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. 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 ERSPE1237 Molecular Biology (Science)
- Minor Program ERMIN2364 Biology (Science)

Check out...

What is the molecular and genetic basis of cancer building? Examine the role of oncogenes, tumor suppressor genes and cell cycle regulating proteins in the developing of this disease through BIO477H5.

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: Cytotechnologist; Bacteriologist; Microbiologist; Medical geneticist; Biological technician; Toxicologist; Veterinary technician; Zoologist; Informationist; Community health worker; Radiation therapist; Doctor; Dietician; Aquaculture technician.

Workplaces: Manufacturing and processing; Government; Scientific R&D; Conservation authorities; Hospitals and medical centres; Pharmaceutical; Academic medical centres/laboratories; Consulting firms.

MOLECULAR BIOLOGY (HBSc)

Department of Biology

Molecular Biology is an interdisciplinary science that draws its major themes from biochemistry, cell biology, and genetics. Its emphasis is on the structure, chemistry, and functions of nucleic acids and focuses on the biochemical basis of cellular genetics. As the cornerstone of contemporary biotechnology, molecular biology provides some of the most successful experimental tools in medicine and agriculture. Applications for molecular biology can also be seen in the fields of genetics and microbiology.

Molecular Biology at UTM provides in-depth training in critical analyses of scientific concepts and literature as well as advance laboratory skills. Subject areas include virology, immunology, cancer biology, plant and animal developmental biology, and biotechnology.

What can I do with my degree?

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Workplaces: Manufacturing and processing; Government; Scientific R&D; Conservation authorities; Hospitals and medical centres; Pharmaceutical; Academic medical centres/laboratories; Consulting firms.
MOLeCular Biology
Specialist Program Plan

1ST YEAR

Enrol in courses BIO152H5, 153H5, CHM131H5, 120H5, and MAT134Y5/135Y5/137Y5. Attain 1.0 credit from the second list of required first year courses in the Academic Calendar.

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.

Start strong and get informed with utmONE and LAUNCH through the Office of Student Transition. Join a RIGASC Peer Facilitated Study Group.

2ND YEAR

Enrol in courses BIO206H5, 207H5, CHM234H5, 243H5, STA215H5; plus 1.0 credit from BIO202H5, 203H5 and 205H5.

Throughout your undergraduate degree:

- 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.

3RD YEAR

Enrol in courses BIO331H5, 315H5, 360H5, 370Y5, 372H5, CHM361H5, 362H5, 372H5, 373H5; plus 0.5 of BIO304H5, 310H5, 341H5, 362H5, 368H5, 374H5, 375H5, 380H5; CHM347H5; PHY332H5, 333H5, BCH333H5, 340H5.

Consider applying for the Research Opportunity Program (ROP) course BIO399Y5. Visit the EEO website for ROP Course Prerequisites. Attend the RIGASC’s P.A.R.T. to enhance your research skills.

4TH OR FINAL YEAR

Enrol in courses BIO314H5, 315H5, 360H5, 370Y5, 372H5, CHM361H5, 362H5, 372H5, 373H5; plus 0.5 of BIO304H5, 310H5, 341H5, 362H5, 368H5, 374H5, 375H5, 380H5; CHM347H5; PHY332H5, 333H5, BCH333H5, 340H5.

Consider applying for the Research Opportunity Program (ROP) course BIO399Y5. Visit the EEO website for ROP Course Prerequisites. Attend the RIGASC’s P.A.R.T. to enhance your research skills.

Explore your interests. Why not pass on your passion for science? Be a UTM Let’s Talk Science Outreach volunteer.

Apply to the Ontario Ministry of Natural Resources Internship Program as a recent graduate. Look at the MNRF website for eligibility and application details.

Gain research skills by working one-on-one with graduate students and a professor through BIO481Y5. Speak to the Biology Undergraduate Advisor.

Establish a professional presence on social media (e.g., LinkedIn). Join a professional association. Check out the Canadian Society for Molecular Biosciences or the Canadian Society of Microbiologists.

Go to a conference such as Ontario Biology Day.

Gain some valuable work experience while travelling abroad! See if you are eligible for International Experience Canada.

Why not work abroad? Read up on worldwide employment trends and industry outlooks through GoinGlobal. Attend the Go Global Expo.

What’s your next step after undergrad?


Considering further education? Research application requirements, prepare for admission tests (LSAT, MCAT), and research funding options (OGS, NSERC, CIHR).

Market your skills to employers. Get your resume critiqued at the CC. Attend the CC workshop Now That I’m Graduating What’s Next?

Write a strong application for further education. Attend the CC’s Mastering the Personal Statement workshop.

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

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

Skills developed in Molecular 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.

Services that support you

- AccessAbility Resource Centre (AARC)
- Career Centre (CC)
- Centre for Student Engagement (CSE)
- Experiential Education Office (EEO)
- Health & Counselling Centre (HCC)
- Indigenous Centre (IC)
- International Education Centre (IEC)
- Office of Student Transition (OST)
- 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)

Get involved

Check out 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.

Department of Biology

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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. Curious about animal physiology? Discover the diversity of structure and function in animals in BIO202H5.

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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www.utm.utoronto.ca/prospective