

Bachelor of Science

Molecular Biology and Genetics



ABOUT THE PROGRAM

Molecular Biology and Genetics explores the molecular biology of genomes and the genetics of microorganisms, plants, humans, and other animals, as well as the structure and function of cells. The Molecular Biology and Genetics major at the University of Guelph is truly an interdisciplinary program, with courses covering topics such as cell and molecular biology, genetics, developmental biology, and agricultural genetics.

Additionally, students in the program will have access to outstanding research labs and facilities where they will learn the practical skills and knowledge commonly used in the fields of biological and biomedical sciences. A degree in Molecular Biology and Genetics provides students with knowledge that can lead to many different life science-related fields, with a level of expertise that is in great demand by employers.

WHY CO-OP?

As a co-op student, you will gain relevant work experience, build professional networks, and develop essential interpersonal skills needed to succeed in the workplace, all while getting paid and earning your university degree. Guelph's co-op program is unique due to the exceptional level of support provided, including an online preparatory course, a personal connection with Co-op Coordinators to assist you during the employment process, and access to senior student mentors.

COURSE SEQUENCING

In the Molecular Biology and Genetics Co-op program, you will participate in four co-op work terms in addition to eight academic semesters throughout your five years at the University of Guelph. This sequencing is viewable below.

YEAR	FALL	WINTER	SUMMER
ONE	Academic	Academic	Off
TWO	Academic	Academic	Work
THREE	Academic	Work	Work
FOUR	Work	Academic	Off
FIVE	Academic	Academic	

SAMPLE JOBS

There is a diverse selection of jobs made available to Molecular Biology and Genetics Co-op students, in government, academia, and the private sector within various industries. You may conduct research, participate in literature searches, assist in data collection and analysis, or may work in public health in a clinical setting. Students may work in a laboratory, a hospital, and/or in an office environment. Below are some examples of positions for Molecular Biology and Genetics Co-op students:

Medical Research Laboratory Assistant

The successful applicant will be a part of a cutting-edge pancreatic cancer research lab. We are a genomics laboratory that combines wet lab experiments with bioinformatic analyses. The student will be helping to generate data in the tissue culture lab, to be analyzed by our bioinformaticians.

Research Assistant – Doubled Haploid

This position offers the students a unique opportunity to work in a leading-edge plant biotechnology laboratory involved in cell biology R&D to improve the oilseed crop, canola. Students will assist with microspore culture to create double haploid canola breeding lines, regenerate doubled haploid plants from microspore-derived embryos, shoot sub-culture and plant transfer to soil.

Junior Medical Writer

The student will work within the medical content team to provide a wide range of services from medical/scientific strategy to workshop facilitation and medical writing. This involves analyzing, interpreting, and visualizing scientific data, and translating it into the solution that makes science memorable and meaningful.

Additional Sample Job Titles: QC Analyst, Regulatory & Scientific Affairs Intern, Undergraduate Research Assistant, Product Development Technician, Bioinformatics Specialist, Laboratory Assistant

SAMPLE EMPLOYERS*

- STEMCELL Technologies Inc.
- University of Guelph, Department of Molecular and Cellular Biology
- Public Health Agency of Canada
- Johnson & Johnson

*Sample co-op employer list only. Employers will vary depending on recruitment needs. Students are encouraged to be actively engaged during a job search by applying to various job opportunities through the Experience Guelph job posting system. In addition, students are supported in establishing and maintaining their own personal contacts.

SALARY INFORMATION

Students receive compensation from their employer for co-op work terms. The rate of pay will vary depending on a number of factors including the industry, the student's program of study, and work term level. For your reference, a Co-operative Education Salary Guide is available on our website, which provides hourly rates (averages and ranges) for each degree program.

ABILITIES & KNOWLEDGE ACQUIRED

- An understanding of fundamental molecular and genetic processes
- Practical laboratory skills, and the ability to analyze and interpret experimental results obtained in a laboratory setting.
- Strong written and verbal communication abilities