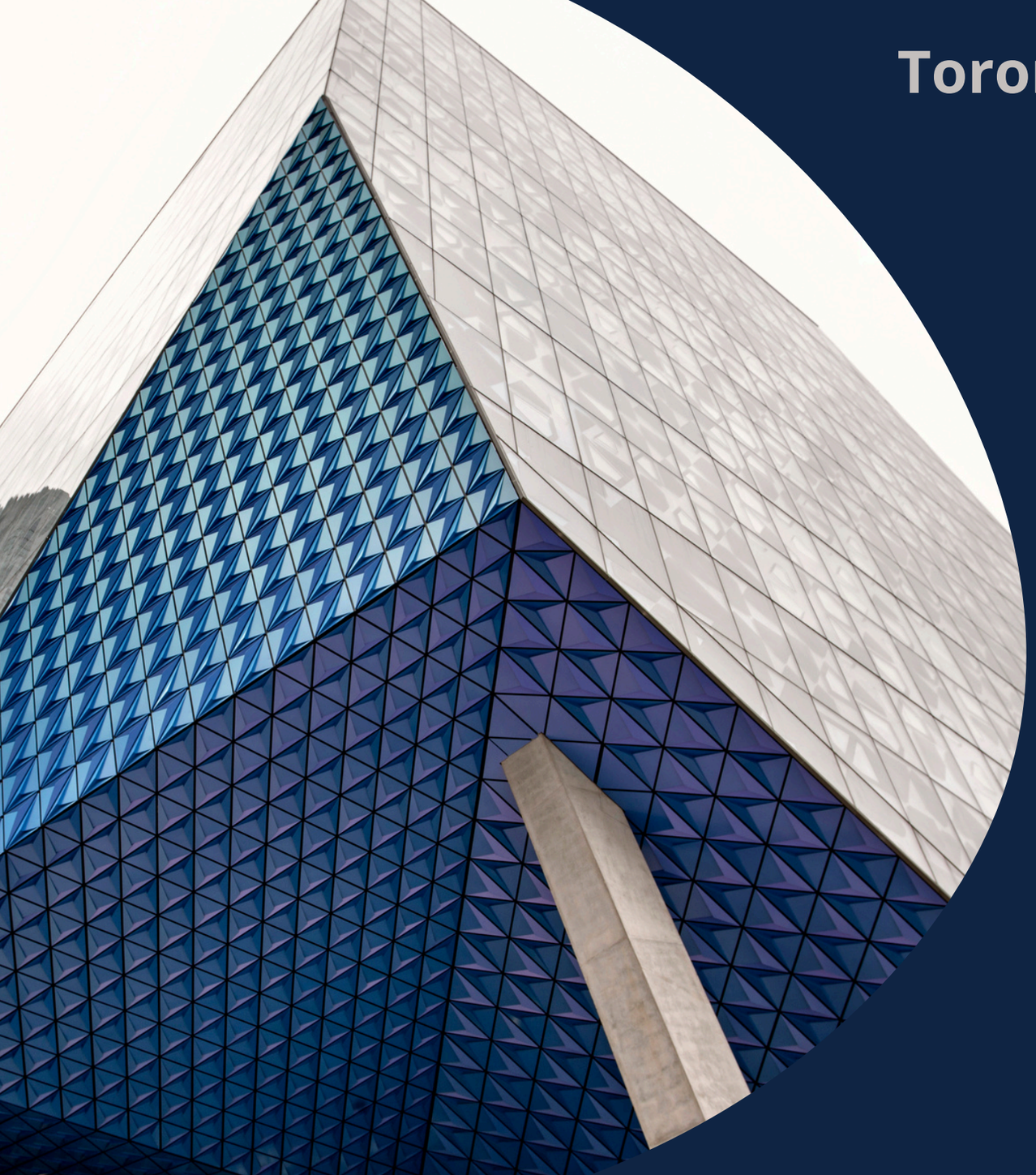


Toronto Metropolitan University

BIOMEDICAL SCIENCES STUDENT HANDBOOK

Department of Chemistry & Biology

Table of Contents

Welcome to the Department of Chemistry and Biology!

The Biomedical Sciences Program at Toronto Metropolitan University is designed to introduce you to the exciting science and technology underlying modern biomedical sciences.

Students in the program will learn fundamentals of genetics, microbiology, molecular and cell biology and biochemistry. The program will expose you to both **theoretical and hands on modes of learning** about these topics as well as providing you with the flexibility to explore these topics further, adding an understanding of cancer biology, bacterial and host cell signalling pathways, immunology, anatomy and physiology, advanced biochemistry and courses in critical thinking and experimental design that will help you develop the skills necessary to follow numerous exciting career paths following your graduation from the program. Our alumni have moved on to rewarding careers in medicine, biotechnology, academia, the pharmaceutical industry and many others.

Students may also have the opportunity to **conduct real-world research** in one of your professor's labs or to engage in other types of **experiential learning** opportunities.

We hope that you find your time in the Biomedical Sciences program rewarding and we look forward to helping you on your educational and professional journey.

Directory

Dr. Joseph McPhee

Biomedical Science Undergraduate Program Director

Kerr Hall North 308A
jbmcphee@torontomu.ca

Academic advising, probationary contracts, grade and standing appeals, program guidance

Dr. Anne Johnson

Director, First Year Science Office

Victoria Building 700
anne.johnson@torontomu.ca

Academic advising support for all Faculty of Science students in their first 12 months at TMU

Directory

Main Office – Chemistry and Biology

Kerr Hall North 212

- **Academic Assistants**
  General inquiries, course conflicts, prerequisite override requests, lab exemption requests (chembio@torontomu.ca)

- **Co-op Program Specialist (Anna Adamczyk)**
  Co-op education for Biology, Biomedical Science, Chemistry, and Medical Physics programs (anna.adamczyk@torontomu.ca)

- **Chair of Chemistry and Biology (Dr. Costin Antonescu)**
  (cantonescu@torontomu.ca)

The Biomedical Sciences program at a glance

The Biomedical Sciences program provides a foundational introduction to principles of Biomedical Sciences. Graduates of the Biomedical Sciences program have found rewarding **careers in medicine, paramedical specialties, biotechnology, graduate-level research and many other industries**.

In addition to fundamental courses in biochemistry, microbiology, genetics, cell biology, molecular biology, critical thinking and experimental design, Biomedical Sciences students also have the opportunity to more **deeply explore other aspects of the field** including human anatomy and physiology, neuroscience, cell signalling, model organisms, human genetics and many others.

The program offers significant flexibility that allows students to **explore their own interests and to develop expertise** in subject matter suitable to different specific career goals. There are several elements that contribute to a complete program at TMU and the following is a short guide to each of these elements.

Core Required Courses are mandatory courses that you need to take to meet graduation requirements.
See the Biomedical Science course calendar here.

Core Elective Courses are courses related to your degree that allow you to explore specific interests within your core area of study.
See the Core Elective offerings here.

Open Electives are any non-Liberal Studies degree-level courses that are not specifically excluded by your program. These courses can contribute towards earning a Minor, pursuing interests outside of the core curriculum, and/or increasing depth or breadth of knowledge within your core area of study.

> ! Core Elective Courses can be taken as Open Electives and this is one way you can strengthen your degree in biomedical sciences. For more information, click here.

Liberal Studies Courses are courses in disciplines outside of your field that contribute to a well-rounded education. These courses develop critical thinking, cultural awareness, and the ability to assess societal contexts from multiple perspectives. Liberal studies courses typically have a major essay/writing component. Courses are identified as either Lower Level (LL) or Upper Level (UL). Three LL courses and three UL courses are required for graduation.

> ! LL liberal courses cannot be taken as Open Electives. UL liberal courses may be taken as Open Electives with permission from the program department.

A **Minor** is a set of courses in a secondary area of study either outside of your major area of study, or in a field that complements your major area of study. For a list of available Minors and their requirements, click here.

Students who transfer to TMU after completion of some education at another postsecondary institution may apply for **transfer credits**. More information is available here.

Career Paths & Academic Planning for Biomedical Sciences

Different educational goals and careers might benefit from different specific elective courses that you can take as a part of completing the Biomedical Sciences program. The following section contains some suggestions that you might find helpful.

For further questions about academic planning, please arrange to meet with your undergraduate program director, who can help you develop a plan that is tailored for you and your future goals.

Research-Based Graduate Programs

Graduate programs with a research component often prioritize students who have already been exposed to undergraduate research. The Biomedical Sciences program offers several courses with a major research component and courses that prepare students to undertake research projects.

Students should also consider core and open elective courses that enhance their background knowledge in the specific graduate area that they are interested in pursuing (e.g. Cell Biology, Immunology, Microbiology, Biochemistry, Chemistry, etc).

The following are an example set but there are many other ways to prepare you for this theme and you can always speak to your program director for advice on preparing for graduate school programs.

CPS 118 – Introductory Programming for Scientists
BLG 610 – Data Science for Biology
BMS 865 – Model Organisms
BCH 880 – Advanced Biochemistry Laboratory
BLG 40A/B – Project-Thesis
OR BLG 481 – Biology and Chemistry Project Lab

You can add courses to build expertise in your areas of interest like:

- Chemistry (CHY 213, CHY 242, CHY 344, CHY 381)
- Biochemistry (BCH 463, BCH 501, BCH 560, BCH 580)
- Cancer Biology (BMS 850)
- Infectious diseases (BLG 408, BMS 451)
- Immunology (BLG 857, BMS 858)
- Genetics (BMS 500, BLG 702, BMS 750)

Medical, Clinical, and Health Professionals

These are careers including **medicine, nursing, dentistry, optometry, respiratory therapy, radiation therapy, physician assistant, pharmacist and many others**.

Focusing on courses that increase your understanding of human biology, pharmaceutical science and other medically relevant topics might be helpful for future education/career progression.

The following is an example set - there are many ways to prepare you for this theme.

PCS 229 – Introduction to Medical Physics
BMS 451 – Medical Microbiology
BMS 500 – Human Genetics
BLG 578 – Pharmacology
BMS 605 – Advanced Physiology
BMS 700 – Human Anatomy and Physiology II
BMS 850 – Cancer Biology
BMS 860 – Stem Cell Biology

Law Programs, Regulatory Affairs, Policy Development

Up to 20% of law school students have a background in the sciences, and science students have a unique opportunity in **patent law, regulatory compliance and science policy development**.

Students interested in fields like this can consider courses like the following.

CHY 423 – Environmental Science
CHY 436 – Pharmaceutical Chemistry
BLG 605 – Science and Government Policy Development
BLG 606 – Introduction to Clinical Research and Trials
BLG 607 – Intellectual Property in Science
BLG 610 – Data Science for Biology
BLG 788 – Current Topics in Biotechnology

Scientific Industry

Medical Writing and Science Communication

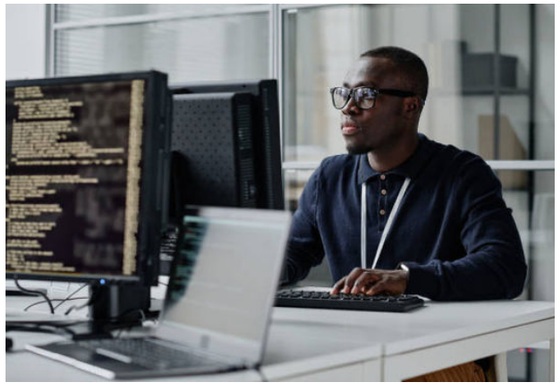
- BLG 351 – Applied Microbiology
- CHY 436 – Pharmaceutical Chemistry
- BLG 678 – Current Topics in Biology
- BLG 788 – Current Topics in Biotechnology
- BMS 858 – Infection and Immunity
- CMN 600 – Science, Communication, and Society

Bioinformatics

- CPS 109 – Computer Science I
- CPS 118 – Introductory Programming for Scientists
- BLG 409 – Biometry
- CPS 501 – Bioinformatics
- BLG 610 – Data Science for Biology

Medical Science Liaison, Healthcare Insurance Analyst

- BMS 451 – Medical Microbiology
- BCH 461 – Biochemistry of Disease
- BLG 578 – Pharmacology
- BMS 700 – Human Anatomy and Physiology II
- BMS 770 – Medical Epidemiology
- BLG 606 – Introduction to Clinical Research and Trials



Scientific Industry

Consider SCI 200 – Professionalism in Science for practical career-building skills.

Pharmaceutical Science, Development, and Sales

- CHY 436 – Pharmaceutical Chemistry
- BCH 461 – Biochemistry of Disease
- BCH 501 – Protein Biochem and Proteomics
- BLG 578 – Pharmacology
- BCH 880 – Advanced Biochemistry Laboratory

Scientific Sales, Business Opportunities, Entrepreneurship

- BLG 351 – Applied Microbiology
- CHY599 – The Business of Chemistry and Biology
- BLG 605 – Science and Government Policy Development
- BLG 607 – Intellectual Property in Science
- BLG 702 – Genomics and its Applications
- BLG 788 – Current Topics in Biotechnology
- SCI 888 – Evidence-based Innovation

Experiential Learning Opportunities

“University is more than the coursework – it’s an opportunity to explore, grow, and shape your future.”

Many careers in biomedical sciences will require further education beyond a bachelor’s degree, but what truly sets graduates apart is how they use their time at university.

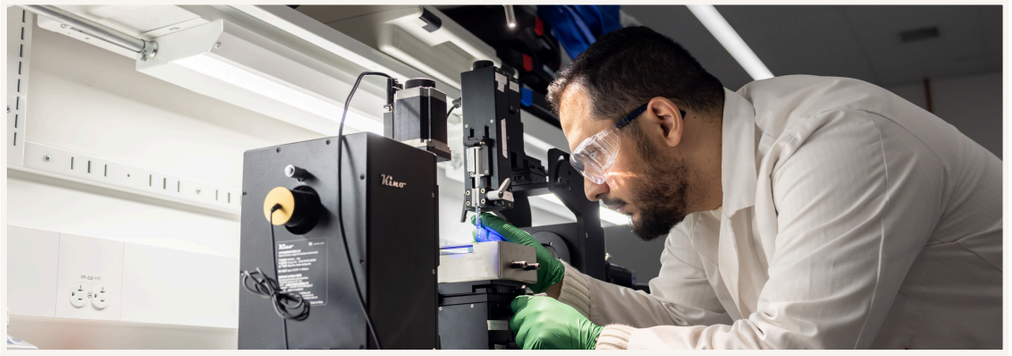
Engaging in research, leadership, volunteering, and skill-building experiences will make your CV stronger and expand your opportunities.

Students in the Biomedical Sciences program have a number of options available to them that can provide these enhanced experiential learning opportunities.

Research Opportunities

Most of your instructors are also researchers, working on projects related to cell biology, microbiology, biochemistry, organic synthesis and the development of new chemical agents to investigate these types of systems.

Some faculty are also involved in pedagogical research, trying to better understand how students learn effectively and how changes can be made to better improve this part of our department and program. By engaging with this type of work, students in the Biomedical Sciences program can **contribute to these research teams, develop critical thinking, analysis and scientific writing and communication skills and potentially publish their work.**



Note that ALL course-based research opportunities require students to identify a supervisor before they can enrol in these courses. Students cannot add these courses through the course intention process.

Students who are interested in contributing to a research team should contact instructors directly to see if there might be opportunities available with that particular instructor. *You are strongly encouraged to read about the research being performed in potential supervisors labs before speaking with them by consulting their research websites or by finding their publications on Google Scholar or other appropriate venues.*

A link to our faculty members is found here.
See all research opportunities here.

A list of faculty in Chemistry and Biology can be found here.

Course-based Research Opportunities

Research Practicum/Volunteer Research

Join a research team led by a professor at TMU through this non-credit course (SCI 999).

Students can enrol in SCI 999 in up to four separate terms allowing you to explore different types of research.

SCI999 appears on your transcript and is a pass/fail assessed course.

"Mini-Thesis"

Sometimes called a "mini-thesis", BLG481 and CHY307 give students the opportunity to engage in hands-on research and to develop other professional skills including critical thinking and written and oral communication.

These courses can be used as core electives for the Biomedical Sciences Program.

Undergraduate Thesis Project

Work 1:1 with a professor and conduct an independent research project in your final year of studies.

In BLG40A/B or CHY40A/B, you will gain practical research experience to prepare you for graduate school.

Students in year 3 of their program will receive communication about the specific process for enrolling in the thesis course (~ late March) but students can begin to speak to professors and indicate their interest in doing research at any time.

More Research Opportunities

Summer Research Assistantships

Apply for a 16-week paid research assistantship with a professor funded by Canada's NSERC Undergraduate Student Research Awards (USRA), Toronto Metropolitan University's Undergraduate Research Opportunities (URO) program or the iBEST Women in STEM Summer Research Assistantship Program. Application dates for these programs may change from year to year but are typically due during the early Winter semester. The following links have information about URO, USRA and iBEST programs and students are encouraged to monitor annually for updated information as it becomes available. Like many research opportunities, students work with TMU faculty, so students should ask early to identify research groups with which they would like to work.

Career Boost Opportunities

The Career Boost Undergraduate program provides jobs to eligible full-time domestic undergraduate students at Toronto Metropolitan University. The program works in partnership with academic units, administrative units, faculty, staff and students to support the practice and scholarship of learning at Toronto Metropolitan University. Review program details and eligibility requirements listed below and apply for Career Boost approval online through the Career Boost portal. It is the student's responsibility to ensure they meet and maintain eligibility requirements for the entire duration of the approved period.

Study Abroad

Study abroad with the Global Science Citizen Program. Course-based and research-based exchanges are available.

Co-Op Program

The Biomedical Sciences program offers a Co-Op option that allows students to explore real-world employment with paid, full-time work that builds transferable, professional skills and expands your network. Students can apply for the Co-Op program at the end of their first year of full-time studies. Find out more at the Career and Co-Op Centre website.

Zone Learning: Science Discovery Zone and Biomedical Zone

The Science Discovery Zone (SDZ) offers scientific entrepreneurship programs, experiential learning & skills development opportunities for students, and startup incubation. Enrol in their open elective course SCI888 – Evidence-Based Innovation that runs during reading week. The Biomedical Zone is a physician-led, hospital-based health technology innovation centre that helps students learn healthcare entrepreneurship skills to build a health technology business.

Science Outreach: SciXchange

Volunteer with the Faculty of Science outreach office SciXchange that partners with STEM education organizations such as Let's Talk Science, Science Rendezvous, Soapbox Science, Technovation, and more!

Getting Started

Introduction to the First Year Science Office

University life can be a bit of an adjustment because YOU are the person responsible for going to classes and labs, developing strong and effective study habits and managing your calendar and your extracurricular activities. The First Year Science Office can help make the transition to university life smoother, helping with academic advice, course selection and enrolment as well as explaining TMU policies and services that may be relevant to you. Following your first year in the program, you can then reach out directly to the Department of Chemistry and Biology for continuing academic support.

Activating your TMU online identity

To activate your TMU Online Identity, fill out this form. Your TMU applicant number or student number can be found in the official acknowledgement email from TMU following the receipt of your application and/or your notice of acceptance.

Once your online identity has been activated, you can sign in to the my.torontomu portal.

The my.torontomu.ca portal gives you access to:

- Course information (“Your courses in D2L Brightspace”)
- Academic records, course enrolment, account information (“MyServiceHub”)
- G Suite, including Gmail and Google Drive (“Apps”)

Two-Factor Authentication

All TMU students must set up two-factor authentication (2FA) to provide an additional layer of security for your TMU account. Set up two-factor authentication for your TMU account here.

TMU Email

Use your TMU email (username@torontomu.ca) for all communications with professors, TAs, administrative support members, and other students. You may need to use your email to use specific electronic resources.

TMU Library Serves

Search for course readings, book a study room, and participate in events and workshops at the TMU library.

TMU OneCard

The TMU OneCard is your official identification card at the University. Your OneCard provides access to campus buildings (including the MAC/RAC, the Library, and study spaces) and can be loaded with funds for printing services, TMU campus eateries, and other campus services. You are required to bring your OneCard (or other photo ID) to all exams. Apply for your OneCard and learn more here.

Getting Started

Software

As a TMU Biomedical Sciences student, you have access to softwares including:

- Microsoft Office 365 Education – Word, Excel, Powerpoint, OneNote, etc.
- Adobe Acrobat Reader – View and print PDF files
- ChemDraw – chemistry software for drawing chemical structures and reactions
- ArcGIS – geographic information system to compile geographic data and perform spatial analysis

See all available software here.

TMU Campus Store

Purchase required textbooks, eBooks, access codes, and lab supplies at the TMU Campus Store located at 17 Gould Street.

Undergraduate Lab Information

Laboratory components provide a hands-on experience to engage with the course concepts taught in lectures. Each course with a laboratory component may require the purchase of a lab manual (available at Sherwood Print Shop, 165 Dalhousie St.) outlining specific requirements and expectations.

You are required to bring the following to each laboratory session:

- Lab coat
- Safety glasses/goggles
- Hard bound lab notebook, such as this one
- Permanent marker/Sharpie
- Proper lab attire, including closed-toe shoes, long pants, and tied-back hair. Avoid jewelry or loose clothing.

Temporary shared locker space is provided for the duration of your scheduled laboratory time; however, it is advised to only bring necessary personal belongings. Jackets, backpacks, and electronics are not permitted inside the laboratory.

Student Support Services and Contacts at TMU

Toronto Metropolitan University

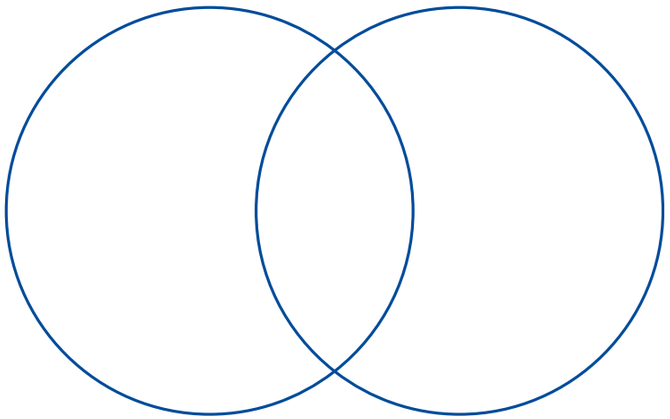
Career, Co-op & Student Success Centre

Career Counselling Services

TMU offers career advising resources through the Career and Co-Op Centre. They offer a series of free career-focused workshops and 1-on-1 appointments with career advisors that can help you set career goals, develop your personal brand, write a cover letter and resume, build a strong LinkedIn page, and teach effective strategies for finding your next opportunity.

If you're looking for advice on how to maximize your Biomedical Science degree while at TMU, book an appointment with a Student Success Navigator. They will connect you with programs, services, and people that will help you reach your goals!

Student Life and Learning Support



Writing and Language Support

Student Life and Learning Support (SLLS) is here to help you make the most of your university experience! Whether you want to build new skills, create a community, or find strategies to succeed academically, Learning Support offers a range of services to support you.

You can access tutoring, learning support appointments, and helpful study resources both online and in-person at the Student Learning Centre on the 4th floor. The centre also hosts Supported Learning Groups (SLG) for specific courses led by upper-year students.

If you're looking to develop your academic writing skills and your approach to the writing process, Writing and Language Support provides individual appointments, workshops, and writing groups. If you're a multilingual student looking to improve your English language skills, you can register for English language conversation groups, English language test prep practice and feedback sessions, and more.

Tri-Mentoring Program (TMP)

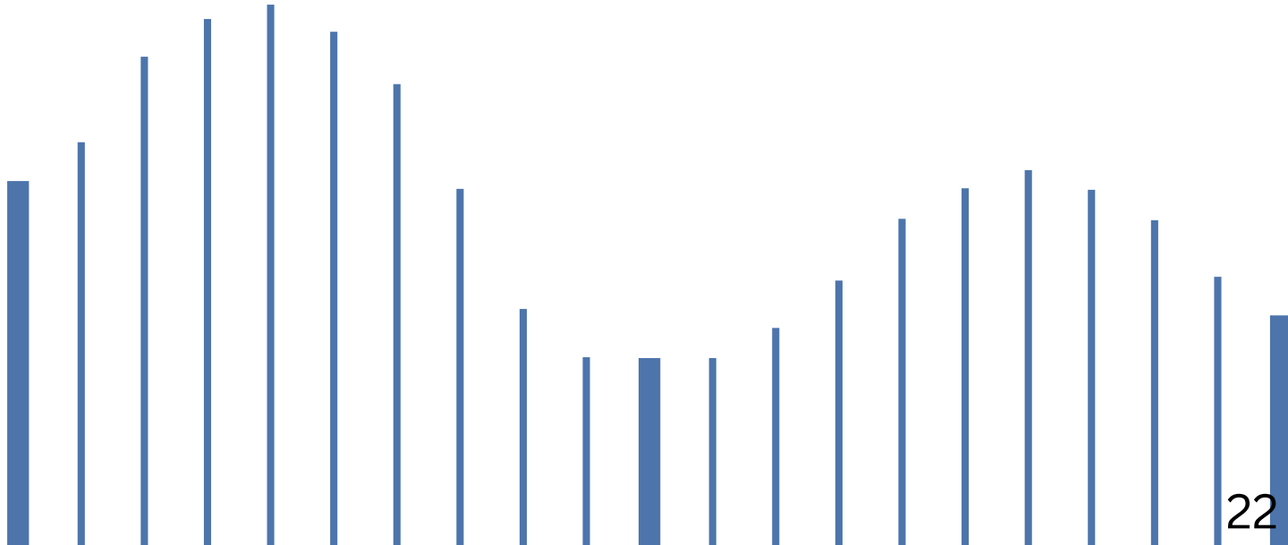
The Tri-Mentoring Program (TMP) at TMU supports students by fostering a sense of belonging through mentorship. It offers three core programs: peer mentoring for first years, career mentoring with industry professionals, and group mentoring for equity-deserving communities. TMP also provides unique opportunities for both undergraduate and graduate students to grow personally and professionally.

International Student Support (ISS)

International Student Support at TMU helps international students adjust to Canadian life, connect to campus, and achieve academic, personal, and professional goals. Certified advisors provide immigration support through group sessions, drop-ins, and 1-on-1 meetings.

Volunteer Opportunities

VolunteerLink connects TMU students with on-campus and community volunteer opportunities to build leadership skills, enhance resumes, and explore TMU offerings beyond academic spaces. Registering for VolunteerLink through the link gives you access to upcoming virtual and in-person opportunities.



Leadership, Clubs, and Extracurriculars

Your time at TMU is more than just labs and classes! There are a huge number of student clubs, organizations, and social groups that let you make friends, explore your interests, organize speakers and events, and continue to grow as a student and as a young professional.

The following is just a sampling of the clubs and organizations available to you, but there are many other ways to get involved as well. Check out these and many others as you explore your passions.

Toronto Metropolitan Students' Union

The Toronto Metropolitan Students' Union (TMSU) is the central students' union that represents all full-time undergraduate students at TMU. The TMSU advocates for student rights, organizes events and initiatives, provides discounted services, and governs other student groups. All student groups and affiliate groups can be viewed through the TMSU site. Students can also establish their own on-campus clubs through TMSU. Follow them on Instagram @yourtmsu and get involved.

TMU Biomedical Science Course Union

The Biomedical Science Course Union (BMSCU) is a student-led organization that represents all students enrolled in the Biomedical Science undergraduate program. The BMSCU organizes social events, professional development opportunities, and advocates for all BMS students. Follow them on Instagram @tmubiomed and get involved with your student society.

Undergraduate Science Society of TMU

The Undergraduate Science Society of TMU (USSTM) seeks to build a community where every Faculty of Science student feels valued, supported, and inspired to reach their full potential. The committee oversees several science groups and clubs that members can join and actively participate in. Get involved at https://usstm.ca and follow them on Instagram @usstorontomet.

TMU Association of Women in Science

Dedicated to representing women in all areas of science, the TMU Association of Women in Science hosts regular meetings to discuss issues facing women in science and plans and hosts networking and information sessions of value to their members. Follow them on Instagram @tmuauws and get involved.

TMU PreMedical Society

TMU PreMedical Society brings together students with an interest in the healthcare sector and organizes events on preparing for the MCAT, understanding careers in the healthcare sector, and hosting speakers who can help you prepare for a career in healthcare. Follow them on Instagram @tmupremed and get involved.

Student Mental Health and Well-being

Your mental health and wellbeing are important.

If you are experiencing stress, anxiety, burnout, or any personal challenges, know that you are not alone and support is available.

The Centre for Student Development and Counselling

Offers free, confidential counselling services in a professional and friendly environment.

Medical Centre

Offers quality health services to current students and employees at TMU.

Consent Comes First

Provides support to TMU community members affected by sexual violence.

Wellbeing at Work

Comprises a number of resources designed to help TMU employees in their personal and professional lives.

Student Financial Assistance

- The **Career Boost Undergraduate Program** provides on-campus jobs for full-time students at TMU.
- Awards and scholarships help to fund your education and are assets to your resume/CV when applying to graduate programs, professional schools, and job opportunities. Apply for awards and scholarships through the **AwardSpring** database.
- For more information on financing your education, including the Ontario Student Assistance Program (OSAP) and out-of-province student financial aid, visit the **Student Financial Assistance** website.

Academic Support

There are a number of people in the Faculty of Science and the Department of Chemistry and Biology who are here to support you as you work towards your undergraduate degree.

Although not an exhaustive list, the following are some key people who you can contact with specific questions you might have.

This also contains a brief introduction to some key TMU policies and procedures that are important for you to know.

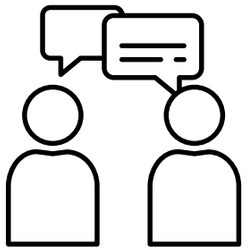
First Year Science Office (FYSO)

Students in their first year of study at TMU can access academic advice and support through the FYSO. The staff in this office are here to help you make a successful transition into university life.

Chemistry and Biology Main Office

After completing your first three semesters of study, the academic advisors in this office are your first point of contact when you have questions about enrolling in courses, issues with course intentions or other general questions about university, departmental and program-related questions or advice.

Undergraduate Program Director



The BMS Undergraduate Program Director can help you if you have questions about program planning, questions about academic standing, probationary contracts, or if you would like to appeal your final grade or academic standing.

Academic Policies

TMU Policies are maintained, implemented and communicated by the TMU Senate.

These policies pertain to: the content and quality of all programs and courses of study; the standards for admission to the university; and the qualifications for obtaining degrees, diplomas and certificates.

The following is a short summary of what key policies relevant to Biomedical Sciences students.

Academic Consideration Requests (ACR) Policy (TMU Senate Policy 167)

Sometimes, things happen that interfere with your ability to complete academic work. Academic consideration requests for missed work may be submitted when a student has encountered circumstances that have interfered with their studies or assessments. Typical reasons for ACR include health/medical issues, compassionate grounds or other extenuating circumstances. **All ACRs are approved or denied at the discretion of the instructor from whom it is requested and all students must contact each instructor individually to follow up on their ACR.** TMU Senate Policy 167 governs ACRs allows students to make an ACR once per semester without documentation, but students should be aware that approval depends on individual discussion with the specific instructor from whom the request is made. The link to the ACR portal can be found here.

Accommodation of Student Religious, Indigenous and Spiritual Observance (TMU Senate Policy 150)

TMU and the Department of Chemistry and Biology are communities that welcome and celebrate diversity and we recognize that religious, Indigenous or other spiritual observances can conflict with students' academic obligations. Requests for accommodations due to a specific religious, Indigenous or other spiritual observance can be made via the online ACR system. Requests must be made within the first two weeks of class or within two weeks of the posting of the final examination schedule. In cases where these timeframes are not possible, please make every effort to submit requests as early as possible.

Academic Accommodations of Students with Disabilities (TMU Senate Policy 159)

Academic accommodations of students with disabilities provides planned variations in the way a student with a registered disability receives course curriculum and materials and how they are evaluated and assessed, with the goal of providing equal access to the benefits of education. Students seeking academic accommodations must register with TMUs Academic Accommodation Support (AAS) office. If you are provided with Academic Accommodation Support, you are responsible for communicating any accommodations required to EACH instructor at the beginning of EACH semester. Students registered for academic accommodations support are still able to make academic consideration requests, when appropriate.

Academic Integrity (Senate Policy 60)

Academic Integrity is fundamental to the pursuit of higher education at TMU and all students are expected to familiarize themselves with its principles, including responsible citation practices, the use of artificial intelligence tools (ChatGPT, Claude, Gemini etc), and plagiarism in writing. The Academic Integrity Office is responsible for providing students with resources to better understand the importance of academic integrity at TMU and for ensuring that allegations of academic misconduct are investigated in a transparent and consultative manner. If you receive notice that you are suspected of academic misconduct, you should prepare yourself for the process that will follow by consulting the resources available to you.

Grade Appeals (TMU Senate Policy 168)

Sometimes, you may feel that the grade you received on an assignment or in a course does not accurately reflect your work. In these cases, you should always first raise your concern with your instructor to see if a resolution can be reached. If you remain unsatisfied with the outcome, you can prepare a formal grade appeal. Grade appeals are governed by TMU Senate Policy 168 and in them, the burden of proof is on the student to show that, on the balance of probabilities, TMU policy was not appropriately followed in the calculation of your grade. Grade appeals may only be filed AFTER you have received your final grade for the course. If you decide to file a grade appeal, you may wish to speak with your Undergraduate Program Director who can explain what would be expected of you in the filing process.

Academic Standings

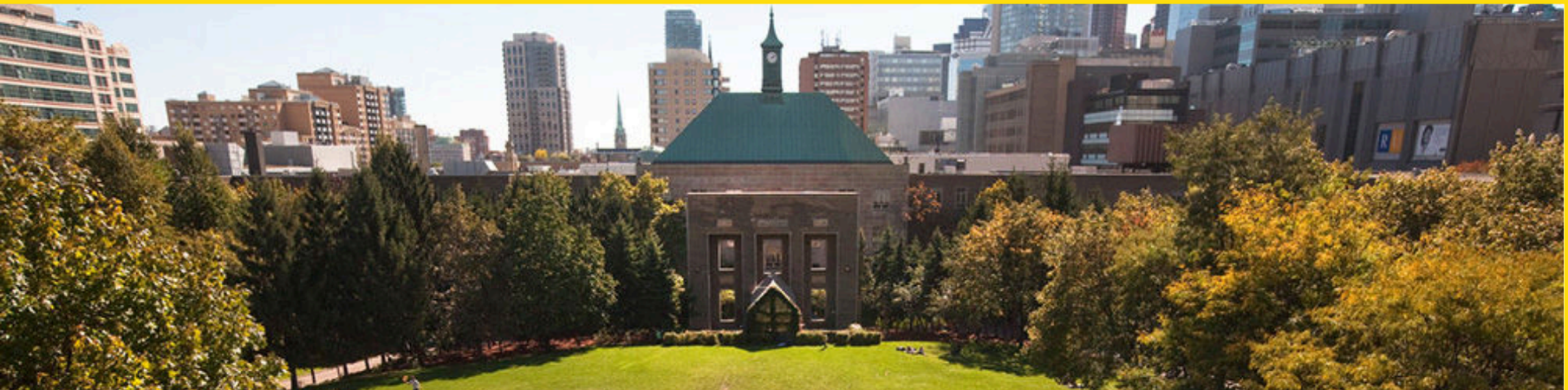
At the conclusion of each semester, a student's academic standing is calculated in accordance with Senate Policy. This standing is an indication of your academic performance and your eligibility to register in courses may be impacted by your Academic Standing.

Standing Appeals (TMU Senate Policy 168)

If you feel that an error has been made in the calculation of your academic standing, you may file a Standing Appeal. Students planning to file a standing appeal should consult with their Program Director before doing so.

Course Intentions and Course Enrollments

Course intentions are a way for you to indicate which courses you would like to take in upcoming semesters. These can be adjusted during open enrollment periods as well. A guide to the relevant dates and policies covering course intentions and enrollments is here.



Forms

All forms can be found on the Departmental website or through the links that follow:

Laboratory Exemptions

Students may request a laboratory exemption if they previously passed the lab component of the course but failed the overall course. If the exemption is granted, the student will only be required to retake the lecture component and will be exempt from repeating the lab. To request a laboratory exemption, fill out **this form**.

Course Conflict Overrides

Scheduling conflicts may occur when two courses have lectures, labs, and/or tutorials during the same time slot. Students are normally prevented from enrolling in courses for which there is a scheduling conflict. In exceptional circumstances, students may obtain a conflict override by contacting the Program Director.

Prerequisite Overrides

Many courses require students to complete one or more specific courses (“prerequisites”) before they can enroll in their course of interest. In exceptional circumstances, students may obtain a prerequisite override which would allow them to enroll in their course of interest without having completed the prerequisites. To request a prerequisite override, fill out **this form**.

Forms

All forms can be found on the Departmental website or through the links that follow:

Course Exceptions, Substitutions, and Directives

A **Course Exception** allows students to substitute one TMU course for another within their program curriculum. These are approved on a case-by-case basis.

A **Course Substitution** determines whether a course, which is not part of the normal curriculum requirements of the students program, can be used to replace a specific course in the normal curriculum.

A **Course Directive** determines whether a course, which is not part of the normal curriculum requirements of the students program, can be used for credit for a non-specific course in a prescribed group (for example, Lower Level Liberal Studies) within the program's normal curriculum.

To request a course exception, substitution, and/or directive, fill out and follow the instructions on **this form**.

How to problem solve at TMU

We want you to be successful during your time at TMU, but it is not uncommon for a student to run into a problem that they can't solve themselves. This guide is a resource to help you figure out solutions to common problems, but sometimes you may encounter a situation where you are unclear about what you should do.

The academic advising staff in the Chemistry and Biology Departmental office are here to help you figure out a solution or to direct you to someone who can help. Please email them (with your student number) and a clear description of what you are trying to do at chembio@torontomu.ca.

If speaking directly to someone would be more helpful, please arrange a meeting with them in Kerr Hall North 212 between 9am-12pm and 2pm-4pm.

Can I switch into another Science program if I change my mind? When am I no longer able to switch programs?

Yes! Students can request transfer to another program at TMU but admission to that program is not guaranteed at the time of application. Students seeking transfer would apply through Admissions by filling out a TMU Application Form and a TMU Supplemental Form. Students thinking about transferring programs should contact their Undergraduate Program Director to discuss their specific goals.

I'm not sure if I want to go to grad school or med school—what should I focus on?

The decision on what you would like to do for your career can be a challenging one but is something that students should be intentional about. In general, students should take courses in which they have a genuine interest because that interest will encourage stronger engagement with the material and contribute to better academic performance. This document contains some suggestions about course selections that will contribute to a student's preparations for these future goals, but students are encouraged to make connections with their Program Director, instructors and other relevant people and groups to develop a strategy that will help them reach their goals. TAs can be a great resource for understanding what is involved in a research-based graduate program while there are several student societies focused on health professions.

I feel overwhelmed—to whom can I speak to get support?

University life can be stressful – between exams, assignments, commutes and other commitments, students may feel overwhelmed from time to time. TMU has a number of support services in place that you can use and they are linked in this document under Student Support Services and Contacts at TMU (page 19).

I'm having academic difficulty with a specific course.

Your first step should be to connect with your instructor to talk about how you're doing in the course. You can do this by attending their office hours or sending them an email. Take some time to review your overall progress in the course, look at the assignments and tests still to come, and ask your instructor for advice on how to improve or stay on track.

Some courses have drop-in Supported Learning Group (SLG) sessions led by experienced upper-year students that can further support your learning. You can ask your instructor whether this is the case for your course.

I think I'm going to fail a course but I don't want it to impact my future. What can I do?

Failing a course will negatively impact your cumulative grade point average (CGPA). Sometimes, the best decision is to drop the course before the academic drop deadline for the term. Dropping a course before this drop deadline ensures it will disappear from your academic record.

The financial drop deadline (to receive a tuition refund) and academic drop deadline (to remove the course from your academic record) differ. Refer to the Significant Dates page of the Undergraduate Course Calendar for both sets of dates.

Reach out to chembio@torontomu.ca as soon as possible if you have questions or concerns.

I'm having general academic challenges.

There are many factors that can affect your academic performance. The best thing to do is reach out for support early.

- For general academic advice and course scheduling, email chembio@torontomu.ca or the First-Year Science Office at fys@torontomu.ca.
- For curriculum advising and Fresh Start applications, reach out to the Biomedical Sciences Program Director.
- For health, wellbeing, and academic accommodation services, the Student Wellbeing team can connect you with the help you need.

How do I decide what courses I should take to complete my program?

There are a few factors you should consider when choosing your courses. First, you should review the Biomedical Science program calendar for the required courses. In addition to these requirements, select courses that interest you from the Lower Level Liberal Studies Table, Upper Level Liberal Studies Table, the Open Electives Table, and the Core Electives Table during the semesters that the Biomedical Science program calendar suggests.

If you're interested in completing a Minor, review the Minor curriculum and select courses from these tables that will help you achieve the requirements.

For course suggestions tailored to specific career paths, refer to pages 9-12 of this handbook.

I failed a course. What do I do now?

You have a few options depending on the type of course you failed:

- **Retake the course**
  - If you failed a required course, you must retake the course to satisfy your degree requirements.
  - You can retake a course up to two times to improve your grade (in other words, you can attempt a course for a total of three times). Failing a required course three times will result in an academic standing of permanent program withdrawal. This is a very serious outcome so if you feel that you are at risk of failing a required course for a third time, you should speak with your program director about your options.
  - When you retake a course, your most recent grade will be used to calculate your GPA, even if it's lower than the previous one. Please note however, that all attempts will appear on your transcript. This is a TMU policy and there is no mechanism to change this.

- **Take a different course**
  - If you fail an open/core/liberal studies elective course, you can take a different course from the same course table.
  - You can submit a GPA adjustment form to request a course replacement. This allows you to replace the grade from a failed course with the grade you earn in a new course. For more information, see Grades and Standings.

I received a grade that is negatively affecting my CGPA. What can I do about this?

Contact the academic advising team at chembio@torontomu.ca or the First-Year Science Office at fys@torontomu.ca for help analyzing your situation and developing the best course of action to improve your CGPA.

I've been placed on academic probation. What does this mean for my studies?

Academic probation typically occurs when a student has their CGPA fall below 1.67 (or below 1.00 in their first semester). Students in all TMU programs are expected to demonstrate that they can succeed in their program and a probationary standing is a warning to students that their studies are at risk if their academic performance doesn't improve. Students assigned a standing of probation can continue in their program after signing a probationary contract with their Program Director or with the First Year Science Office (depending on your level of study). Students may be limited in the number of courses they can take while on probation.

I don't think this is the program for me. What are my options to change programs?

It is not uncommon for students to find that their interests change during their time in university. If you feel that the Biomedical Sciences program is not the right fit for you, there are options to change programs. Students are encouraged to speak to representatives of the program(s) they are interested in before submitting an application. Speaking with an Academic Advisor or Program Director can help you understand your options and plan your next steps.

Students can then follow the instructions outlined here to formally request a program transfer. Before making this decision, we encourage you to review the required courses for your new major, as not all of your completed credits may transfer.

I don't feel like I'm getting the experiences that will help me get a job after graduation.

Deciding on the path you will take following graduation from the program is a very important decision. Being a strong applicant involves more than doing your coursework and labs, it also involves many of the transferable skills (communication, teamwork, time management, problem solving, network building, etc.) that you have developed during your time in the Biomedical Sciences program.

The professionals in the Career, Co-Op and Student Success Centre can help connect you to resources, workshops, and advising services to help you explore your options and strengthen your application for graduate school, professional programs, or careers in industry, research, and healthcare.

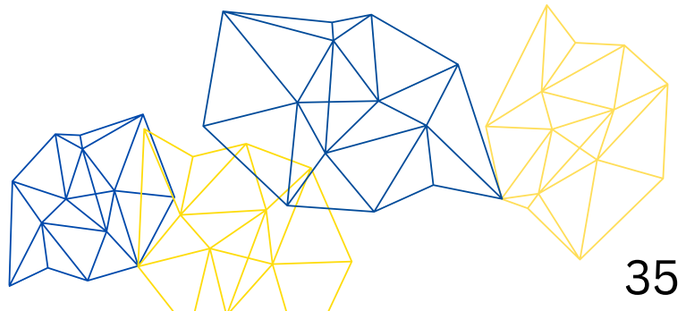
How do I ask for a reference letter and what should I include in such a request?

Many graduate and professional programs will require an academic reference for your application to that program.

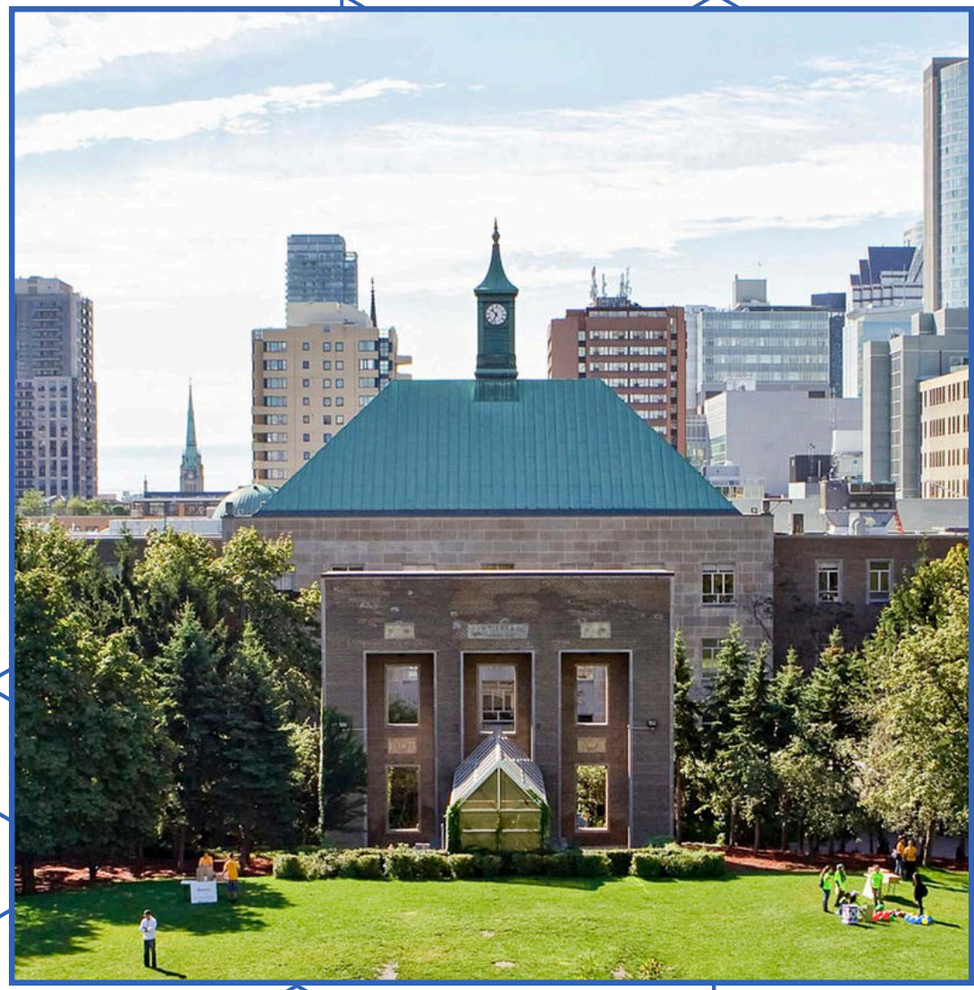
In general, a request for a reference should include your name and student number, why you think the person from whom you are requesting the letter is in a good position to speak to your strengths and accomplishments and ideally would include a recent copy of your CV and transcript.

You should make these requests well in advance of when you need them (at least 3-4 weeks) and you should offer to meet with the person if they would like to do so.

In most cases, programs asks the letter writer to comment on things like: communication ability, emotional maturity, work-ethic, intellectual and academic ability and likelihood that the candidate (you) is well-prepared for the type of program to which you are applying (top 2%, top 5% top 10%, top 20% etc). Most letter writers will be honest in their assessment of you so building relationships with potential references is an important part of undergraduate studies.



The “Hidden Curriculum”



In addition to the formal coursework and labs in the Biomedical Sciences program, there is also a "hidden curriculum" within academia.

This refers to the unspoken and sometimes unacknowledged skills, expectations, and experiences that contribute to your success as a student and future professional. This includes things like how to communicate effectively with professors, advocate for yourself, build a professional network, seek out research or job opportunities, and develop strong study and time management habits.

It’s called the *hidden curriculum* because these lessons aren’t always explicitly taught in lectures or listed in your syllabus, but they play a crucial role in your academic and career development.
Understanding and engaging with the hidden curriculum can help you make the most of your time in the program and better prepare for your next steps after graduation.

Uncovering the “Hidden Curriculum”

Attend office hours with your professors

Office hours are a great opportunity to ask questions, clarify concepts, and build relationships with your professors. Engaging with faculty can also open doors to research opportunities, academic advice, and potential reference letters.

View your teaching assistants (TAs) as support systems and mentors

Teaching Assistants (TAs) are typically graduate students who conduct research at the university. While they can help explain difficult concepts and provide study tips, they are also great sources of insight on how to get involved in research, apply to professional or graduate school, and make the most of your undergraduate experience. Don’t hesitate to ask them for advice beyond coursework. They were once in your position and can offer valuable guidance.

Always read the course syllabus

Before reaching out to your professor with questions about course management, make sure you've thoroughly reviewed the course syllabus. Asking questions that are clearly outlined in the syllabus can give the impression that you’re not taking responsibility for your own learning, and may not demonstrate the independent, conscientious attitude that professors appreciate in their students. Showing initiative by finding answers on your own first can help you build a more positive relationship with your professors and develop important skills for your future career.

Uncovering the “Hidden Curriculum”

Always communicate respectfully and professionally

Learning how to communicate professionally is essential. Whether emailing professors, reaching out about research opportunities, or interacting with peers, it’s important to use clear, polite, and concise language. When emailing professors, it’s best practice to follow basic email etiquette. Always address your professors as Dr. LastName, begin your email with a short greeting (e.g., "Dear Dr. Smith"), and ensure you include a thank you or salutation at the end (e.g., "Thank you for your time," or "Best regards"). Remember to sign off with your full name so they can easily identify you. These small gestures convey respect and professionalism and set a positive tone for your communication.

If you’re interested in asking your professor about research opportunities, it’s important to get an idea of what their main research interests are. Visit their lab website and familiarize yourself with a few of their recently published papers before requesting a meeting to discuss opportunities. You might want to bring your resume/CV and offer to send them an updated transcript.

Use TMU’s academic resources

Take advantage of the many academic resources available to you, including the library, Supported Learning Groups (SLGs), program advisors, and study technique workshops. Developing strong study habits and actively using these supports can improve your academic performance and confidence.