

# DEPARTMENT OF CHEMISTRY

## UNDERGRADUATE STUDIES

### OVERVIEW

THE DEPARTMENT OF **CHEMISTRY** AT THE UNIVERSITY OF ALBERTA PROVIDES AN OUTSTANDING ENVIRONMENT FOR STUDIES IN CHEMISTRY AND IS AMONG THE MOST ACTIVE RESEARCH DEPARTMENTS IN THE COUNTRY. AS ONE OF THE BEST EQUIPPED AND BEST FUNDED CHEMISTRY DEPARTMENTS IN NORTH AMERICA, OUR FACULTY ARE RENOWNED INTERNATIONALLY FOR EXCELLENCE IN TEACHING AND RESEARCH. WE HAVE A STRONG TRACK-RECORD FOR OUTSTANDING UNDERGRADUATE TEACHERS, WITH TEACHING AWARDS INCLUDING A 3-M TEACHING FELLOWSHIP, SEVERAL RUTHERFORD AWARDS FOR EXCELLENCE IN UNDERGRADUATE TEACHING, THE PROVOST'S AWARD FOR EARLY ACHIEVEMENT OF EXCELLENCE IN UNDERGRADUATE TEACHING, AND THE WILLIAM HARDY ALEXANDER AWARD FOR EXCELLENCE IN UNDERGRADUATE TEACHING. OUR FACULTY, LECTURERS, LAB COORDINATORS, AND TEACHING ASSISTANTS WORK IN THE CLASSROOMS AND IN THE LABORATORIES TO CHALLENGE AND ENGAGE STUDENTS.

### DEGREE 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. The Department of Chemistry boasts world-renowned faculty and researchers who exemplify excellence and passion in the discipline of chemistry, and those traits are also reflected within the curriculum.

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, chromatography, environmental chemistry, organic and inorganic chemistry, physical properties and dynamics of chemical systems, quantitative and qualitative methods of analyses, spectroscopy, and more.

*"The connections I had to students, staff, and research made my experience at the U of A memorable. I was very lucky to be able to participate in the Chemistry Students' Association as well as partake in multiple research projects both within the university with various professors as well as through the internship program. It made school something more than just classes."*

MARISSA CLAPSON, B.SC. 2016

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

## RESEARCH AREAS

The research interests of the faculty members encompass both traditional and emerging interdisciplinary areas including:

- + Analytical chemistry
- + Chemical biology
- + Chemical physics
- + Green chemistry
- + Glycomics
- + Inorganic chemistry
- + Materials and surfaces
- + Nanotechnology
- + Organic chemistry
- + Physical chemistry
- + Theoretical and computational chemistry

## UNIQUE OFFERINGS

### RESEARCH LABS AND FACILITIES

The Department of Chemistry is home to several state-of-the-art instrumentation laboratories that support our teaching and research programs. Our Mass Spectrometry Laboratory, Nuclear Magnetic Resonance Laboratory, and X-ray Crystallography Laboratory are some of the largest and best equipped in Canada.

### CONNECT WITH INDUSTRY

There are opportunities to learn about industry via coursework in CHEM 300: Introduction to Industrial Chemistry. The course 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. In addition, many of our students go on paid work placement through the Faculty of Science Internship Program (SIP) to well-known companies such as Gilead Alberta ULC., Guardian Chemicals Inc., and NOVA Chemicals.

## CAREERS

Chemistry provides a basis to branch out into many different career areas in industry, including:

- + Analytical chemist
- + Biochemist or biotechnologist
- + Cancer researcher
- + Chemical warfare expert
- + Cosmetic chemist
- + Environmental auditor
- + Food and drug inspector
- + Forensic laboratory analyst
- + Hazardous waste management
- + Hydrometric technologist
- + Occupational health and safety officer
- + Oil and gas worker
- + Organic chemist
- + Pharmacist or Pharmaceutical scientist
- + Purchasing agent
- + Quality control manager
- + Toxicologist

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**For more information on the programs and opportunities in Chemistry, visit: [ualberta.ca/chemistry](http://ualberta.ca/chemistry)**

## CONTACT

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

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