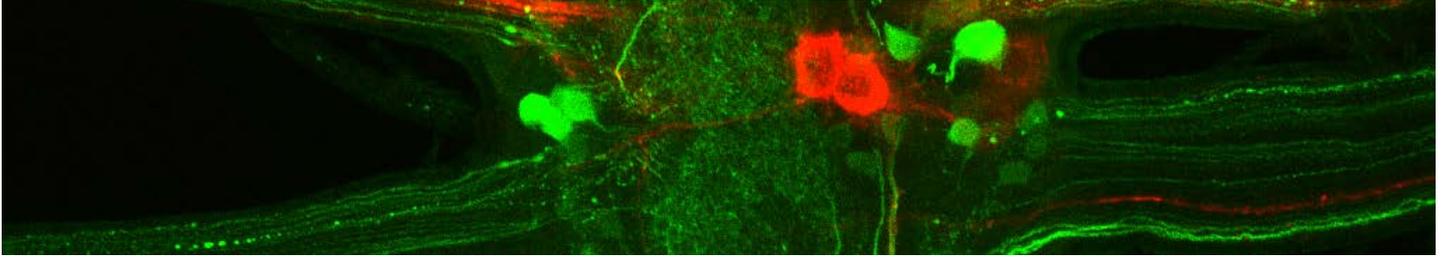


Department of Biology

Comparative Physiology Specialist



What is Comparative Physiology?

Physiology is the study of living matter and its interaction between internal and external environments. It integrates physical and life sciences in order to understand body functions and the origins of disease in both plants and animals. This discipline incorporates the study of control mechanisms, compensations, and cooperation among body molecules, cells, tissues, and organs.

Why Comparative Physiology?

Physiology unifies the life sciences from molecule to organism, providing the link from genomics and molecular signaling pathways to behaviour and disease. Emerging fields for physiologists are the analysis of the functional implications of genomic sequence variation, developmental factors leading to chronic illness, and novel approaches for regenerative medicine. Physiologists find applications for their work in agriculture, veterinary medicine, military research, air and space travel, and exercise and fitness.

Why Study Comparative Physiology at UTM?

Physiology at UTM explores a variety of topics, such as endocrinology, cardiovascular physiology, neurophysiology, and sensory physiology. Courses in these subject areas allow students to develop and apply a variety of technical and analytical skills.

Career Paths

- Research (Grad School)
- Education
- Medical, Dental, Pharmacy
- Physical & Occupational Therapy
- Nursing

First-Year Life Sciences at UTM

All Comparative Physiology Specialist students complete the following courses in their first year:

- **BIO152H5** – Intro to Evolution & Evolutionary Genetics
- **BIO153H5** – Diversity of Organisms
- **CHM110H5** – Chemical Principles I
- **CHM120H5** – Chemical Principles II
- **MAT134Y5** – Calculus for Life Sciences
- **1.0 credit from a list of other first year courses of their choosing (ie. Physics, Psychology etc)**

How Do You Study Comparative Physiology at UTM?

Comparative Physiology Specialist
(14.5 credits)

Courses to Look Forward To!

The department of Biology offers more than 50 undergraduate courses. Students in the Comparative Physiology Specialist complete a series of broad second year, and some required third year courses. They have the flexibility to select 3.0 other courses to complete this program based on their personal interests.

- **BIO202H5:** Introduction to Animal Physiology
- **BIO203H5:** Introductory Plant Morphology & Physiology
- **BIO205H5:** Ecology
- **BIO206H5:** Introductory Cell & Molecular Biology
- **BIO207H5:** Introductory Genetics
- **BIO210Y5:** Human Anatomy & Physiology
- **STA215H5:** Introduction to Applied Statistics
- **BIO304H5:** Integrative Animal Physiology I
- **BIO310H5:** Integrative Animal Physiology II
- **BIO312H5:** Plant Physiology
- **BIO360H5:** Biometrics I
- **BIO409H5:** Laboratory in Animal Physiology
- **CHM242H5 & CHM243H5:** Introduction to Organic Chemistry I & II

Some possible electives for this program:

- **BIO320H5:** Sensory Biology
- **BIO354H5** – Vertebrate Form & Function
- **BIO410H5:** Insect Physiology
- **BIO411H5:** Topics in Molecular & Cellular Physiology
- **BIO412H5:** Climate Change Biology
- **CHM361H5:** Structural Biochemistry
- **PHY333H5:** Physics of the Cell
- **PSY290H5:** Introduction to Psychological Psychology
- **PSY395H5:** Hormones & Behaviour

Experiential Learning in Comparative Physiology

We offer a wide-range of unique learning opportunities across all of our disciplines:

- **Research Opportunity Program (ROP)** – participate in original research with a professor, learn research methods, and share in the excitement and discovery of acquiring new knowledge
- **BIO481 - Senior Research Project:** conduct an independent research project under the supervision of a faculty member; learn how to design, carry out, and analyze and evaluate results/ data
- **BIO400 – Internship:** learn to apply biology knowledge and skills through a 200-hour work placement in the private or public sector
- **BIO416 - Field Course:** Students must choose from a variety of field courses over a two-week period in the summer. In addition to tuition fees, students are expected to pay for room and board
- **BioPath Professional Development Program:** two-year program open to all biology students. The program aims to facilitate the development of transferrable skills that will help students be successful beyond university.

Departmental Events

The Biology Department offers exciting opportunities for students to expand their interest in biology through a weekly departmental seminar featuring exciting guest speakers from across North America as well as our popular "Walk with your Professor" series where participants are led on a nature walk through the beautiful Mississauga campus.

For more information on career options, please visit the Career Centre site
<http://www.utm.utoronto.ca/careers/>.

For more information on these programs, please explore our Academic Calendar -
<https://student.utm.utoronto.ca/calendar/calendar.pl>.