

CHEMISTRY, BACHELOR OF ARTS

College of Letters & Science

Chemistry is the study of the composition of matter, its structure, and the means by which it is converted from one form to another.

The Program

We offer several degree programs leading to the Bachelor of Arts (A.B.) and the Bachelor of Science (B.S.). To meet and discuss these programs with our staff advisors, see Academic Advising (<https://chemistry.ucdavis.edu/undergraduate/academic-advising/>).

The curriculum leading to the A.B. degree offers a substantive program in chemistry while allowing students the freedom to take more courses in other disciplines and pursue a broad liberal arts education. Students with a deeper interest in chemistry should choose one of the several programs leading to the B.S. degree.

Career Alternatives

Chemistry graduates with bachelor's degrees are employed extensively throughout various industries in quality control, research & development, production supervision, technical marketing, and other areas. The types of industries employing these graduates include chemical, energy, pharmaceutical, genetic engineering, biotechnology, food & beverage, petroleum & petrochemical, paper & textile, electronics & computer, and environmental & regulatory agencies. The bachelor's programs also provide chemistry graduates with the rigorous preparation needed for an advanced degree in chemistry and various professional schools in the health sciences.

Major Advisor

To contact a major advisor in the Department of Chemistry, see Academic Advising (<https://chemistry.ucdavis.edu/undergraduate/academic-advising/>).

Honors & Honors Program

The student must take courses CHE 194HA, CHE 194HB, and CHE 194HC, and complete a capstone research project (typically a written honors thesis). For more information, see Undergraduate Research (<https://chemistry.ucdavis.edu/undergraduate/undergraduate-research/>).

Graduate Study

The Department of Chemistry offers programs of study and research leading to M.S. and Ph.D. degrees in Chemistry. Detailed information regarding graduate study may be obtained by contacting the Graduate Advisor, Department of Chemistry. See also Graduate Studies (<http://gradstudies.ucdavis.edu/>).

The major requirements below are in addition to meeting University Degree Requirements (<https://catalog.ucdavis.edu/undergraduate-education/university-degree-requirements/>) & College Degree Requirements (<https://catalog.ucdavis.edu/undergraduate-education/college-degree-requirements/>); unless otherwise noted. The minimum number of units required for the Chemistry Bachelor of Arts is 72.

Code	Title	Units
Preparatory Subject Matter		
<i>Chemistry</i>		
Choose a series:		15
CHE 002A & CHE 002B & CHE 002C	General Chemistry and General Chemistry and General Chemistry	
CHE 004A & CHE 004B & CHE 004C	General Chemistry for the Physical Sciences & Engineering and General Chemistry for the Physical Sciences & Engineering and General Chemistry for the Physical Sciences & Engineering	
<i>Physics</i>		
Choose a series:		12-15
PHY 007A & PHY 007B & PHY 007C	General Physics and General Physics and General Physics	
PHY 009A & PHY 009B & PHY 009C	Classical Physics and Classical Physics and Classical Physics	
<i>Mathematics</i>		
Choose a series:		9-12
MAT 016A & MAT 016B DISC & MAT 016C DISC	and (Discontinued for spring 2025 **)	
MAT 017A & MAT 017B & MAT 017C	Calculus for Biology & Medicine and Calculus for Biology & Medicine and Calculus for Biology & Medicine	
MAT 019A & MAT 019B & MAT 019C	Calculus for Data-Driven Applications and Calculus for Data-Driven Applications and Calculus for Data-Driven Applications	
MAT 021A & MAT 021B & MAT 021C	Calculus and Calculus and Calculus	
Preparatory Subject Matter Subtotal		36-42
Depth Subject Matter		
<i>Analytical Chemistry</i>		4
CHE 105	Analytical & Physical Chemical Methods	
<i>Physical Chemistry</i>		
Choose a series:		6-12
CHE 107A & CHE 107B	Physical Chemistry for the Life Sciences and Physical Chemistry for the Life Sciences	
OR		
CHE 110A & CHE 110B & CHE 110C	Physical Chemistry: Introduction to Quantum Mechanics and Physical Chemistry: Properties of Atoms & Molecules and Physical Chemistry: Thermodynamics, Equilibria & Kinetics	
<i>Inorganic Chemistry</i>		3
CHE 124A	Inorganic Chemistry: Fundamentals	
<i>Organic Chemistry</i>		12-13
Choose a series:		

CHE 118A Organic Chemistry for Health & Life
 & CHE 118B Sciences
 & CHE 118C and Organic Chemistry for Health & Life
 Sciences
 and Organic Chemistry for Health & Life
 Sciences

OR

CHE 128A Organic Chemistry
 & CHE 128B and Organic Chemistry
 & CHE 128C and Organic Chemistry
 & CHE 129A and Organic Chemistry Laboratory
 & CHE 129B and Organic Chemistry Laboratory

Additional Upper Division Units

11-18

Additionally, complete enough additional upper division units in Chemistry (CHE) or related areas to reach at least 43 total units of upper division major coursework. Depending on which physical and organic series are chosen, this will be between 11 and 18 additional upper division units. When credit is earned for one physical and organic series, units from the other series cannot count towards the major. These additional upper division units must include at least one course with formal lectures; courses in related areas must be approved in advance by the major advisor.

Depth Subject Matter Subtotal

43

Total Units

79-85