Center at the start of Term 7.

BIOCHEMISTRY BACHELOR OF SCIENCE

The Bachelor of Science in Biochemistry is offered for students who are planning careers that require a sound background in fundamental biochemistry. The B.S. Biochemistry program is particularly suited for those who plan to go into professional programs (medicine, pharmacy, dentistry, etc.) or advanced studies (M.S., Ph.D.) in biochemistry or chemistry.

The following courses are required to complete the B.S. in Biochemistry.

CHEMISTRY REQUIRED COURSES

- Complete the **fourteen** courses listed below:

Course	Course Title
CHEM 120A	General Chemistry
CHEM 120B	General Chemistry
CHEM 190	Orientation to Chemistry & Biochemistry
CHEM 301A	Organic Chemistry
CHEM 301B	Organic Chemistry
CHEM 306A	Organic Chemistry Lab
CHEM 315	Theory of Quantitative Chemistry
CHEM 316	Quantitative Chemistry Laboratory
CHEM 361A	Introduction to Physical Chemistry
CHEM 361B	Introduction to Physical Chemistry
CHEM 423A	General Biochemistry
CHEM 423B	General Biochemistry
CHEM 422	General Biochemistry Lab
CHEM 495	Senior Research

- Complete the **eight** courses listed below:

Course	Course Title
BIOL 151	Cellular and Molecular Biology
BIOL 251	Genetics
MATH 150A	Calculus I
MATH 150B	Calculus II
PHYS 211	Elementary Physics
PHYS 211L	Elementary Physics: Laboratory
PHYS 212	Elementary Physics
PHYS 212L	Elementary Physics: Laboratory

- Complete **six** units of upper division electives; choose from:

Course	Course Title
CHEM 325	Inorganic Chemistry
CHEM 410	Computational Chemistry
CHEM 411A-G	Instrumental Analysis (1 unit each)
CHEM 429	Medicinal Chemistry
CHEM 430	Bioorganic Chemistry
CHEM 431	Advanced Organic Chemistry
CHEM 438	Environmental Biochemistry
CHEM 445	Nutritional Biochemistry
CHEM 472B	Advances in Biotechnology Laboratory
CHEM 480T	Topics in Chemistry
BIOL 302	General Microbiology
BIOL 303	Intermediate Cell Biology
BIOL 309	Intermediate Molecular Biology
BIOL 362	Mammalian Physiology
BIOL 412	Principles of Gene Manipulation
BIOL 413	Advances in Molecular Genetics
BIOL 414	Microbial Genetics
BIOL 445	Plant Cell Physiology
BIOL 448	Plant Molecular Biology
MATH 338	Statistics Applied to Natural Sciences
HESC 401	Epidemiology

- Complete **one** course listed below to satisfy the University Upper Division writing requirement:

Course	Course Title
ENGL 301	Advanced College Writing
ENGL 360	Technical Writing
ENGL 363	Scientific Writing

GENERAL EDUCATION REQUIREMENTS

- Area A.** Complete one course in each subarea for a total of 9 units of lower division.

Subarea	Title
A1	Oral Communication
A2	Written Communication
A3	Critical Thinking (CNSM 101)

- Area B.** Complete one course in each subarea; the course in B3 must be associated with the course taken to satisfy B1 or B2. Area B courses must include 9 lower division and 3 upper division units (*).

Subarea	Title
B1	Physical Science
B2	Life Science
B3	Laboratory Activity
B4	Mathematics/Quantitative Reasoning
B5 (*)	Implications/Explorations in Math and Natural Sciences

- Area C.** Complete 3 units from C.1; 3 units from C.2; 3 units from C.3; and 3 units from either C.1 or C.2 for a total of 9 lower division and 3 upper division units (*).

Subarea	Title
C1	Introduction to Arts
C2	Introduction to Humanities
C3 (*)	Explorations in the Arts/Humanities

- Area D.** Complete 9 lower division and 3 upper division units (*).

Area	Title
D1	Introduction to Social Sciences
D2	American History, Institutions & Values
D3	American Government
D4 (*)	Explorations in Social Sciences

- Area E.** Complete 3 units.

Area	Title
E	Lifelong Learning and Self Development

- Area Z.** Cultural Diversity Requirement (3 units). One GE Course in B, C, D, or E must double-count as a Z course (check TDA or CSUF website for courses that appear in both categories).

Area	Title
Z	Cultural Diversity