

Undergraduate students in the Department of Biology have many opportunities to gain hands-on experience, through both volunteer and course-related encounters. Faculty members are committed to involving students in the research process and mentoring the next generation of scientists and innovators. Examples of projects Undergraduate students have been involved in over the last few years include:

- Using salivary cortisol to quantify human stress levels in a clinical setting
- Characterizing the role of Cockayne Syndrome Group B (CSB) in telomerase-negative cancer cells and mutational analysis of the CSB gene
- Analysing the role of differential transcription in regulating developmentally controlled resistance
- Investigating the mechanism of gluten sensitivity and its effect on behaviour
- Investigating the effect of fetal fluoxetine exposure on intestinal nutrient absorption and inflammation
- Developing and implementing management processes for threatened and invasive species in the McMaster Conservation Corridor
- Examining the influence of vegetation structure and species composition on avian habitat selection within Welgevonden Game Reserve, South Africa
- Investigating sex chromosome evolution in African clawed frogs
- Isolating and identifying an unknown nematode species



For more information about Biology programs and courses available, please visit

www.biology.mcmaster.ca

Admission and program requirements can be found in the undergraduate calendar at -

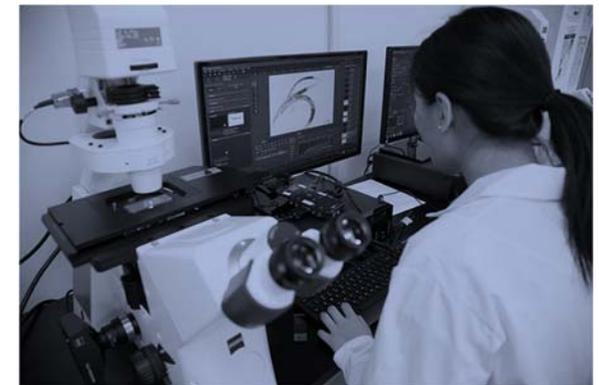
<http://academiccalendars.romcmaster.ca/index.php>

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Department of Biology

Programs in **Biology at McMaster** offer students the opportunity to complete a degree tailored to their specific interests and goals. Students develop strong applied and inquiry related skills highly transferable to a variety of professional streams. Degree programs offered by the department are suited to those with a strong interest in Biological Sciences leading to either research or applied professional development.





Degree Programs Available:

- Honours Biology
- Honours Biology – Discovery Subplan
- Honours Biology – Physiology
- Honours Biology & Environmental Sciences
- Honours Biology & Mathematics
- Honours Biology & Psychology, Neuroscience, and Behaviour
- Honours Molecular Biology & Genetics
- Honours Molecular Biology & Genetics Co-op

In addition to the two available co-op programs, students have opportunities for **applied placements** in a variety of healthcare, conservation, outreach, and research settings.

The course **Bio 3EP3 – Biology Applied Placement** - allows for a variety of clinical, field, and research opportunities to serve as a platform for learning and developing skills.



Through involvement in research and placement activities, students develop the skills that lead to success and increase their employability.



Biology students interested in pursuing these kinds of active learning opportunities should consider including some of the following courses in their curriculum:

- Bio 2L03 – Experimental Design in Biology
- Bio 3JJ3 – Field Methods in Ecology
- Bio 3VV3 – Laboratory Methods in Molecular Biology
- Mol Bio 3D03 – Experimental Approaches in Cell Biology
- Mol Bio 3V03 – Techniques in Molecular Genetics

These structured courses provide students with a strong foundation in a variety of research techniques to support further independent research projects.



For students who are interested in pursuing independent research, the following opportunities are available:

Bio 3IR3/Mol Bio 3I03 – Independent Research Project; an opportunity to investigate a topic of personal interest and/or test-drive the research experience before committing to a thesis experience.



Bio 3R03/Bio 4J03 – Field Biology 1 & 2; field research opportunities are available in a variety of local and international settings.

Bio 4C12, 4F06, 4IR3 (new) and Mol Bio 4G12 Senior Thesis / Senior Project – an opportunity to apply the skills and knowledge gained in your undergraduate program to a real-world problem and to contribute to research in a meaningful way; this is a great opportunity for any student to integrate and showcase the skills they have learned and is strongly recommended for students who intend to pursue graduate studies.