



EXPERIENCE MAP

Biological Sciences



**FUTURE FULL
OF PROMISE.**



University
of Windsor

BIOLOGY

MOLECULAR BIOLOGY AND BIOTECHNOLOGY

BIOLOGY AND BIOCHEMISTRY (HEALTH AND BIOMEDICAL STREAM)

GENERAL SCIENCE

EXPERIENCE.UWINDSOR.CA

Skills and Knowledge of Biological Sciences Graduates

PROGRAM HIGHLIGHTS

Biology – Our program applies modern investigative techniques in several biological areas with specializations in: microbiology, cellular, developmental, environmental and evolutionary biology, population and ecosystem ecology, or a combination of these areas. You will acquire the tools and skills to successfully compete for positions in industry, government, education, medicine, dentistry, pharmacy, veterinary medicine and physical therapy—just to name a few.

Molecular Biology and Biotechnology – Investigates biological systems at the cellular and molecular levels. This involves the use of living cells and the materials they produce to create products for pharmaceutical, diagnostic, agricultural and environmental applications. It provides an excellent foundation for a career in industry, government, education, medicine, dentistry, pharmacy, veterinary medicine, physical therapy.

Biology and Biochemistry (Health and Biomedical Stream) - Our Health and Biomedical Sciences stream provides a clear pathway to medicine, pharmacy or graduate research in a health-related science. This program builds on the strengths of both biology and biochemistry and integrates lab components with course selection flexibility.

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

FUNCTIONAL KNOWLEDGE

- Understanding and analyzing biological systems from the level of DNA up to and including ecosystem processes
- 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

Degree Title / Program	Minimum Average	Admission Requirements
BIOLOGICAL SCIENCES	75%	<div>ENG.</div> <div>ADV. FUNC.</div> <div>CHEM.</div> <div>BIO.</div> <div>required.</div> <div>CALC. VEC.</div> <div>strongly recommended.</div> <div>PHYS.</div> <div>recommended.</div> <div>70% average in all attempted Science and Math courses, excluding</div> <div>DATA M.</div>



- 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	<ul style="list-style-type: none">• Take first year required courses including Cell Biology, Biological Diversity, General Chemistry I and II, Calculus, 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	<ul style="list-style-type: none">• Take required courses, including those that focus on a specialization such as 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 HIP• 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	<ul style="list-style-type: none">• Complete all required courses for your degree• Undertake an undergraduate research project with faculty member, a requirement if program includes a thesis HIP• Consider completing a minor in a second discipline• Meet with an academic advisor to review graduation requirements• Apply to graduate through MyUWindsor Portal• <i>Apply</i> your knowledge through a field work or practicum course to culminate your senior experience HIP
Experience	<ul style="list-style-type: none">• Join clubs such as the Science Society or Students Offering Support• Begin the process of becoming a LEAD Medallion Scholar in accordance with <i>Leadership, Engagement, Application, Discover</i> - participate in credit and volunteer activities such as being <i>Engaged</i> by volunteering in a lab or at the Great Lakes Institute of Environmental Research (GLIER) to help with research for professors and graduate students and/or <i>Discover</i> research opportunities as part of the Outstanding Scholars program HIP• Apply for a co-curricular experience such as VIP HIP• 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	<ul style="list-style-type: none">• Continue the process of becoming a LEAD Medallion Scholar in ways such as <i>Applying</i> your knowledge through a summer research assistant or teaching assistant position within the Biology Department, becoming <i>Engaged</i> through service learning opportunities with Let’s Talk Science and Science Rendezvous, and gaining valuable <i>Leadership skills</i> through roles within a club or society HIP• Participate in UWill Discover undergraduate research conference HIP• Gain a Global Perspective of Science (GPS) through an international exchange or by studying abroad HIP• Expand your skills by taking on a summer, part-time or volunteer position	<ul style="list-style-type: none">• Conduct field/lab research with a faculty member HIP• 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 HIP• Become a MySci advisor to provide academic support and mentorship for first year students• Become a tutor for Students Offering Support (SOS) HIP• Complete LEAD Medallion Scholars in two areas for Bronze, three areas for Silver, or four areas for Gold in accordance with <i>Leadership, Engagement, Application, Discover</i> HIP
Career	<ul style="list-style-type: none">• Analyze the requirements for graduate or professional schools• Create lists of things that you enjoy, areas in which you excel, and your skills• 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, including attending a career assessment workshop or appointment, attending workshops to learn how to find a summer or part-time job and write a resumé and cover letter, and dropping in to meet with one of CDEL’s peer advisors to get answers to your career and job search questions	<ul style="list-style-type: none">• 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 employers through job fairs and employer networking events• Research career fields and occupations with the help of a CDEL career advisor, including attending the Using Social Media to Leverage Your Career workshop• Create a LinkedIn profile and have it critiqued	<ul style="list-style-type: none">• Compose a portfolio of relevant academic and work experience• 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• 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

Biological Sciences

Life After Graduation

115

Number of Biological Sciences Graduates (2017)

89.4%

Employment rate of graduates 2 years following degree completion

(OUGS Biological Sciences, 2014)



“The Biology department at the University of Windsor is an outstanding organization to be a part of, in terms of both learning and research. The professors are passionate about their jobs and are willing to go the extra mile to facilitate a great learning experience. The department is also representative of a tight knit community, which allows for numerous collaborative opportunities.”

Megan Mickle – BSc (Honours) in Biological Sciences with Thesis [2015]

MSc in Biological Sciences [2017]



COMMON INDUSTRIES FOR BIOLOGICAL SCIENCES GRADUATES

- **Academia:** advanced biological research
- **Biomedical and biotechnical 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**
- **Veterinary science**

CAREER TRACKS*

Agricultural scientist
Animal care specialist
Audiologist
Chiropractor
Conservation officer
Dentist
Doctor

Ecologist
Entomologist
Environmental assessor
Fisheries scientist
Food inspector
Lab technician
Laboratory supervisor

Medical director
Nutritionist
Optometrist
Pharmacist
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.

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 Biological Sciences

Phone: 519-253-3000, Ext. 2695
Email: biosci@uwindsor.ca

Career Development and Experiential Learning

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



University
of Windsor

**FUTURE FULL
OF PROMISE.**