EXPERIENCE MAP

Chemistry

FUTURE FULL OF PROMISE.

University of Windsor

- CHEMISTRY
- CHEMISTRY WITH THESIS
- CHEMISTRY AND PHYSICS
- CHEMISTRY AND PHYSICS WITH THESIS
- GENERAL SCIENCE
- INTERDISCIPLINARY ARTS AND SCIENCE

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Skills and Knowledge of Chemistry Graduates

PROGRAM HIGHLIGHTS

Chemistry – Our flexible, applied Science program offers you a strong and rigorous background in the field of chemistry, and the chance to pursue interests in areas such 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 medicine, pharmacy and dentistry.

Chemistry and Physics – This combined program offers you an enhanced focus on physical chemistry and physics. Explore the characterization of matter using theoretical methods and various types of spectroscopy such as NMR 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, industry research, or in government agencies or laboratories.

General Science – Although this is not specifically a Chemistry program, the General Science program gives you flexibility to explore chemistry and biochemistry in a three-year degree program. You'll have the opportunity to build a solid academic foundation in an additional science area chosen from biological sciences, earth and environmental sciences, computer science, mathematics, physics, or economics. This program can be used as a stepping stone to four year honours degrees.

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 graduate program, professional school (medicine, optometry, dentistry, occupational therapy, naturopathic medicine, law, MBA, pharmacy), or teaching.

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 in a high degree of competency
- Designing experimental studies to accomplish targeted goals or test specific hypotheses

Degree Title / Program	Minimum Average	Admission Requirements
CHEMISTRY	70%	ENG. ADV. FUNC CHEM. plus one of PHYS. or BIO. required. CALC. VEC. strongly recommended. PHYS. recommended. 70% average in all attempted Science and Math courses, excluding DATA M.

- **Courses of study specific to each program**
- **Activities and experiences that complement coursework (Outstanding Scholars, peer mentoring, VIP)**
- **Activities falling outside of the scope of set curriculum (Part-time job, clubs, volunteering, athletics)**

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.

Explore Opportunities Using This Guide

Explore a selection of opportunities recommended for students in your program. This chart shows some of your many options – you don't have to do everything on it or limit yourself to it. Engage in opportunities from each of the three categories to set yourself up for success:

Academics
- *Your coursework*

Experience
- *Ways to get involved*

Career
- *Plan ahead for what's next*

HIP High-Impact Practice (HIP)

A HIP is an enriching educational experience that can be life-changing and often includes learning outside of the classroom while encouraging meaningful interaction and collaboration, such as:

- Co-op, internship or field experiences
- Research with faculty
- Culminating senior experience
- Capstone courses
- Service-learning
- Learning communities
- Study abroad

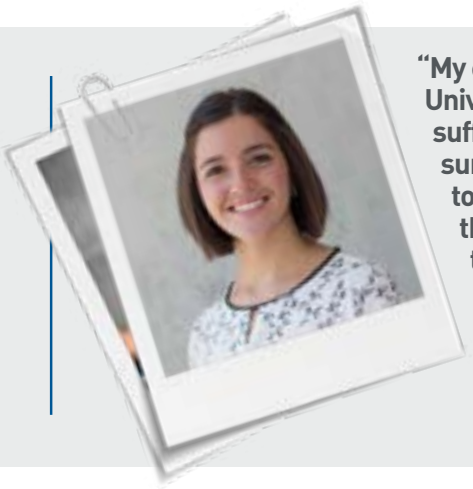
	First Year	Middle Years	Final Year
Academics	• Take required courses including General Chemistry I and II • Review degree course requirements for all years of study and mesh them with professional or graduate school aspirations • Participate in our **PASS** program during **Welcome Week** to be coached on the skills necessary to be successful as a Faculty of Science student • Visit the **Chemistry Resource Centre** for free support by graduate students • Meet with an academic advisor in your program • Receive peer mentorship from an upper-year **MySci** advisor	• 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 HIP • Begin taking courses that focus on a sub-discipline such as Organic, Inorganic, Physical, Analytical, Materials, Biochemistry or Theoretical/Computational Chemistry • Seek out courses that offer experiential learning HIP • Continue taking courses required as preparation for professional schools • Study for and take professional school admission tests of interest • Consider declaring a minor and/or specialization	• Meet with an academic advisor to go over graduation requirements • Complete all required courses for your degree • Apply to graduate through **MyUWindsor Portal** • Undertake an Undergraduate Research project with a faculty member HIP • Complete a minor in a second Science discipline if declared • *Apply* your knowledge through a field work or practicum course to optimize your senior experience HIP
Experience	• Begin the process of becoming a **LEAD Medallion Scholar** and participate in credit and volunteer activities HIP • Apply for a co-curricular experience such as **VIP** HIP • *Discover* research opportunities as part of the **Outstanding Scholars** program HIP • Join the **USci Network** to take part in collaborative and integrative science experiences • Be *Engaged* by volunteering in a lab to help with research for professors and graduate students HIP • Join a club like the **Chemistry Club, Students Offering Support** or **Science Society** • Participate in the **Bystander Initiative** workshop to gain skills that will help you be an effective and supportive ally to prevent sexual assault on campus	• *Apply* your knowledge through a summer Research Assistant or Teaching Assistant position in a faculty member's lab HIP • Participate in **UWill Discover** undergraduate research conference HIP • Be *Engaged* through service learning opportunities with **Let's Talk Science** and **Science Rendezvous** HIP • Gain valuable *Leadership* skills through roles within a club or society • Gain a **Global Perspective of Science (GPS)** through an international exchange or by studying abroad HIP • Participate in **Work-Integrated Learning (WIL)** through paid, 8-to-16 month internships with industry partners HIP • Apply for an **NSERC** – Undergraduate Student Research Award	• Join a professional association in your field such as the **Canadian Society for Chemistry** • Conduct field research with faculty member HIP • Become a tutor for **Students Offering Support (SOS)** HIP • 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, or four areas for Gold in accordance with *Leadership, Engagement, Application, Discover* HIP
Career	• Create lists of things that you enjoy, areas in which you excel, and your skills • Meet with a career advisor in **Career Development and Experiential Learning (CDEL)** for help developing a plan for your future years • Consider a career assessment workshop or appointment to help you identify possible career paths • Get involved with a part-time job, volunteer opportunity, campus group, or research assistantship • Attend **CDEL** workshops to learn how to find a summer or part-time job and write a resumé and cover letter • Drop in to meet with one of **CDEL**'s peer advisors to get answers to your career and job search questions	• Research career fields and occupations with the help of a **CDEL** career advisor • Explore opportunities and meet employers through job fairs and employer networking events • Explore further educational opportunities by attending the **Graduate and Professional Schools Fair** and researching admission requirements for programs you are interested in • Attend **CDEL's Using Social Media to Leverage Your Career** workshop • Create a **LinkedIn** profile and have it critiqued • Search job postings to learn what skills, knowledge, and credentials you will need for potential careers • If you are considering applying to graduate or professional school, be aware of early application deadlines	• Meet with **CDEL** to prepare application documents like a resumé, cover letter, CV, or personal statement for jobs and education programs you are applying to • Attend an **Interview Skills Workshop** and **Job Search Tips Workshop** • Use **InterviewStream** to practice your interview skills online • Set up an in-person mock interview with a career advisor for professional school or job applications • Meet employers at the annual job fair in January • Compose a portfolio of relevant academic and work experience

Chemistry

Life After Graduation

53

Number of Chemistry Graduates (2017)



"My experience in the Chemistry Department at the University of Windsor gave me the skills to be self-sufficient, confident and curious. I was constantly surrounded by students reaching beyond their limits to reach their goals, with supportive faculty giving us the tools to do so. Between strong educators, access to research and involved student organizations, my Windsor Chemistry foundation has allowed me to move forward in my studies with pride."

Diana Cuckovic – BSc (Combined Honours) Biology and Chemistry with Thesis [2014]

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

Teamwork and Collaboration

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

Professionalism and Work Ethic

Demonstrating personal management practices and a high level of integrity and ethical behaviour

Communication

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

Campus Resources

- Research scholarships and bursaries through the **Student Awards and Financial Aid Office**
- Visit **Leddy Library** and the **Writing Support Desk** for help with academic assignments
- Explore mentorship opportunities through the **Connecting4Success (C4S)** and **Bounce Back** programs
- Improve study skills through the **Skills to Enhance Personal Success (STEPS)** program
- Get advice and support about your academic status by making an appointment with **Academic Advising**
- Seek out assistance with academic accommodation from **Student Accessibility Services**
- Discover ways to get involved on campus through the **Student Success and Leadership Centre**
- Look into the **Ignite: Work Study** program for on-campus employment opportunities
- Apply to **VIP** to get involved in a community service learning experience
- Get assistance developing your career plan and job search skills from **Career Development and Experiential Learning**
- Consult with the **EPICentre** if you are interested in starting your own business
- Broaden your cultural awareness through the **International Student Centre** and **Student Exchange Office**
- Find support for Indigenous learners and broaden your understanding of Indigenous culture by visiting **Turtle Island**
- Tend to your health and wellness with support from **Student Health Services** and **Lancer Recreation**
- Receive confidential mental health counselling delivered by trained professionals at the **Student Counselling Centre**
- Seek personal support or learn more about sexual violence education through the **Sexual Misconduct Response and Prevention Office**

Student Recruitment
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 Development and Experiential Learning
Phone: 519-253-3000, Ext. 3895
Email: careerservices@uwindsor.ca
experience.uwindsor.ca

University of Windsor

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