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: 15

CHE 002A General Chemistry & 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

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. 11

Depth Subject Matter Subtotal 43

Total Units 79-85

1 Except CHE 107A or CHE 107B