

CHEMISTRY

Experience Map



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University
of Windsor

CHEMISTRY

CHEMISTRY WITH THESIS

CHEMISTRY AND PHYSICS

CHEMISTRY AND PHYSICS WITH THESIS

GENERAL SCIENCE

INTERDISCIPLINARY ARTS AND SCIENCE

EXPERIENCE.UWINDSOR.CA

CHEMISTRY

SKILLS AND KNOWLEDGE OF CHEMISTRY GRADUATES

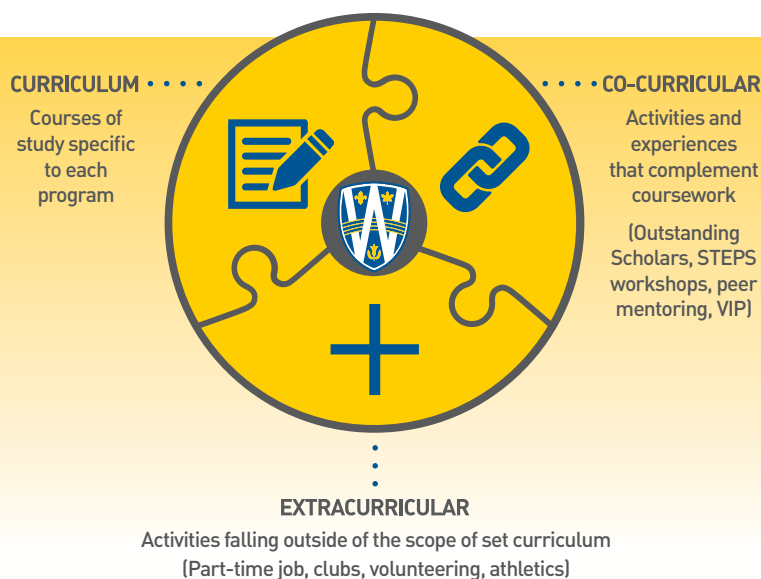
PROGRAM HIGHLIGHTS

- **Chemistry** – Our most flexible and applied Science program offers you a strong and rigorous background in the field of chemistry, and the chance to pursue interests in such areas as biology, physics, math, earth sciences and computer science. A strong step toward a career in industrial and academic R&D, government and hospital laboratories, environmental analyses, and (with additional studies) medicine, pharmacy and dentistry.
- **Chemistry and Physics** - This unique combination offers you an enhanced focus on physical chemistry and physics. Explore the characterization of matter using various types of spectroscopy, theoretical methods and other such instrumentation as microscopes, lasers and X-ray diffractometers. You'll be prepared to tackle problems of a chemical nature with a solid understanding of the underlying physics in academia (with additional qualifications), industry research, or in government agencies or laboratories.
- **General Science** - The General Science program gives you maximum flexibility to explore the sciences in a three-year degree program. You'll have the opportunity to build a solid academic foundation in two core science areas chosen from biological sciences, chemistry and biochemistry, computer science, earth and environmental sciences, mathematics, physics, and economics.

- **Interdisciplinary Arts and Science** - If you're a highly motivated student who wants knowledge and skills that will familiarize you with the humanities, social sciences and natural sciences, this elite program is for you. Design your program to match your interests and career aspirations. From here, consider a master's program, professional school (medicine, optometry, dentistry, occupational therapy, naturopathic medicine, law, MBA, pharmacy), or teaching (with additional studies)

FUNCTIONAL KNOWLEDGE

- Understanding chemical properties related to environmental concerns and health and safety protocols
- Testing and assessing materials to identify their properties and potential chemical reactions and determine concerns
- Operating advanced scientific laboratory equipment and instruments; implementing appropriate techniques for studying chemical processes and reactions
- Planning, conducting, recording, and presenting scientific research to a high degree of competency
- Designing experimental studies to accomplish targeted goals or test specific hypotheses
- Locating, explaining, avoiding, and presenting reactions and interactions between chemical products



BUILD YOUR SKILLS AND EXPERIENCE

Your UWindsor experience is more than attending classes. It is a combination of academics, co-curricular activities, and extracurricular involvement. By making the most of all three elements of your university experience, you will maximize your opportunities to build your skills, broaden your personal network, and clarify your long term academic and career goals.

CAREER PLANNING GUIDE

Intentional career planning will help you prepare for your next step after graduation. It is a fluid, dynamic, and continuous process, meaning you can move on or return to an earlier stage at any time. You can even work through simultaneous cycles, like one for your long-term dream job and another for a summer job.



Experience Map

HOW TO USE THIS GUIDE

This guide is meant to help you explore various opportunities throughout the course of your UWindsor experience. It is intended to help you link academics, co-curricular, extra-curricular and career planning activities by suggesting some of the options available to you. This is to help you see what you can do, rather than what you are required to do!

Academics



First Year

- Take required courses including General Chemistry I and II
- Review degree course requirements for all years of study
- Participate in our PASS program during Welcome Week to be provided with the skills necessary to be successful as a Science student
- Visit the Chemistry Resource Centre for free support by graduate students
- Meet with an academic advisor such as the department head or program co-ordinator
- Receive peer mentorship from an upper-year MySci Advisor

Experience



- Begin the process of becoming a LEAD Medallion Scholar and participate in credit and volunteer activities that provide you skills in **Leadership, Engagement, Application and Discovery***
- Apply for a co-curricular experience such as the Volunteer Internship Program (VIP)*
- **Discover** through research opportunities as part of the Outstanding Scholars program*
- Be **Engaged** by volunteering in a lab to help with research for professors and graduate students
- Research student exchange and study abroad opportunities for middle years to gain a Global Perspective of Science *
- Join a club like the Chemistry Club, Students Offering Support or Science Society

Career



- Create a list of things that you enjoy, areas in which you excel, and your skills
- Meet with Career & Employment Services (CES) to develop a plan for your future years
- Consider taking an interest assessment to help you identify possible career paths
- Attend a CES workshop to learn how to find a summer or part-time job
- Become familiar with the mySuccess online job search tool
- Attend a CES resumé and cover letter workshop to get your resumé critiqued

Middle Years

- Take required courses and check in with academic advisor to make sure you are on the right path
- Consider completing an undergraduate research project in final year★
- Begin taking courses that focus on a sub-discipline such as Organic, Inorganic, Physical, Analytical, Materials, Biochemistry or Theoretical/Computational Chemistry
- Seek out internships and courses that offer field experience★
- Start taking courses required as pre-requisites for graduate/professional school
- Consider declaring a minor and/or specialization

- Join a professional association in your field such as the Canadian Society for Chemistry
- **Apply** your knowledge through a summer Research Assistant or Teaching Assistant position in a faculty member's lab★
- Participate in UWill Discover undergraduate research conference★
- Gain a Global Perspective of Science (GPS) through an international exchange or by studying abroad★
- Expand your skills by taking on a summer, part-time or volunteer position
- Gain valuable **Leadership** skills through roles within a club or society

- Research career fields and occupations of interest to you
- Explore opportunities and meet employers through a job fair or employer information session
- Attend the Graduate and Professional Schools Fair to explore further educational opportunities
- Analyze the requirements for graduate or professional schools
- Make an appointment with Career & Employment Services to explore career options
- Create a LinkedIn profile and have it critiqued
- Take part in informational interviews through sources such as Ten Thousand Coffees

Final Year

- Meet with faculty and academic advisor to review degree requirements
- Complete all required courses to fulfill degree audit
- Apply to graduate through MyUWindsor Portal
- Undertake an Undergraduate Research project with a faculty member★
- Consider completing a minor in a second Science discipline
- Apply your knowledge through a field work, internship, or practicum course to optimize your senior experience★

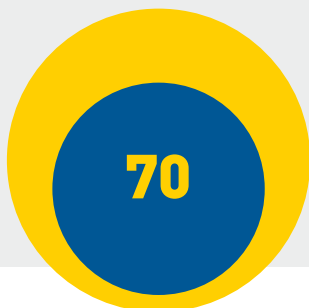
- Apply for an NSERC – Undergraduate Student Research Award★
- Conduct field research with faculty member★
- Be **Engaged** through Service Learning opportunities with Let's Talk Science and Science Rendezvous★
- Become a tutor for Students Offering Support (SOS)
- Become a MySci Advisor to provide academic support and mentorship for first-year students
- Complete LEAD Medallion Scholars in two areas for Bronze, three areas for Silver, four areas for Gold in accordance with **Leadership, Engagement, Application, Discover**★

- Consider applying to graduate or professional school. Be aware of early application deadlines
- Meet with Career & Employment Services to prepare application documents such as resumé, cover letter, CV or personal statement
- Attend an Interview Skills Workshop and Job Search Tips Workshop
- Set up a mock interview for professional school or job applications
- Meet employers at the annual job fair in January
- Compose a portfolio of relevant academic and work experience

★ High-Impact Practice: educational practices that include experiential learning as a basis for student engagement and successful scholarship

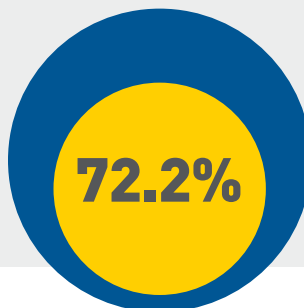
LIFE AFTER GRADUATION

2016



Number of UWindsor graduates from Chemistry in 2016.

2013



Percentage of Canadian university physical and life sciences technologies graduates who continued their studies post-bachelor degree.
(National Graduates Study 2013)



COMMON INDUSTRIES FOR CHEMISTRY GRADUATES

- Academia: Advanced chemical research
- Biomedical and biotechnical research
- Chemicals, petrochemicals, and pharmaceuticals
- Education: Curriculum design, teaching
- Food Sciences, production, and regulation
- Government: Research and policy development
- Health-care professions
- Industry: Consulting, product development/testing
- Physical science Industries
- Research, development, and production of materials

CAREER TRACKS*

Agricultural scientist
Dentist
Environmental analyst
Environmental consultant
Food inspector
Food scientist
Forensic scientist

Health educator
Industrial hygienist
Lab technician
Laboratory supervisor
Land surveyor
Lawyer
Medical doctor

Nutritionist
Optometrist
Pharmaceutical technician
Pharmacist
Product developer
Professor
Project manager

Quality assurance supervisor
Radiation therapist
Research scientist
Soil tester
Teacher
Toxicologist
Veterinarian

* Additional education and/or training required for some of the above careers.

CAREER-READINESS COMPETENCIES



Critical Thinking and Problem Solving: Using strategic and creative thinking to make decisions and evaluate solutions

- Learning, understanding, and interpreting information to apply knowledge to new situations
- Interpreting information to efficiently and constructively support or challenge proposals, theories, ideas, and reports with a project's intended end goal in mind
- Thinking critically to solve complex and universal problems



Teamwork and Collaboration: Working as a productive member of a group and collaborating with others to achieve set goals

- Leading and interacting with colleagues who reflect different backgrounds, learning styles, and approaches
- Identifying one's ideal role and contributing to the collective through leading, teaching, and motivating others
- Organizing and leading groups; facilitating change and understanding among group members



Professionalism and Work Ethic: Demonstrating personal management practices and a high level of integrity and ethical behaviour

- Managing time, data, and resources to meet deadlines
- Identifying priorities and preferable courses of action to execute necessary tasks
- Appreciating events and information in greater environmental, national, and global contexts



Communication: Appropriate and effective articulation of ideas and information to a range of audiences

- Communicating effectively and efficiently in technical writing to convey the message of a broader piece of work
- Preparing and delivering data-driven oral and written presentations and reports using technological aids
- Developing effective, precisely organized reports



CAMPUS RESOURCES

- Visit **Leddy Library** and the **Writing Support Desk** on the main floor for help with academic assignments
- Improve study skills through the **Skills To Enhance Personal Success (STEPS)** program
- Discover ways to get involved on campus through the **Student Success and Leadership Centre**
- Explore mentorship opportunities through the **Connecting4Success (C4S)** and **Bounce Back** programs
- Apply to the **Volunteer Internship Program (VIP)** to get involved in the community
- Look into the **Work Study** program for on-campus employment opportunities
- Broaden your cultural awareness through the **International Student Centre** and **Student Exchange Office**
- Get assistance developing your career plan and job search skills from **Career & Employment Services**
- Consult with the **EPICentre** if you are interested in starting your own business
- Seek out assistance with academic accommodation from **Student Accessibility Services**
- Tend to your health and wellness with support from **Student Health Services, Lancer Recreation** and the **Student Counselling Centre**

Recruitment Office

Phone: 519-973-7014
Toll-Free: 1-800-864-2860
Email: info@uwindsor.ca

Department of Chemistry and Biochemistry

Phone: 519-253-3000, Ext. 3521
Email: chembio@uwindsor.ca

Career and Employment Services

Phone: 519-253-3000, Ext. 3895
Email: careerservices@uwindsor.ca
experience.uwindsor.ca



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