

Department of Chemistry & Biochemistry
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Chemistry (B.A.)

The Bachelor of Arts degree in Chemistry is designed for students who desire: (1) a strong chemistry background for careers in the health field (see advisor concerning additional necessary courses), (2) careers in industry, including textile chemistry, technical sales, government laboratories, patent law, library fields, etc., or (3) a single subject teaching credential (science, chemistry).

Careers

Degrees in Chemistry and Biochemistry open doors to careers in medicine, industry and academia. Graduates can directly seek careers in manufacturing, pharmacology, environmental protection, biotechnology, nanotechnology and many other areas related to chemical and biochemical sciences. In addition, degrees in Chemistry and Biochemistry can act as springboards into professional programs, including doctoral, medical, dental and pharmacy schools. Master's degrees also provide preparation for Ph.D. programs and qualify graduates to teach at the secondary and community college levels.

Program Requirements

1. Lower Division Required Courses (24 units)

CHEM 101/L General Chemistry I and Lab (4/1)
CHEM 102/L General Chemistry II and Lab (4/1)
MATH 255A Calculus for the Life Sciences I (3)
MATH 255B Calculus for the Life Sciences II (3)
PHYS 220A Mechanics (3)
PHYS 220AL Mechanics Lab (1)
PHYS 220B Electricity and Magnetism (3)
PHYS 220BL Electricity and Magnetism Lab (1)

2. Upper Division Required Courses (27 units)

CHEM 321/L Chemical Analysis I and Lab (2/2)
CHEM 333/L Organic Chemistry I and Lab (4/1)
CHEM 334/L Organic Chemistry II and Lab (3/1)
CHEM 334R Problem Solving in Organic Chemistry II (1)
CHEM 351/L Physical Chemistry I (4/1)
CHEM 401 Inorganic Chemistry (3)
CHEM 422/L Chemical Analysis II and Lab (2/2)
CHEM 495A Directed Undergrad Research (1)
or CHEM 499A Independent Study (1)

3. Upper Division Electives (7 units)

Chemistry electives selected with approval of the major advisor from 400- or 500-level courses in Chemistry other than CHEM 495 and CHEM 499.

4. General Education (48 units)

Undergraduate students must complete 48 units of General Education as described in the Catalog. 9 units are satisfied by the following courses in the major: CHEM 101 satisfies B1 Physical Science; CHEM 101L satisfies B3 Science Lab Activity; MATH 255A satisfies Basic Skills B4 Mathematics /Quantitative Reasoning; and CHEM 333 satisfies B5 Scientific Inquiry and Quantitative Reasoning.

Total Units in the Major: 58
General Education Units: 39
Additional Units: 23

Total Units Required for the B.A. Degree: 120

SUGGESTED FOUR-YEAR SEQUENCE FOR B.A. CHEMISTRY MAJORS

YEAR 1: 1st Semester Suggested Courses	UNITS
CHEM 101 and CHEM 101L (meets GE B1 Physical Science & GE B3 Science Laboratory Activity)	5
MATH 150A or 255A (meets GE Basic Skills: B4 Mathematics and Quantitative Reasoning)	3
GE Basic Skills: A2 Written Communication	3
GE E Lifelong Learning	3
Elective	1
TOTAL	15

YEAR 1: 2nd Semester Suggested Courses	UNITS
CHEM 102 and CHEM 102L	5
MATH 150B or 255B	3
GE Basic Skills: A3 Critical Thinking	3
GE Basic Skills: A1 Oral Communication	3
Elective	1
TOTAL	15

YEAR 2: 1st Semester Suggested Courses	UNITS
CHEM 333/L and CHEM 333R (meets GE B5 Scientific Inquiry and Quantitative Reasoning)	5
PHYS 220A and PHYS 220AL	4
GE C1 Arts	3
GE B2 Life Science	3
TOTAL	15

YEAR 2: 2nd Semester Suggested Courses	UNITS
CHEM 334/L and CHEM 334R	5
PHYS 220B and PHYS 220BL	4
GE D1 Social Sciences	3
GE F Comparative Cultural Studies	3
Take the Upper Division Writing Proficiency Exam (UDWPE)	
TOTAL	15

YEAR 3: 1st Semester Suggested Courses	UNITS
CHEM 321/L	4
CHEM 351 and CHEM 351L (Fall only)	5
GE D3 and D4 Constitution of the United States and State and Local Government	3
Elective	3
TOTAL	15

YEAR 3: 2nd Semester Suggested Courses	UNITS
CHEM 401 (Spring only)	3
CHEM 422/L	4
Chemistry Elective	3
GE C2 Humanities	3
Elective	2
TOTAL	15

YEAR 4: 1st Semester Suggested Courses	UNITS
Chemistry Elective	4
GE Upper Division D1 Social Sciences	3
Electives	8
TOTAL	15

YEAR 4: 2nd Semester Suggested Courses	UNITS
CHEM 495 or CHEM 499	1
GE D2 American History Institutions and Ideals	3
GE Upper Division F Comparative Cultural Studies	3
Electives	8
TOTAL	15

OVERALL TOTAL UNITS: 120