

BIOLOGY (HBSc)

Department of Biology

Biology is the study of living organisms and involves observation and analysis of the tree of life. The foundation of biology is based upon the core concepts of evolution: natural selection and speciation. The study of biology is applicable to all facets of life, helping address such major problems as conservation, overpopulation, pollution, medicine and disease.

UTM Biology is a dynamic community. With over two dozen active research scientists, more than forty graduate students and many post-doctoral fellows doing state-of-the-art research using the latest techniques, our students will have the opportunity to learn from the best. Our undergraduate research projects and summer student placements in research labs will give students valuable, first-hand experience working in a laboratory environment.

MAKE THE MOST OF YOUR TIME AT UTM!

We want to help you maximize your university experience, so we've pulled together information and interesting suggestions to get you started, although there are many more! As you review the chart on the inside pages, note that many of the suggestions need not be restricted to the year they are mentioned. In fact, activities such as joining an academic society, engaging with faculty and seeking opportunities to gain experience should occur in each year of your study at UTM. Read through the chart and create your own plan using [My Program Plan](#) found at www.utm.utoronto.ca/program-plans

Programs of Study (POSt)

- Specialist Program ERSPE2364 Biology (Science)
- Major Program ERMAJ2364 Biology (Science)
- Minor Program ERMIN2364 Biology (Science)

Check out...

How do plants compete and defend? Learn about the population and community ecology of plants in BIO330H5. What's the connection between animal behaviour and their physiology? Find out in BIO318Y5 which seeks to understand what mechanisms underlie behaviour.

What can I do with my degree?

The career you choose will depend on your experience and interests. Visit the Career Centre to explore your career options.

Careers for graduates: Biological technician; Environmental educator; Greenhouse grower; Paramedic; Science magazine editor/ writer; Zoology field researcher; Informationist; Doctor; Physician's assistant; Nurse; Quality controller; Food science technologist; Aquaculture technician; Botanist; Herbarium technician; Dietician.

Workplaces: Manufacturing and processing; Government; Industrial inspection firms; Scientific R&D; Conservation authorities; Zoos, aquariums, national/ provincial parks; Pharmaceutical; Academic medical centres/laboratories; Health care.



BIOLOGY

MAJOR Program Plan

HOW TO USE THIS PROGRAM PLAN

Read through each year. Investigate what appeals to you here and in any other Program Plans that apply to you.

Visit www.utm.utoronto.ca/program-plans to create your own plan using [My Program Plan](#). Update your plan yearly.



| | 1 ST YEAR | 2 ND YEAR |
|------------------------|---|---|
| PLAN YOUR ACADEMICS* | <p>Enrol in courses BIO152H5, 153H5; CHM110H5, 120H5; and MAT134Y5/ 135Y5/ 137Y5. Attain 1.0 credit from the second list of required first year courses in the Academic Calendar.</p> <p>Choose a program of study (Subject POST) once you complete 4.0 credits. Use the Degree Explorer Planner and the Academic Calendar to plan your degree.</p> <p>Start strong and get informed with utmONE and LAUNCH through the Centre for Student Engagement (CSE). Join a RGASC Peer Facilitated Study Group.</p> | <p>Enrol in courses BIO202H5, 203H5; 205H5, 206H5, 207H5; and STA215H5/ PSY201H5.</p> <p>Consider applying for the Research Opportunity Program (ROP) courses BIO299Y and BIO399Y. Visit the EEU website for ROP Course Prerequisites. Attend the RGASC's P.A.R.T. to enhance your research skills.</p> |
| BUILD SKILLS | <p>Use the Co-Curricular Record (CCR). Search for opportunities beyond the class room, and keep track of your accomplishments.</p> <p>Attend the Get Experience Fair through the Career Centre (CC) to learn about on- and off-campus opportunities.</p> | <p>Use the Career Learning Network (CLN) to find postings for on- and off-campus work and volunteer opportunities as well as Work-Study.</p> <p>Ask your professor about volunteering in their lab.</p> |
| BUILD A NETWORK | <p>Networking simply means talking to people and developing relationships with them. Start by joining the Erindale Biology Society (EBS). Follow them @utmEBS. Go to the EBS Meet the Prof Night, or the Biology department's Walk with your Professor.</p> <p>Visit the UTM Library Reference Desk.</p> | <p>Do you have a professor you really like or connect with? Ask them a question during office hours. Discuss an assignment. Go over lecture material. Don't be shy! Learn Tips On How to Approach a Professor available through the Experiential Education Unit (EEU).</p> |
| BUILD A GLOBAL MINDSET | <p>Attend events held by the International Education Centre (IEC), whether you are an international or domestic student. Explore different cultures through food, music, and sport or through sight-seeing around the GTA.</p> <p>Start with the International Education Week events and learn about the diversity, culture, and international opportunities on campus!</p> | <p>Interested in deepening your global perspective? Register for the Global Citizenship Certificate offered by the IEC.</p> <p>Get involved with a Community Action Project through the CSE and build your skills in intercultural communication and teamwork!</p> |
| PLAN FOR YOUR FUTURE | <p>Attend the Program Selection & Career Options workshop offered by the Office of the Registrar and the CC.</p> <p>Check out Careers by Major at the CC to see potential career options.</p> | <p>Explore careers through the CC's Extern Job Shadowing Program. Ask the Biology Undergraduate Assistant about the BioPath: Professional Development Program.</p> <p>Considering further education? Attend the CC's Graduate and Professional Schools Fair. Talk to professors – they are potential mentors and references for further education.</p> |

*Consult the Academic Calendar for greater detail on course requirements, program notes and degree requirements.

| 3 RD YEAR | 4 TH OR FINAL YEAR |
|---|--|
| <p>Attain 2.0 credits in Biology from the 300 or 400 level.</p> <p>Throughout your undergraduate degree:</p> <ul style="list-style-type: none"> use the Degree Explorer to ensure you complete your degree and program requirements. see the Office of the Registrar about degree requirements and the Biology Undergraduate Advisor about program requirements. | <p>Conduct a research project under the supervision of a faculty member through BIO481Y5. Speak to the Biology Undergraduate Advisor for advice and details.</p> <p>Log on to ACORN and request graduation.</p> |
| <p>Learn techniques biologists use in the field! Use field ornithology techniques in BIO326H5, and observe and analyze animal behaviour in BIO318Y5. Speak to the Biology Undergraduate Advisor.</p> <p>Explore your interests. Become a Wellness Ambassador with the Health & Counselling Centre's Physical Health team.</p> | <p>Apply to the Ontario Ministry of Natural Resources Internship Program as a recent graduate. Look at the MNR website for eligibility and application details.</p> <p>Gain research skills by working one-on-one with graduate students and a professor through BIO481Y5. Speak to the Biology Undergraduate Advisor.</p> |
| <p>Establish a professional presence on social media (e.g. LinkedIn).</p> <p>Curious about grad school? Connect with a grad student through the CSE's Grad Connect program to get the inside scoop.</p> | <p>Join a professional association. Check out the Association of Professional Biology or the Canadian Society of Plant Biologists.</p> <p>Go to the Canadian Undergraduate Conference on Healthcare or the Ontario Biology Day.</p> |
| <p>Get a global experience through our Biology Seminar Series. Every Friday during the academic year, the Department of Biology hosts an exciting seminar given by a guest speaker. Guest speakers are from Ontario, across Canada, as well as International. Topics cover every aspect of biology. All Biology students are welcome to attend. Feel free to bring your lunch!</p> | <p>Do you want to study dolphin and whale biology and conservation in tropical Asia, or the ecology of the Arctic? Enrol in BIO416H5 to choose from a variety of field courses offered through the Ontario Universities Program in Field Biology.</p> |
| <p>What's your next step after undergrad?</p> <p>Entering the workforce? Evaluate your career options through a CC Career Counselling appointment. Create a job search strategy — book a CC Employment Strategies appointment.</p> <p>Considering further education? Research application requirements, prepare for admission tests (LSAT, MCAT), and research funding options (OGS, NSERC, CIHR)</p> | <p>Market your skills to employers. Get your resume critiqued at the CC. Attend the CC workshop Now That I'm Graduating What's Next?</p> <p>Write a strong application for further education. Attend the CC's Mastering the Personal Statement workshop.</p> |

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Visit www.utm.utoronto.ca/program-plans for the online version and links.

BIOLOGY

Skills developed in Biology

To be competitive in the job market, it is essential that you can explain your skills to an employer. Visit the Career Centre to learn how to articulate and market the following skills:

Communication & interpersonal: write scientific reports; present research findings; interact professionally with a multidisciplinary team of researchers, technicians, students and professors; and literacy writing.

Research: collect and preserve field organisms; dissect preserved or euthanized specimen; inspect specimens; and analyze and evaluate information.

Technical: use specialized computer programs; perform laboratory procedures; maintain laboratory equipment and instrumentation; and comply with quality control procedures.

Quantitative: analyze data for trends and apply statistical tests to data.

Critical thinking & problem-solving: logically interpret trends and results.

Get involved

Check out the 100+ student organizations on campus. Here are a few:

- Erindale Biology Society (EBS)
- UTM Student Union (UTMSU)
- UTM Athletics Council (UTMAC)

For a listing of clubs on campus visit www.utm.utoronto.ca/clubs.

Services that support you

- Accessibility Services (AS)
- Career Centre (CC)
- Centre for Student Engagement (CSE)
- Experiential Education Unit (EEU)
- Health & Counselling Centre (HCC)
- Indigenous Centre (IC)
- International Education Centre (IEC)
- Office of the Registrar (OR)
- Recreation, Athletics and Wellness Centre (RAWC)
- Robert Gillespie Academic Skills Centre (RGASC)
- UTM Library, Hazel McCallion Academic Learning Centre (HMALC)

Department of Biology

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www.utm.utoronto.ca/biology

FUTURE STUDENTS

Admission to UTM

All program areas require an Ontario Secondary School Diploma, or equivalent, with six Grade 12 U/M courses, or equivalent, including English. The admission average is calculated with English plus the next best five courses. The Grade 12 prerequisites for this program are Advanced Functions, Biology and Chemistry. The approximate average required for admission is low- to mid-80s. More information is available at utm.utoronto.ca/viewbook.

NOTE: During the application process, applicants will select the Life Sciences admissions category, but will not officially be admitted to a formal program of study (Specialist, Major, and/or Minor) until after first year.

Sneak Peek

What's in your genes? Take BIO207H5 to find out about the principles of Mendelian inheritance and modern genetics. Our department also offers students access to our herbarium which houses about 95,000 specimens of vascular plants.

Effective biological training involves careful study of real organisms, both living and dead. Consequently, almost all Biology courses with laboratories involve students in one or more of the following activities with animals, plants, and/or microorganisms: collecting and preserving organisms from the field; dissecting or handling preserved or euthanized specimens (or properly anaesthetized living specimens); observing and making measurements on organisms maintained under laboratory conditions approved by the Canadian Council of Animal Care.

Student Recruitment & Admissions

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3359 Mississauga Rd
Mississauga ON Canada L5L 1C6

905-828-5400

www.utm.utoronto.ca/future-students

