

Biomedical Sciences

Made in Windsor.



BIOCHEMISTRY AND BIOMEDICAL SCIENCES (HEALTH STREAM)

MOLECULAR BIOLOGY AND BIOTECHNOLOGY

GENERAL SCIENCE



uwindsor.ca/science



**Biomedical Sciences
Experience Map**



**University
of Windsor**

Highlights and Skills

PROGRAM HIGHLIGHTS

Biochemistry and Biomedical Sciences (Health Stream) ^H Calling all future health professionals! This program gives you a strong background in biomedical sciences, fundamental to health and medicine. You'll be in a lab within the first two weeks of this program and get the chance to conduct undergraduate research with hands-on learning in courses like CURE. You'll work alongside clinical researchers and medical professionals to learn about funding, project management, communication and other issues of cancer and health research.

MIN. AVG.* 75% ONTARIO COURSE REQUIREMENTS ENG4U, MHF4U, SCH4U, and SBI4U. Both MCV4U and SPH4U are strongly recommended. A minimum 75% average of all required science and math courses is also required.

Molecular Biology and Biotechnology ^H

Be on the cutting edge of scientific research in this program that focuses on biological systems at the cellular and molecular levels. You will learn how to use living cells and the materials they produce to create a wide range of products for pharmaceutical, diagnostic, agricultural, and environmental applications.

MIN. AVG.* 75% ONTARIO COURSE REQUIREMENTS ENG4U, MHF4U, SCH4U and SBI4U. MCV4U is strongly recommended. SPH4U is recommended. A minimum 70% average of all attempted science and math courses is also required, excluding MDM4U.

General Science ^G This science program is like a buffet— you can try a little of everything before deciding what you want for the main course. It's ideal for students who want to explore more than one area or are undecided about what subjects to study. You'll focus on two core science areas — biology, chemistry, biochemistry, computer science, earth and environmental science, mathematics, physics, or economics — and still get the chance to pursue other areas, as well. Many students who start in this program transfer to a more specialized four-year honours program.

MIN. AVG.* 75% ONTARIO COURSE REQUIREMENTS ENG4U, MHF4U, and two of SCH4U, SBI4U or SPH4U. MCV4U is strongly recommended. A minimum 70% average of all attempted science and math courses is also required

FUNCTIONAL KNOWLEDGE

- Understanding and analyzing biological systems from the level of DNA up to organ systems and the causes of disease
- Operating advanced scientific laboratory equipment and instruments
- Taking careful measurements and recording precise observations using best practices/field techniques
- Communicating interpreted technical and scientific data to various audiences
- Understanding relevant topics in the medical and health sciences with depth and nuance

^G General – 3-year program ^H Honours – 4-year program * Minimum grade point average for admission to program. A higher average may be required.

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.



CURRICULUM

Courses of study specific to each program



CO-CURRICULAR

Activities and experiences that complement coursework (Outstanding Scholars, peer mentoring, VIP)



EXTRACURRICULAR

Activities falling outside the scope of set curriculum (Part-time job, clubs, volunteering, athletics)

Career Planning Cycle

Intentional career planning will help you prepare for your next step after graduation and beyond. It is a fluid, dynamic, and lifelong process. You can move on or return to an earlier stage in the cycle at any time.



Explore Opportunities Using This Chart

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.

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

Academics



Your Coursework





First Year

- Take first year required courses including Cell Biology, Biological Diversity, General Chemistry I and II, Calculus, Physics I and II and Statistics
- Review degree course requirements for all years of study and mesh them with professional or graduate school aspirations
- Meet with a dedicated Biology academic advisor
- Learn more about your program and campus during **Welcome Week**, including participating in the **PASS** program that will coach you on skills necessary to be a successful Faculty of Science student
- Receive peer mentorship from an upper-year **MySci** advisor

Middle Years

- Take required courses, including those that focus on a specialization such as anatomy, microbiology, physiology, molecular biology or environmental and ecosystem ecology
- Consider declaring a minor and/or specialization
- Check in with academic advisor to make sure you are on the right path
- Meet professors you are considering working with if completing an undergraduate research project in your final year 
- Seek out courses that offer experiential learning 
- Continue taking courses required as preparation for professional schools
- Study for and take professional school admission tests of interest


Final Year


- Complete all required courses for your degree
- Undertake an undergraduate research project with faculty member, a requirement if program includes a thesis 
- Consider completing a minor in a second discipline
- Meet with an academic advisor to review graduation requirements
- Apply to graduate through **UWinsite Student Portal**
- Apply your knowledge through a field work or practicum course to culminate your senior experience 

Experience

Ways To Get Involved



- Join clubs such as the **Science Society** or **Students Offering Support**
- Begin the process of becoming a **LEAD Medallion Scholar** in accordance with *Leadership, Engagement, Application, Discover* - participate in credit and volunteer activities such as being Engaged by volunteering in a lab to help with research for professors and graduate students and/or Discover research opportunities as part of the **Outstanding Scholars** program 
- Join the **USci Network** to take part in collaborative and integrative science experiences
- 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

- Continue the process of becoming a **LEAD Medallion Scholar** in ways such as Applying your knowledge through a summer research assistant or teaching assistant position within the Biomedical Sciences Department, becoming Engaged through service learning opportunities with **Let's Talk Science**, **Windsor Cancer Research Group**, **WE-SPARK Health Institute** and **Science Rendezvous**, and gaining valuable Leadership skills through roles within a club or society 
- 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
- Apply for co-curricular experience such as **VIP - Community Service Learning**

- Conduct field/lab research with a faculty member 
- Join a professional association in your field such as the **Canadian Society for Molecular Biosciences** or **Association of Professional Biology**
- Attend **Ontario Biology Day** to present thesis research 
- Become a **MySci** advisor to provide academic support and mentorship for first year students
- Become a tutor for **Students Offering Support (SOS)** 
- 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* 

Career

Plan Ahead For What's Next



- Start planning your career by making a list of things you enjoy, your skills and areas where you excel
- Get involved with a part-time job, volunteer opportunity, campus group, or research assistantship
- 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 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 university-level resume
- Chat with an advisor during **CDEL's Drop-In** hours to get answers to your career and job search questions

- Explore further educational opportunities by attending the **Graduate and Professional Schools Fair** and researching admission requirements for programs you are interested in
- If you are considering applying to graduate or professional school, be aware of early application deadlines
- Explore opportunities and meet potential employers by participating in **Job Shadow Experience**, job fairs and industry networking events
- Research career fields and occupations with the help of a **CDEL** career advisor
- Create a **LinkedIn** profile and have it critiqued by **CDEL**
- Take part in informational interviews and join online communities like **LinkedIn** and **Ten Thousand Coffees** to connect with people in your target profession or industry
- Search job postings to learn what skills, knowledge, and credentials you will need for potential careers

- Compose a portfolio of relevant academic and work experience
- Set up a mock interview with a career advisor for professional school or job applications
- Take part in recruitment events and job fairs, including those organized by **CDEL**
- 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 **CDEL's workshops** on interview skills and job search strategies
- Explore professional development opportunities through **Continuing Education**

Life After Graduation



My passion has always been in research and innovation. Being in the biological sciences allowed exposure to a variety of research fields from immunology, developmental biology to cell and molecular biology. The faculty are well published and approachable. They are happy to mentor students and help them succeed."

Alex Ward - BSc Biological Sciences, Honours with Thesis, PhD Biological Sciences, Molecular and Cell Biology Stream

173 Number of Graduates
(2019)

93% Employment Rate of Graduates

Employment rate of graduates 2 years following degree completion (OUGS Biological Sciences, 2018)

Career Tracks*

Animal care specialist
Audiologist
Chiropractor
Dentist
Doctor
Entrepreneurship
Food inspector

Genetic counsellor
Lab technician
Laboratory supervisor
Medical director
Medical researcher
Medical writer
Nutritionist

Optometrist
Patent lawyer
Pharmacist
Physician
Physiotherapist
Policy advisor
Professor

Project manager
Public health educator
Quality assurance supervisor
Radiation therapy
Research co-ordinator
Teacher
Veterinarian

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



Common Industries For Graduates

- **Academia:** advanced biomedical research
- **Education:** curriculum design, teaching
- **Food sciences, production, and regulation**
- **Government:** research and policy development
- **Industry:** consultation, product development/testing
- **Medicine and dentistry**
- **Other health-care professions:** pharmacy, physiotherapy, chiropractic
- **Veterinary science**

Career-Readiness Competencies



Critical Thinking & Problem Solving



Professionalism & Work Ethic



Teamwork & Collaboration



Communication





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
- Check out the **Bounce Back** program designed to improve academic performance as well as decrease feelings of stress and anxiety through both effective learning strategies and life skills acquisition
- Build leadership skills and find leadership opportunities at the **Leadership Hub**
- 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
- 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**, the **Wellness Outreach Office** and **Lancer Recreation**
- Receive confidential mental health counselling delivered by trained professionals at the **Student Counselling Centre**
- **Prevent.Resist.Support.** Seek personal support or learn more about sexual violence prevention and resistance education through the **Sexual Misconduct Response and Prevention Office**
- Explore professional development opportunities through **Continuing Education**



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Student Recruitment

Phone: 519-973-7014

Toll-Free: 1-800-864-2860

Email: info@uwindsor.ca

Department of Biomedical Sciences

Phone: 519-253-3000, Ext. 2695

Email: biomedsci@uwindsor.ca

Career Development and Experiential Learning

Phone: 519-253-3000, Ext. 3895

Email: careerservices@uwindsor.ca