Chemistry Teaching, BS

Department: Chemistry and Biochemistry Department
College: College of Science

Overview

About This Degree

Chemistry is the scientific study of matter, its properties, and interactions with other matter and with energy. At USU, chemistry majors have the opportunity to conduct undergraduate research from the beginning of their studies, first as laboratory assistants and eventually moving on to their own research projects.

Chemistry teachers educate students in middle school or high school levels on the basic chemical properties of elements and the chemical reactions that take place when different types of elements are combined and how to properly write scientific equations.

The department has two options for students interested in careers as high school or middle school chemistry teachers. The chemistry teaching option is appropriate for students who wish to teach chemistry, but who do not seek the depth of study required for American Chemical Soceity certification. The chemical education emphasis within the chemistry major requires a few additional math, statistics, and chemistry courses, which allows students to become ACS certified.

Career Options

Students who graduate in chemistry teaching are qualified to teach chemistry in middle schools or high schools.

Career Services provides counseling and information on hundreds of job and internship opportunities and even helps students apply and interview.

What it takes

Admissions Requirements

In addition to Utah State University's admissions requirements, the chemistry teaching program has additional requirements:

- **Freshmen:** New freshmen admitted to USU in good standing qualify for admission to this major.
- **Transfer students:** Transfer students from other institutions need a 2.5 total GPA for admission to this major. Students transferring from other USU majors need a total GPA of 2.5 for admission to this major.
- **STEP Requirements:** In order to be accepted into STEP, students must go through an application process, which includes the following:
    - Complete 60 semester credits with a minimum GPA of 2.75
    - Complete certain core courses (see department for more information)
    - Complete a speech and hearing test
    - Pass the Teacher Education Writing Exam
    - Provide an unofficial copy of your transcript
    - Pass a criminal background check (this should be done one semester before submitting the application)

International students have additional admissions requirements.

Major Requirements

Click here to see course requirements for the **Bachelor of Science**.

Contact

Advising

All new USU students participate in a New Student Orientation program, where they receive detailed information about major requirements, registering for classes, and other important advising information.

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Get Involved

Professional Organizations, Honor Societies, and Clubs

American Chemical Society: ACS is a congressionally chartered independent membership organization which represents professionals at all degree levels and in all fields of chemistry and sciences that involve chemistry. With a membership of chemists, chemical engineers, and other practitioners of the chemical sciences, it is the world's largest scientific society. ACS is recognized as a world leader in fostering scientific education and research and promoting the public's understanding of science.

Chemistry and Biochemistry Club: This club meets once a week to focus on career exploration by going on fieldtrips and hosting guest speakers, doing community service, teaching children of all ages about chemistry, and helping facilitate networking opportunities with students, faculty, and professionals at national conventions, departmental seminars, and club socials.

Labs, Centers, Research

With the second oldest undergraduate research program in the nation, USU offers students a wide range of opportunities to gain hands-on research experience. The Undergraduate Research and Creative Opportunities program allows students to apply for grants and receive funding. USU's Honors Program prepares students for excellent graduate programs by helping them build relationships with professors, participate in research projects, take smaller, more intensive classes, and develop leadership skills.

Center for Advanced Nutrition: The CAN provides a multi-disciplinary venue for the discussion, discovery, and dissemination of information about the biological, physiological, and psychological mechanisms of proper nutrition. The scope of discovery is broad and falls into four distinct but overlapping focus areas: bioactive foods, nutrition and the brain, ingestive behavior, and personalized nutrition.

Energy Dynamics Laboratory: EDL bridges the gap between academia and industry, confronting the challenges of prototyping, deployment, and commercialization of enabling technologies for renewable and advanced energy systems. USU researchers originate projects to derive energy from non-fossil fuels, such as biofuels, wind, and solar power. With EDL's collaboration, research develops through pilot projects to commercial application.

Environmental Quality Laboratory: The EQL is located at the Utah Water Research Lab and is equipped for analyses of organic and inorganic constituents in air, water, and soil. The EQL consists of chemistry, microbiology, radiological and analytical instrumentation laboratories, two constant-temperature rooms, and research project areas.

Institute for Antiviral Research: The IAR is comprised of a recognized team of scientists representing a spectrum of disciplines, who are researching ways to control viral diseases. The IAR has been involved with the pre-clinical development of several FDA-approved drugs, including Tamiflu, which was recently used to combat H1N1. The main areas of emphasis are respiratory diseases such as influenza and infections caused by emerging viruses, including West Nile virus.

Metabolic Engineering Laboratory: Research areas in this lab include the discovery and identification of bioactive natural products, biosynthetic mechanisms of pharmaceutically important compounds, characterization and development of biocatalysts for structural modification, as well as improvement of useful enzymes using protein-engineering approaches. Combinatorial biosynthesis of novel biologically significant compounds for drug

discovery is also being investigated.

USDA ARS Poisonous Plant Research Laboratory: The Poisonous Plant Research Laboratory identifies toxic plants, and its interdisciplinary teams of chemists, geneticists, pathologists, physiologists, plant and range scientists, toxicologists and veterinarians provide an interdisciplinary approach of applied and basic research to develop solutions to intoxication.