

Bachelor of Arts in Chemistry

The Bachelor of Arts in Chemistry provides an excellent breadth of preparation in Chemistry suitable for obtaining a position at a chemical or pharmaceutical industry, or for admission to medical, dental, pharmacy, and veterinary programs; Single-Subject Science Credential programs for teaching Chemistry at the high school and middle school levels; and Chemistry graduate programs.[§]

The low number of units (55 units) in the Bachelor of Arts degree in Chemistry allows students to obtain a minor in another discipline (Biology, Environmental Science and Resource Management, or Physics), double major in Chemistry and another discipline (Biology/Chemistry or Environmental Science/Chemistry), and obtain the breadth of preparation in Physics, Chemistry, Biology, and Physics for a Single-Subject Science Credential.

- [Requirements for the Bachelor of Arts in Chemistry](#)
- [Proposed Course of Study for the Bachelor of Arts in Chemistry](#)

[§] The best preparation for graduate work in Chemistry and for many chemical and pharmaceutical industries is the [Bachelor of Science and Chemistry](#)

Requirements for the Bachelor of Arts in Chemistry (120 units)

Lower Division Core Requirements (28 units)

CHEM 121	General Chemistry I	(4 units)
CHEM 122	General Chemistry II	(4 units)
CHEM 250	Quantitative Analysis	(2 units)
CHEM 251	Quantitative Analysis Laboratory	(2 units)
MATH 150	Calculus I	(4 units)
MATH 151	Calculus II	(4 units)
PHYS 100	Introduction to Physics I <i>OR</i>	
PHYS 200	General Physics I	(4 units)
PHYS 101	Introduction to Physics II <i>OR</i>	
PHYS 201	General Physics II	(4 units)

Upper-Division Core Requirements (16 units)

CHEM 305	Computer Applications in Chemistry	(1 unit)
CHEM 311	Organic Chemistry I	(3 units)
CHEM 312	Organic Chemistry I Laboratory	(1 unit)
CHEM 314	Organic Chemistry II	(3 units)
CHEM 315	Organic Chemistry II Laboratory	(1 unit)
CHEM 371	Physical Chemistry I	(3 units)
CHEM 372	Physical Chemistry Laboratory	(1 unit)
CHEM 492	Internship/ Service Learning <i>OR</i>	
CHEM 494	Independent Research	(2 units)
CHEM 499	Chemistry Capstone Colloquium	(1 unit)

Upper-Division Chemistry Electives (11 units)

A total of 11 units of electives, excluding courses numbered 330-349 (except CHEM 341) or 430-449, including a minimum of two laboratory courses. No more than 2 units of Chemistry learning community courses (i.e., CHEM 123, 124, 313 and 316) can be used as electives.

A total of 11 units of electives, excluding courses numbered 330-349 (except CHEM 341) or 430-449 and including a minimum of two laboratory courses. Two units of Chemistry learning community courses (i.e., CHEM 123, 124, 313 and 316) and CHEM 341 may be used as electives toward the degree.

CHEM 123	General Chemistry I Problem-Solving (1)
CHEM 124	General Chemistry II Problem-Solving (1)
CHEM 301	Environmental Chemistry (3)
CHEM 313	Organic Chemistry I Learning Community (1)
CHEM 316	Organic Chemistry II Learning Community (1)
CHEM 326	Scientific and Professional Ethics (3)
CHEM 341	Drug Discovery and Development (3)
CHEM 410	Advanced Organic Synthesis (4)
CHEM 415	Molecular Structure Determination (4)
CHEM 450	Instrumental Analysis (4)
CHEM 460	Biochemistry I (4)
CHEM 461	Biochemistry II (4)
CHEM 465	Bioinorganic Chemistry (3)
CHEM 473	Physical Chemistry II (3)
CHEM 490	Special Topics in Chemistry (1-3)
CHEM 492	Internship/ Service Learning (1-3)
CHEM 494	Independent Research (1-3)
CHEM 497	Directed Studies (1-3))

Required Supporting and Other GE Courses (42 – 45 units)[‡]

- American Institutions Requirement (6)
- Other Courses in GE Categories A-E (36 – 39)[‡]

"A total of 11 units of electives, excluding courses numbered 330-349 (except CHEM 341) or 430-449 and including a minimum of two laboratory courses. Two units of Chemistry learning community courses (i.e., CHEM 123, 124, 313 and 316) and CHEM 341 may be used as electives toward the degree. *Electives in Any Discipline (20 – 23 units)* A total of 11 units of electives, excluding courses numbered 330-349 (except CHEM 341) or 430-449 and including a minimum of two laboratory courses. Two units of Chemistry learning community courses (i.e., CHEM 123, 124, 313 and 316) and CHEM 341 may be used as electives toward the degree.[‡]

Three units of General Education Category D may be included as Chemistry Electives (CHEM 326 or 341)
TOTAL UNITS *120 units*

A total of 11 units of electives, excluding courses numbered 330-349 (except CHEM 341) or 430-449 and including a minimum of two laboratory courses. Two units of Chemistry learning community courses (i.e., CHEM 123, 124, 313 and 316) and CHEM 341 may be used as electives toward the degree.

Proposed Course of Study for the Bachelor of Arts in Chemistry (120 units)

Three units of General Education Category D may be included as Chemistry Electives (CHEM 326 or 341)
A total of 11 units of electives, excluding courses numbered 330-349 (except CHEM 341) or 430-449 and including a minimum of two laboratory courses. Two units of Chemistry learning community courses (i.e., CHEM 123, 124, 313 and 316) and CHEM 341 may be used as electives toward the degree.

Freshman Year (31 Units)

FALL (14 Units)

Composition and Rhetoric (ENGL 102 or ENGL 105); GE Category A-2 (3)

Critical Reasoning; GE Category A-3 (3)

CHEM 121 General Chemistry I; GE Category B-1 (4)

MATH 150 Calculus I; GE Category B-3 (4)

SPRING (17 Units)

University Elective or ENGL 103 (3)

CHEM 122 General Chemistry II (4)

MATH 151 Calculus II (4)

Foreign Language Requirement; GE Category C-3a (3)

Oral Communication; GE Category A-1 (3)

Sophomore Year (29 Units)

FALL (14 Units)

American Institutions Requirement; Title V (3)

CHEM 311 Organic Chemistry I (3)

CHEM 312 Organic Chemistry I Laboratory (1)

Social Science, General Education Requirement; GE Category D (3)

Physics requirement (PHYS 100 or 200); (4)

SPRING (15 Units)

CHEM 314 Organic Chemistry II (3)

CHEM 315 Organic Chemistry II Laboratory (1)

Social Science, General Education Requirement; GE Category D (3)

Physics requirement (PHYS 101 or 201); (4)

CHEM 305 Computer Applications in Chemistry; GE Category B-4 (1)

U.S. History; Title V (3)

Junior Year (29 Units)

FALL (16 Units)

CHEM 371 Physical Chemistry I (3)

CHEM 371 Physical Chemistry Laboratory (1)

Multicultural General Education Requirement; GE Category C-3b (3)*

Life Science, General Education Requirement; GE Category B-2 (3)*

Literature, General Education Requirement; GE Category C-2 (3)*

University Elective (3)

SPRING (13 Units)

CHEM 250 Quantitative Analysis (2)

CHEM 251 Quantitative Analysis Laboratory (2)

Human Physiological and Psychological Perspectives, General Education Requirement; GE Category E (3)*

University Elective (3)
University Elective (3)

Senior Year (31 Units)

FALL (16 Units)

Chemistry Elective, Laboratory (4)
Chemistry Elective, Lecture (3)
Social Science, General Education Requirement; GE Category D (3)*
Visual and Performing Arts, General Education Requirement; GE Category C-1 (3)*
University Elective (3)

SPRING (15 Units)

Chemistry Elective, Laboratory (4)
Social Science, General Education Requirement; GE Category D (3) *OR* University
Elective (3)*
University Elective (3)
University Elective (2)
CHEM 492 Internship/ Service Learning or CHEM 494 Independent Research (2)
CHEM 499 Chemistry Capstone Colloquium (1))

Note to Students: To maximize University Electives, it is recommended that the nine units of upper-division, interdisciplinary general education courses (numbered 330-349 or 430-449) be taken from those courses marked with an asterisk (), in order to meet simultaneously Categories A-E and the nine units of Upper-Division General Education.*

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