CHEMISTRY, BACHELOR OF ARTS

College of Letters & Science

The Major Programs
Chemistry studies 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 project (typically a written honors thesis).

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/).

Code  Title  Units

Preparatory Subject Matter

Chemistry

Choose a series:

CHE 002A  General Chemistry  15
& CHE 002B  and General Chemistry
& CHE 002C  and General Chemistry

Physics

Choose a series:

12-15

PHY 007A  General Physics
& PHY 007B  and General Physics
& PHY 007C  and General Physics

PHY 009A  Classical Physics
& PHY 009B  and Classical Physics
& PHY 009C  and Classical Physics

Mathematics

Choose a series:

9-12

MAT 016A  Short Calculus
& MAT 016B  and Short Calculus
& MAT 016C  and Short Calculus

MAT 017A  Calculus for Biology & Medicine
& MAT 017B  and Calculus for Biology & Medicine
& MAT 017C  and Calculus for Biology & Medicine

MAT 021A  Calculus
& MAT 021B  and Calculus
& MAT 021C  and Calculus

Preparatory Subject Matter Subtotal  36-42

Depth Subject Matter

Chemistry

CHE 105  Analytical & Physical Chemical Methods  4
CHE 110A  Physical Chemistry: Introduction to Quantum Mechanics  4
CHE 110B  Physical Chemistry: Properties of Atoms & Molecules  4
CHE 110C  Physical Chemistry: Thermodynamics, Equilibria & Kinetics  4
CHE 124A  Inorganic Chemistry: Fundamentals  3
CHE 128A  Organic Chemistry  3
CHE 128B  Organic Chemistry  3
CHE 128C  Organic Chemistry  3
CHE 129A  Organic Chemistry Laboratory  2
CHE 129B  Organic Chemistry Laboratory  2

Additional Upper Division Units

At least 11 additional upper division units in Chemistry (CHE) or related areas, including 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

1 Except CHE 107A or CHE 107B