Molecular Biology & Biotechnology (HBSc)
Department of Biological Sciences

This program first establishes foundational knowledge across the major disciplines of biology, and then combines this knowledge with increasingly molecular, analytical and reflective approaches to the study of Biology. This is a laboratory-rich program that integrates an understanding of chemical and physical processes within our complex biological systems. Broad training in biology and rigorous ancillary training in cognate disciplines, positions graduates to apply to professional and graduate schools or work in a broad range of government regulatory agencies, clinical, or research-focused industries. Co-op terms provide full-time work placements in laboratories, government, health care, or public and private industry. Placements help students both define and refine their career goals while providing invaluable work experience.

Make the most of your time at UTSC!
We want to help you maximize your university experience, so we've pulled together information and 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 listed. In fact, activities such as joining a student club, engaging with faculty and seeking opportunities to gain experience should occur in each year of your study.

Check out future career opportunities and skills acquired from completing this program:

**Competencies & Skills**
- **RESEARCH**: Experimental design, data analysis using statistics, critical interpretation of literature, advanced experimental techniques in molecular biology
- **COMMUNICATION**: Written, oral, poster, debate, multimedia
- **CAPACITY**: Teamwork skills, meet deadlines and expectations
- **VALUES**: Advocate for Biology & fundamental research

**Careers for Graduates**
- Academic Research Scientist
- Clinical Research Assistant
- Laboratory Research Associate (university, hospital, industry)
- Laboratory Technician for Clinical Trials
- Coordinator or Researcher
- Biotechnologist
- Pharmaceuticals (Research, Development, Sales)
- Food Science
- Quality Control & Inspection
- Healthcare Professional

**Further Education**
- Graduate Studies
- Public Health
- Genetic Counselling
- Medical School
- Dental School
- Pharmacy
- Optometry
- Physical Therapy
- Occupational Therapy
- Nursing
- Teacher Education
- Clinical Research
- Medical Laboratory Technology
- Radiology Technologist (MRI, CT)

For more information go to: uoft.me/alumni-services

NEED HELP CHOOSING YOUR PROGRAM?
See uoft.me/choosing
Molecular Biology & Biotechnology (HBSc)
Specialist Program Pathway

YEAR 1 (0 - 3.5 Credits)

- BIOLOGY: BIOA01H3 & BIOA02H3.
- CHEMISTRY: CHMA10H3 & CHMA11H3.
- MATH: MATA29H3 & MATA30H3 OR MATA30H3 & MATA31H3.
- STATS: STAB22H3 OR PSYB07H3.
- Use Degree Explorer planner and UTSC Calendar to plan your degree.
- Attend Biology Students Association (BioSA) BioAID Review Sessions for guidance with writing lab reports.
- Contact the UTSC Library for in-depth research assistance for your assignments; writing support is also available at the CTL Writing Centre.
- Attend your professors’ office hours.
- Attend the Professor-Student Mix & Mingle to meet many of the professors you will encounter as you progress through your degree.
- Start building your Co-Curricular Record (CCR) and search for Experiential Learning and Work-Integrated Learning opportunities on CLNx.

YEAR 2 (4 - 8.5 Credits)

- 0.5 from BIOB12H3.
- 1.0 from Organic Chemistry Courses: CHMA31H3, CHMA32H3.
- Check Degree Explorer and contact your Program Advisor.
- Seek support from professors and TAs during office hours.
- Check the Research Catalogue on CLNx for possible research opportunities.
- Volunteer in research labs, hospitals, doctors offices, community organizations, foundations.
- Consider doing a directed research course (BIOB98).
- Take part in Conversation with Biologists, an event where students can interact with leading scientists and learn about their research and career trajectory.
- Consider Work Study jobs or take a directed supervised research course (e.g., BIOB98).

YEAR 3 (9 - 13.5 Credits)

- 0.5 credit from: CSCA08H3, CSCA20H3, PSCB57H3.
- 0.5 Credit of Cognate Biology (check UTSC Calendar for details).
- Check Degree Explorer to ensure you are on track with your degree.
- Consider entering the UTSC Library Undergraduate Research Prize contest and/or the Mitacs Globalink Research Award (12-24k+ overseas – visit the ISC for details).
- Continue to build your volunteer and work experience.
- Consider directed research courses: BIOB98, BIOC99.
- Continue to build on your skills and knowledge through relevant events offered through your department, student groups, DSL and the AA&CC.
- Attend Diversity in Medicine Seminar (for future medical students).
- Volunteer with DSL as a First Year Peer Advisor.
- Consider joining a relevant professional association such as American Society of Cell Biology or the American Society of Microbiology that take student members, and volunteer for their events.

YEAR 4 or FINAL YEAR (14 - 20 Credits)

- 0.5 Credit in Advanced Molecular Techniques: BIOD20H3.
- 0.5 credit D-level Research-oriented “Cell & Molecular” Course Work from selected courses on Degree Explorer.
- Use Degree Explorer to ensure you are on track to graduate.
- Register your “Intent to Graduate” on ACORN by the deadline.
- Attend weekly Biology Seminar Series (Fridays 12pm).
- Take upper-level directed research courses (BIOC09, BIOC98, BIOD05).
- Submit to UTSC’s Journal of Natural Sciences.
- Apply for an Academic Travel Fund through DSL to research, present at a conference, or engage with the international academic community.
- Attend the AA&CC’s Get Hired job search conference in April/May.
- Attend the Jobs for Grads orientation for a job search “crash course”; find job opportunities on CLNx.
- Discuss grad school plans early with staff at the AA&CC and your professors.
- Get your Personal Statement reviewed in the AA&CC.

HOW TO USE THIS PROGRAM PATHWAY

Read through each year; investigate what appeals to you here and in other Program Pathways that apply to you. Note that this Pathway is only a suggestion. For the most up to date information, please check the UTSC Calendar.

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SERVICES AT UTSC THAT SUPPORT YOU:
To learn about resources and departments that can support you, download the UTSC Student Experience app or visit uoft.me/STaRTNow

Diversity & Inclusion
The University of Toronto Scarborough commits to intentionally foster a welcoming and supportive environment for students, faculty, and staff where diversity is valued, and every member of the community feels a sense of belonging on campus.
utsc.utoronto.ca/edo/

Academic Integrity
The university community supports an environment of academic integrity; these are values that include honesty, trust, fairness, respect and responsibility. Learn about the university’s academic rules and how to avoid accidental plagiarism by attending an Academic Integrity Matters (AIM) workshop.
academicintegrity.utoronto.ca/

Healthy Campus
UTSC provides supportive environments, resources and services to empower students to maintain their overall physical and mental health and foster their academic success.
uoft.me/healthycampus/

Co-Curricular Record
The co-curricular record is an official institutional document that recognizes your involvement outside the classroom as a significant part of your U of T experience.
clnx.utoronto.ca/ccr

FUTURE STUDENTS
For admission requirements to UTSC, check out the U of T Scarborough Viewbook or contact:

Admissions & Student Recruitment
University of Toronto Scarborough
Room HL104, Main Floor, Highland Hall
416-287-7529
admissions@utsc.utoronto.ca

CURRENT STUDENTS
Departmental Contact
Jennifer Campbell,
SW421D, 416-287-7404,
jac.campbell@utoronto.ca
utsc.utoronto.ca/biosci

Biological Sciences Librarian
Sarah Guay
sarah.guay@utoronto.ca
416-287-7497

Academic Advising & Career Centre
Room AC213 | 416-287-7561

Department of Student Life
Room SL157 | 416-208-4760

BioSA - Biology Students Association
thebiosa.org

DID YOU KNOW...
Check out co-op work term presentations to learn how our students excel in a diverse range of jobs!

DISCLAIMER: Please refer to the calendar for the most current and accurate information on programs and degrees: utsc.calendar.utoronto.ca