Integrative Biology: MSc, PhD

The Department of Integrative Biology is comprised of faculty members in three overlapping fields of emphasis: Ecology, Evolutionary Biology and Comparative Physiology. Research is focused on a wide variety of organisms (from microbes to plants to animals) at multiple levels of organization (from molecules and cells through to entire ecosystems). Basic research is being used as a foundation to address some of the most important regional and global issues.

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Program

We offer a research-based Master's and Doctoral program. Master's students take 1.5 credits in course work, and prepare and defend a research-based thesis for their MSc (approximately six semesters). The PhD program requires the successful completion of a qualifying exam, and the completion and defense of a research-based thesis. All graduate students are guaranteed financial support through Research and/or Teaching Assistantships and internal/ external scholarships.

Research Fields

- Comparative Physiology
- Evolutionary Biology
- Ecology

Admission Requirements

Applicants require an Honours Bachelor's degree, or equivalent (MSc) or a Master's degree (PhD) in a wide range of areas, including: Integrative Biology, Wild Life Biology, Ecology, Evolution, Marine and Freshwater Biology, Biochemistry, Cell Biology, and Molecular Biology & Genetics. Students with advanced academic and research aptitudes can apply for transfer into the PhD program after partial completion of the MSc degree requirements.

Application Deadline:
Ongoing

"I chose to conduct graduate studies at the University of Guelph because of the strong network and laboratory skill-set that I built in the Hanner Laboratory during my undergraduate degree. As a graduate student, I am researching the utility of environmental DNA (eDNA) as a bioindicator using the Limnotron facility." - Danielle Bourque (MSc)

Facilities

The University of Guelph is home to diverse, state-of-the-art facilities that contribute to research and graduate training. Extensive freshwater and saltwater holding facilities are available in the Hagen Aqualab. The University is home to one of the largest herbariums in Canada, and has a strong partnership with the Royal Botanical Gardens. The Biodiversity Institute of Ontario provides first class facilities to investigate the genetic diversity of organisms, and the Limnotron enables experimental manipulation of aquatic food webs. The department engages in field work throughout the world including local, Arctic, African, and tropical sites. The department has access to field sites, extensive greenhouse and plant growth facilities across campus. Graduate students have access to facilities in the Advanced Analysis Centre including those for Genomics, Mass Spectrometry, NMR, X-ray crystallography and facilities for the growth of bacteria, yeast, mammalian and plant cells.

ARE YOU INTERESTED IN:

- Ecology
- Evolution
- Physiology
- Conservation

CAREER OPPORTUNITIES:

- Environmental consultant
- Scientist for federal and provincial agencies
- Data scientist for pharmaceutical companies
- Conservation officer for NGOs

CONTACT INFORMATION

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