



UNIVERSITY  
OF ALBERTA

# Department of Chemistry

## Unique Offerings

### Research Labs and Facilities

As one of the best funded and most active chemistry research departments in North America, we are home to several state-of-the-art instrumentation laboratories. Our **Mass Spectrometry Laboratory**, **Nuclear Magnetic Resonance Laboratory**, and **X-ray Crystallography Laboratory** are some of the largest and best equipped in Canada.

**Undergraduate research** is an important part of education in the Department of Chemistry, with opportunities available as early as first year through volunteering in a lab. Research experience allows students to train in working research groups, increase their networking opportunities within the department, and gain access to state-of-the-art equipment in research labs at the U of A and potentially national facilities. Research opens doors to other opportunities such as research abroad, placements at other universities in Canada, summer research internships and awards.

- **CHEM 299**, Research Opportunity Program in Chemistry
- **CHEM 399**, Research Experience in Chemistry
- **CHEM 401/403**, Chemical Research
- **CHEM 499**, Advanced Chemical Research & Training

### Redefining the Classroom

With over 30,000 square feet of newly renovated laboratory spaces, we offer many experiential courses in which undergraduates develop their technical abilities.

In response to the need to diversify the STEM field, our student-driven initiative, **Working for Inclusivity in Chemistry** welcomes everyone to push the boundaries for diversity in chemistry.



## More Information

[undergrad@chem.ualberta.ca](mailto:undergrad@chem.ualberta.ca)  
[ualberta.ca/chemistry](http://ualberta.ca/chemistry)

# Undergraduate Programs

Widely considered the 'central science' discipline, a chemistry degree provides a broad background in the theory and practice of chemistry, and is a solid foundation from which to branch out to almost anything.

## CHEMISTRY - BSc Major/BSc Major-CSC Accredited Option) | Minor | BSc Honors

A required set of courses lays the groundwork for exploration that suits each student's interests and goals. Once the fundamentals are in place, students can choose to study a wide range of topics, including analytical chemistry, catalysis, chemical biology, environmental chemistry, organic and inorganic chemistry, physical properties and dynamics of chemical systems, quantitative and qualitative methods of analyses, spectroscopy, and more. As part of the undergraduate education, students have the opportunity to gain extensive course-based or research-based lab experience.

The Honors program is **fully accredited by the Canadian Society for Chemistry (CSC)**, allowing students to graduate and to apply for **Professional Chemist membership**. The Major program offers both a CSC accredited option and a non-accredited option.

## Connect with Industry

Coursework in **CHEM 300: Introduction to Industrial Chemistry** incorporates professional perspectives via participation of chemical industry representatives, acting in collaboration with professors who help to build students' knowledge of the chemical industry, networking skills, professional interviewing skills, and resume quality.

The **Science Internship Program (SIP)** allows for paid work placements with well-known companies such as Gilead Alberta ULC., Guardian Chemicals Inc., and NOVA Chemicals.

## Possible Careers

In addition to serving as a great basis for professional training (e.g., medicine, pharmacy, dentistry) or graduate studies in Chemistry, a Chemistry Major or Honors degree leads to a diverse set of career paths:

- Agricultural chemist
- Analytical chemist
- Biochemist or biotechnologist
- Cancer researcher
- Cosmetic chemist
- Food chemist
- Forensic laboratory analyst
- Formulation chemist
- Hazardous waste management
- Occupational health and safety officer
- Oil and petroleum research chemist
- Organic chemist
- Pharmaceutical scientist
- Quality control manager
- Toxicologist
- Water chemist



For admission requirements: [ualberta.ca/admissions](http://ualberta.ca/admissions)

For admission related questions: [science.recruiting@ualberta.ca](mailto:science.recruiting@ualberta.ca)