

# Molecular Biology, Immunology & Disease (HBSc)

Specialist

Major

Minor

Department of Biological Sciences

This program provides training and background in general biology with specialized courses in immunology, infection, and disease. In order to further our knowledge and skills in health promotion and disease and infection prevention, students in this program will learn about immunology, microbiology, biochemistry, pathobiology, and disease. Graduates of this program are prepared to play an integral part in advancing health related professions and contributing to disease research following graduate studies.

**Complementary Programs:** Health Studies programs

## 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
- **COMMUNICATION:** Effectively use multiple formats (written, oral, poster, debate, multimedia)
- **PROFESSIONAL CAPACITY:** Teamwork skills, meet deadlines and expectations, accept and provide constructive criticism; objectively evaluate the contributions of others
- **VALUES:** Be a strong advocate for science

### Careers for Graduates

- Research Assistant (hospital, university, private)
- Food Inspection Agencies (research, quality control)
- Researcher-Public Health, Government Agencies
- Pharmaceutical Sales
- Medical Supply Sales
- Biopharmaceuticals (research, quality control)
- Editor in Scientific Publications

### Further Education

- Graduate Studies
- Medicine
- Dentistry
- Pharmacy
- Physical or Occupational Therapy
- Optometry
- Nursing
- Teacher Education
- Naturopathic or Chiropractic Medicine
- Laboratory Technician
- Radiology Technologist (MRI, CT)
- Clinical Research
- Epidemiology
- Public Health & Public Policy



Connect with Alumni at events on **CLNx** and through **Partners in Leadership**, **10,000 Coffees**, **LinkedIn** and more!

For more information go to:  
[uoft.me/alumni-services](http://uoft.me/alumni-services)

**NEED HELP CHOOSING  
YOUR PROGRAM?**

See [uoft.me/choosing](http://uoft.me/choosing)

# Molecular Biology, Immunology & Disease (HBSc) Major Program Pathway

## 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.**

### YEAR 1 (0 - 3.5 Credits)

### YEAR 2 (4 - 8.5 Credits)

### YEAR 3 (9 - 13.5 Credits)

### YEAR 4 or FINAL YEAR (14 - 20 Credits)

#### CHOOSE YOUR COURSES WISELY

- 1.0 Biology credit: BIA01H3, BIA02H3.
- 1.0 Chemistry credit: CHMA10H3, CHMA11H3.
- 0.5 credit from: MATA29H3, MATA30H3, [STAB22H3 or PSYB07H3].
- Use Degree Explorer and the UTSC Calendar to plan your courses and program.

- 2.5 credits of Biology Core Courses: BIOB10H3, BIOB11H3, BIOB34H3, BIOB50H3, BIOB51H3.
- Complete BIOB90H3.
- 0.5 credit of Biology Core Lab from: BIOB12H3, BIOB32H3, BIOB33H3.
- Use Degree Explorer and consult with your Program Advisor to ensure you meet your degree and program requirements.

- 1.5 C-level credits as follows: BIOC17H3, BIOC20H3, BIOC39H3.
- 1.0 additional C-level credit from: BIOC10H3, BIOC12H3, BIOC13H3, BIOC14H3, BIOC15H3, BIOC19H3, BIOC31H3, BIOC35H3.
- Complete BIOC90H3.
- Use Degree Explorer to ensure you are on track with your degree.

- 0.5 D-level credit from: BIOD12H3, BIOD13H3, BIOD17H3, BIOD19H3, BIOD20H3, BIOD23H3, BIOD25H3, BIOD26H3, BIOD27H3, BIOD29H3.
- Complete BIOC90H3 if you have not already.
- Use Degree Explorer to ensure you are on track to graduate.
- Register your "Intent to Graduate" on ACORN by the deadline.

#### DEVELOP YOUR ACADEMIC & RESEARCH SKILLS

- Attend BioSA's BioAID Review Sessions for guidance with writing lab reports.
- Contact the UTSC Library for in-depth research assistance; writing support is available at the CTL Writing Centre.
- Attend a BioSci info session on directed research.

- 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.

- Consider entering the UTSC Library Undergraduate Research Prize contest, the Mitacs Globalink, or NSERC USRA Research Awards.
- Continue to build your volunteer and work experience.
- Consider directed research courses: BIOB98, BIOC99 and take part in our departmental information session.

- Attend the weekly Biology Seminar Series (Fridays 12pm).
- Take upper-level directed research courses (BIOC99, BIOD98, BIOD95).
- Submit independent research work to UTSC's Journal of Natural Sciences.

#### APPLY THEORY TO PRACTICE

- Attend the Professor/Graduate Student Mix & Mingles to meet many of the professors & TAs 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 the Career & Co-Curricular Learning Network (CLNx).

- 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 for possible research opportunities.

- Continue to build on your skills and knowledge through relevant events offered through your department, student groups, DSL and the AA&CC.
- Consider being a peer reviewer for the Journal of Natural Sciences.

- Participate in Ontario's Synapse Life Science Competition: [www.synapselifescience.com](http://www.synapselifescience.com)
- Consider being an editor for the Journal of Natural Sciences.

#### BECOME AN ENGAGED CITIZEN (LOCALLY & GLOBALLY)

- Join a professional student organization like Future Black Physicians, Health Occupation Students of American UTSC, or MEDLIFE.
- Build confidence and self-esteem through Department of Student Life's (DSL) LEAD program.
- Develop leadership skills through DSL's Alternative Reading Week.
- Be an active participant in MIMSA and BioSA events.

- Build your official CCR by getting involved with the Scarborough Pre-Med Society.
- Consider participating in local science outreach through organizations like Let's Talk Science or consider Global Learning opportunities through ISC.
- Consider public health and policy fellowships in provincial/federal government.

- Attend Diversity in Medicine Seminar (for future medical students).
- Volunteer with DSL to be a First Year Peer Advisor. Take part in other DSL activities, such as Indigenous Experiential Journey trip, or intern with an NGO with the Queen Elizabeth II Diamond Jubilee Scholarship Program.
- Attend a Café Scientifique in your local community.

- Participate in the AA&CC's Partners in Leadership program to learn and network with an alumni mentor about transitioning to work or further education.
- 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.

#### PLAN FOR YOUR FUTURE CAREER

- Volunteer with organizations to explore your interest in industries related to your program of study; check listings on CLNx.
- Attend the UTSC Get Experience Fair in September or register with Scarborough Campus Student Union's (SCSU) Volunteer Network Program.

- Gain experience by applying for a summer, part-time or Work Study position via CLNx.
- If you are considering grad school, speak to professors and program advisors early so you know what to keep in mind.
- Explore careers through AA&CC's Job Shadowing and In The Field programs.
- Apply for DSL's All-In Leadership program.

- Speak with a staff member at the AA&CC to plan a potential career path.
- Check CLNx for networking events and employer information sessions.
- Attend the Graduate & Professional School Fair in September.
- Join a conference like TEDxUTSC or International Development Conference to develop professional skills.

- 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.
- If you are considering grad school, discuss your plans with staff at the AA&CC and your professors.
- Get your Personal Statement reviewed in the AA&CC.

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Department of Biological Sciences

## 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](http://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/](http://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/](http://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/](http://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](http://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](mailto:admissions@utsc.utoronto.ca)

## CURRENT STUDENTS

### Departmental Contact

Jennifer Campbell,  
[jac.campbell@utoronto.ca](mailto:jac.campbell@utoronto.ca),  
416-287-7404, SW421D

### Molecular Biology, Immunology & Disease Librarian

Sarah Guay,  
[sarah.guay@utoronto.ca](mailto: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 at UTSC, [thebiosa.org](http://thebiosa.org)

## DID YOU KNOW...

MIMSA fosters student involvement beyond in-class learning, connecting UTSC students with their peers and UofT faculty.



## Glossary of acronyms:

AA&CC - Academic Advising & Career Centre  
BioSA - Biology Students Association at UTSC  
CLNx - Career & Co-Curricular Learning Network  
CCR - Co-Curricular Record  
CTL - Centre for Teaching & Learning  
DSL - Department of Student Life  
ISC - International Student Centre  
MIMSA - Molecular Biology & Immunology Students Association  
SCSU - Scarborough Campus Students Union  
USRA - Undergraduate Student Research Awards