Molecular Biology, Immunology and Disease

What is Molecular Biology & Immunology?

Biology is a Life Science focused on understanding life and living organisms. Molecular Biology is the branch of biology that deals with the macromolecules essential to life. Immunology analyzes the immune system and its responses to pathogens and disease. (Source: Oxford Dictionary)

Skills of Biology Grads

- Collect, analyze and interpret data to make projections
- Conduct and design experiments
- Explore how organisms interact with the environment
- Observe and make measurements on organisms
- Research and analyze biological questions
- Utilize statistical tests to predict outcomes
- Write literature reviews and scientific reports
- Chart the development of complex organisms

Immunology Skills:

- Understand how the immune systems functions
- Application of cell biology tools such as advanced microscopy and immunocytochemistry
- Identification of immune cell proteins

Molecular Biology Skills:

- Prepare and dispense precisely formulated solutions, even in Microliter quantities
- Understand the application of electrophoresis, western blotting, chromatography and fluorescent protein technologies

Entry-Level Jobs for Bachelor Grads

Common employment destinations include:

- Clinical Research Assistant in Hospitals
- Laboratory Technician in Government Agencies
- Sales in Pharmaceuticals and Medical Supplies
- Assistant Biologist in Food Inspection Agencies
- Volunteer Coordinator in Non-profits
- Teaching Assistant or Tutor in Private Schools
- Quality Control in Biopharmaceutical Industry
- Laboratory Assistant in Genetic Testing Services
- Marketing Associate for Medical Devices
- Underwriting Assistant in Insurance

The Career Directory: www.canadastop100.com/tcd

Graduate & Professional Studies

Popular further education opportunities include:

- Biology - Master of Science
- Sustainability or Environment - Master
- Biotechnology - Master or Diploma
- Medical or Dentistry School - MD or DDS
- Nursing - Bachelor
- Medical Laboratory Science - Diploma
- Radiation Therapy or Radiological Technology - Bachelor and Advanced Diploma
- Clinical Research - Post-Graduate Certificate
- Regulatory Affairs - Post-Graduate Certificate

What makes Immunology & Disease at UTSC unique? With a focus on immunology, students in this program will have the opportunity to complete courses related to immunology, biochemistry, microbiology, and pathophysiology.

Use LinkedIn!

UTSC Biology graduates are working in Education, Healthcare and Business.

Molecular Biology Grads from UTSC have gone on to:

- Apotex (Manufacturing Compliance)
- Ozmosis Research (Clinical Trials Coordinator)
- SQI Diagnostics (Process Development)

Attend our LinkedIn workshop to learn about the Find Alumni tool for networking!
Examples of Fields that 'Fit' the Skills of Biology Grads

- Fundraising (Diseases, Disorders)
- Healthcare and Laboratory
- Sales and Marketing
- Production and Manufacturing
- Government Services (Federal, Provincial, Regional, Municipal)
- Research Support
- Education
- Insurance / Underwriting Services

Your 4-Year Career Exploration Action Plan

1. Do Your Research
The databases below provide you with details about job prospects, nature of work, educational requirements, working conditions, pay and related career paths:

**Career Cruising**: Log into cln.utoronto.ca, click on Resources, and click on Career Cruising to be logged in automatically.

**O*Net**: online.onetcenter.org (U.S. site)

Attend our workshop **Discover Your Skills and Career Options**, meet with a Career Counsellor, and use our resources to get to know your skills, values, personality and interests: www.utsc.utoronto.ca/aacc/get-know-yourself

Use the advice on our tip sheets for gathering info: www.utsc.utoronto.ca/aacc/tipsheets
- Information Interviews
- Working On-Campus
- Internships
- Volunteering

2. Explore Career Options & Get Experience
Gain exposure to your options in the world of work and make connections while you’re a student via campus events and programs listed on cln.utoronto.ca and ccr.utoronto.ca:

- Extern Job Shadowing
- In the Field
- Explore It! (course-based)
- Partners in Leadership (4th year students)
- iLead, uLead, weLead (Dep’t of Student Life)
- Employer Information Sessions
- Career & Volunteer Fairs
- Departmental Student Association Events

Apply for **Work Study** jobs in CLN in Fall and Spring! You might also find work via www.scsu.ca/jobs.

Find networking opportunities, internship programs and entry-level jobs via websites like www.talentegg.ca and www.charityvillage.ca.

As an upper year student (14+ credits), attend UTSC’s **Get Hired Conference** and participate in **Jobs for Grads**.

As a graduate, explore internships and other trainee programs like www.careeredge.ca

3. Build Your Network
Explore Professional Associations and get involved: volunteer for their events and conferences, and get to know people in your industry of interest. These are your future mentors, supervisors and colleagues!

Biology Student Association at UTSC - www.thebiosa.org
The Canadian Society of Microbiology - www.csm-scm.org
Association of Clinical Research Professionals - www.acrpnet.org/certificationprograms
The Student Doctor Network - www.studentdoctor.net
Canadian Society of Biochemistry, Molecular and Cellular Biology - www.csmbmc.ca
The Society for Biomolecular Sciences - www.slas.org
About Bioscience - www.aboutbioscience.org
BioTalent Canada - biotalent.ca
Canadian Council of Technicians and Technologists (CCTT) - www.cctt.ca

Please note: This document is a starting point for your further research into career options in this field of study. For more information on this program and course requirements, please visit the departmental website at the top of the first page.