

**BRIGHTER  
WORLD**

McMaster  
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**2022-2023 GRADUATE HANDBOOK**

# **BIOCHEMISTRY AND BIOMEDICAL SCIENCES**

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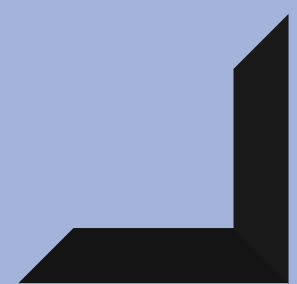




Somewhere,  
something incredible  
is waiting to be  
known



*Carl Sagan*





# Our Philosophy

The most important goal of a higher degree is to become an expert in a specific field while maintaining sufficient breadth of knowledge to succeed after leaving graduate school. This includes publication in respected peer-reviewed journals, applications for scholarships, and oral and written presentation skills. Our graduates typically secure top-level international post-doctoral fellowships or have industry placements in leading biotechnology and pharmaceutical research companies worldwide.





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# ABOUT THE HANDBOOK

The purpose of this handbook is to outline the policies and procedures followed by the Biochemistry Graduate Program, which supplement the policies and procedures contained in the SGS Graduate Calendar. If there are any discrepancies between this document and the SGS Calendar, then the SGS Calendar shall prevail. Students and faculty are also encouraged to look at the Biochemistry Graduate program website ([biochemgraduateprogram.ca](http://biochemgraduateprogram.ca)) for more information. The handbook will consider the following:

- ✓ Graduate study at McMaster
- ✓ General regulations of the School of Graduate Studies
- ✓ University policy, regulations and governing bodies
- ✓ Graduate fees and financial assistance
- ✓ University services
- ✓ Fellowships, scholarships, bursaries and other awards
- ✓ The Biochemistry Program
- ✓ Degree program requirements



## DEPARTMENT CONTACTS

### Matthew Miller

Associate Professor  
Associate Chair & Assistant Dean, Biochemistry graduate program  
Email: [mmiller@mcmaster.ca](mailto:mmiller@mcmaster.ca)  
Ext 22387

### Sarah Cumin

Manager, Academic & Staff Operations  
Email: [cumins@mcmaster.ca](mailto:cumins@mcmaster.ca)  
Ext 22498

### Lisa Kush

Graduate Officer  
Email: [kushl@mcmaster.ca](mailto:kushl@mcmaster.ca)  
Ext 22064

### Nadia Butt

Graduate Administrative Assistant  
Email: [buttn1@mcmaster.ca](mailto:buttn1@mcmaster.ca)



# MESSAGE FROM THE ASSISTANT DEAN



As Assistant Dean of the Biochemistry Graduate Program, it is my pleasure to welcome you to our Program!

As the leading research-intensive university in Canada, we pride ourselves on delivering a highly distinguished, world-class graduate training program that leaves our students poised to become global leaders in their fields. Students in our program are focused on solving the most important problems in science today. In the wake of the current COVID-19 pandemic, the need for biomedical scientists to solve the world's most pressing public health issues has never been more pronounced. The research performed in the laboratories of our internationally-recognized faculty members span the entire spectrum of biomedicine – infectious diseases, stem cells, the microbiome, development, metabolism, neurodegenerative diseases, bioinformatics, cancer, and cardiovascular disease – and these are just a handful of examples. Our program is therefore ideally suited to satisfy the curiosity and passion for discovery of anyone interested in the biomedical sciences.

We have adopted a student-centred focus on graduate education. We recognize the complex realities of the modern job market and provide training environments and professional development opportunities that prepare our graduates for their future careers of choice. Our reputation for rigorous and innovative scientific training has left our graduates in high demand at top-tier academic institutions around the world, and in industries that are shaping our economy.

Our laboratories are supported by state-of-the-art infrastructure that only a leading research institution can provide. We have invested heavily to ensure that our students have access to the latest equipment and cutting-edge technologies required to make the kinds of breakthrough discoveries that will leave a lasting impact on their field. This commitment to excellence has placed McMaster firmly in the top 1% of universities in the world, according to international ranking agencies.

The foundation of our excellence lies in the recruitment of only the best and brightest candidates. We value and celebrate diversity, as is reflected in our class of over 120 graduate students. This diversity enriches our community and fosters a culture of inclusion, curiosity, innovation and intellectual fortitude. The exceptional achievements of our students have been recognized by the scientific community at-large, as is evident in the over \$650,000 in external scholarships awarded to our trainees each year.

Recently dubbed “The Brooklyn of Toronto” by the Huffington Post, Hamilton is a large, culturally-diverse city with a rich arts scene, trendy restaurants and beautiful natural features – including over 100 waterfalls! We are ideally situated in the “Golden Horseshoe” area of Ontario, Canada – less than a one hour drive to Toronto, Niagara Falls, or the U.S. border. Hamilton offers all of the amenities of a major international city, but with an affordable cost of living that permits an excellent quality-of-life, especially for students.

Please use the handbook to help guide you successfully through the coming years in our Graduate Program. It is filled with resources that will help you successfully plan and navigate your graduate degree. I look forward to following your scientific achievements in the years to come!

Matthew S. Miller, PhD  
Assistant Dean – Biochemistry Graduate Program



# POLICIES AND REGULATIONS

## ACADEMIC INTEGRITY

The University states unequivocally that it demands scholarly integrity from all of its members. Academic dishonesty, in whatever form, is ultimately destructive to the value of the University; furthermore, it is unfair and discouraging to those students who pursue their studies honestly.

## CODE OF STUDENT RIGHTS AND RESPONSIBILITIES

McMaster is a community dedicated to providing a safe and secure environment in which all community members conduct themselves in a manner that respects community members' rights, upholds their responsibilities as a member of the community and promotes the educational goals of the University.

## DISCRIMINATION AND HARRASSMENT

All McMaster students, staff and faculty have the right to live and work in a discrimination and harassment free environment. McMaster takes any complaints of discrimination and harassment seriously.

**Click Titles for more information**

## ACCOMMODATION OF GRADUATE STUDENTS WITH DISABILITIES

McMaster supports a culture of acceptance, inclusion and celebrates diversity. We strive to create a learning environment that is accessible to all students.

## RESEARCH INTEGRITY

Research misconduct is damaging to the values of the University. Research needs to be conducted in manner that allows others to trust and have confidence in the methods and findings used in studies. It is only fair that everyone conducts their research with integrity.

## RESPONSIBILITIES OF STUDENTS, STAFF AND FACULTY

The School of Graduate Studies, the faculty and the department have a responsibility to McMaster's graduate students.

Graduate students also have a responsibility to McMaster University. For example, students are expected to enrol annually until graduation and pay required fees.

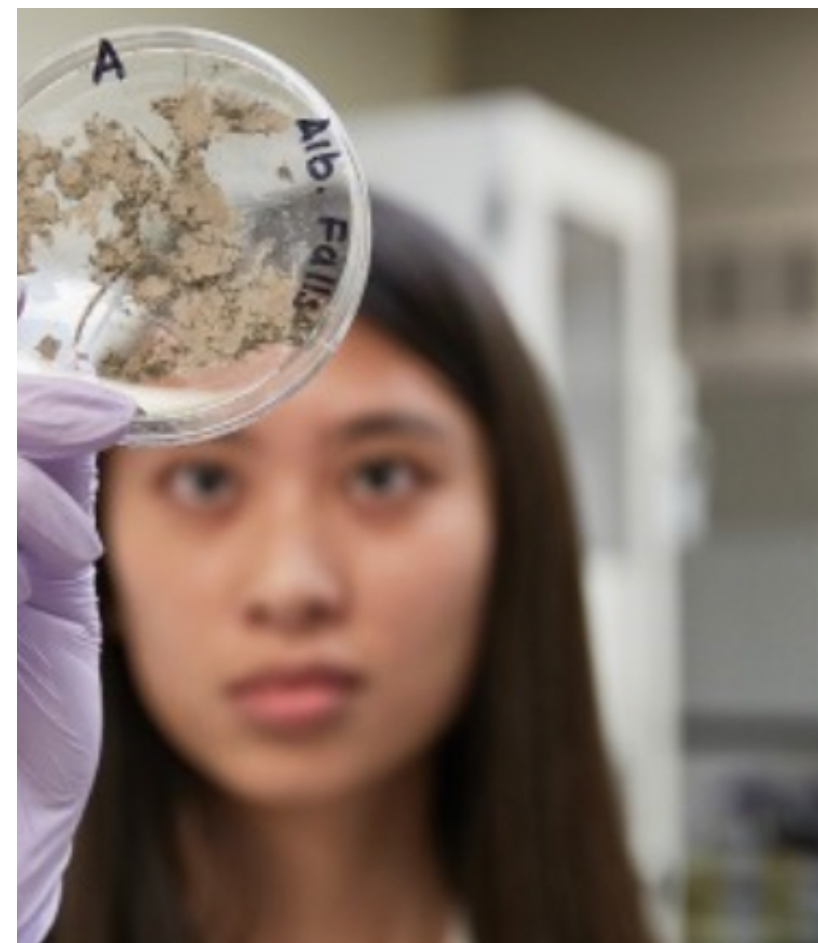
## CHECK OUT SOME OTHER IMPORTANT POLICIES

- GENERAL REGULATIONS OF THE GRADUATE SCHOOL
- HUMAN RIGHTS AND DISPUTE RESOLUTION (HRDR) PROGRAM
- PETITION FOR SPECIAL CONSIDERATION
- COPY RIGHT POLICY
- STUDENT APPEAL PROCEDURE
- ACADEMIC ACCOMMODATION FOR RELIGIOUS, INDIGENOUS OR SPIRITUAL OBSERVANCES (RISO)
- GRADUATE WORK SUPERVISION FOR FACULTY AND STUDENTS
- LEAVE OF ABSENCE
- PARENTING GRANT





# MOSAIC STUDENT CENTRE



## Mosaic

Mosaic is McMaster's administrative information system. A student can access the student centre to enroll in courses and access other services such as transcripts, student accounts, financial aid and human resources. Your MAC ID and password is required to access the [Mosaic System Portal](#).

## Mac ID

MAC ID is your McMaster username that is unique to you and is used to access various McMaster resources. Applicants are pre-assigned a MAC ID upon applying to McMaster University. Go to [MAC ID Management](#) for more information.

## Transcripts

A transcript reflects the current status of your student record. You are able to request an unofficial transcript, official paper copy transcript or an official e-transcript via Mosaic. Go to the [Registrars Office](#) to learn how to request your transcript.

## Updating Home Address

It is important that your address information is correct and up to date in Mosaic to ensure you receive important information in a timely manner.

You can update your address in MOSAIC using the following steps:

Click the Student Centre tile  
Scroll down to the Personal Information section and click on "Demographic Data" and click the Addresses tab

## Degree Verification

If you have been asked by an employer or other parties to verify your degree, you can access an "Approved to Graduate" letter before convocation and the "Degree Awarded" letter following convocation.

You may receive a Degree Awarded Letter or Approved to Graduate Letter on Mosaic by following the steps below:

1. Click on the Student Centre tile on Mosaic
2. Go to My Academics
3. Click on Enrolment/Financial Letters
4. Click on your Degree Awarded Letter or Approved to Graduate Letter



# STUDENT CARDS

## Student Card

Your Student ID card identifies you as a McMaster student. It displays your student number, name, photo and contains an encoded magnetic strip that will allow access to a variety of University services. Let your Graduate Administrator know if you think you need access to facilities. Go to [Student ID Card](#) for more information



## Hamilton Street Railway

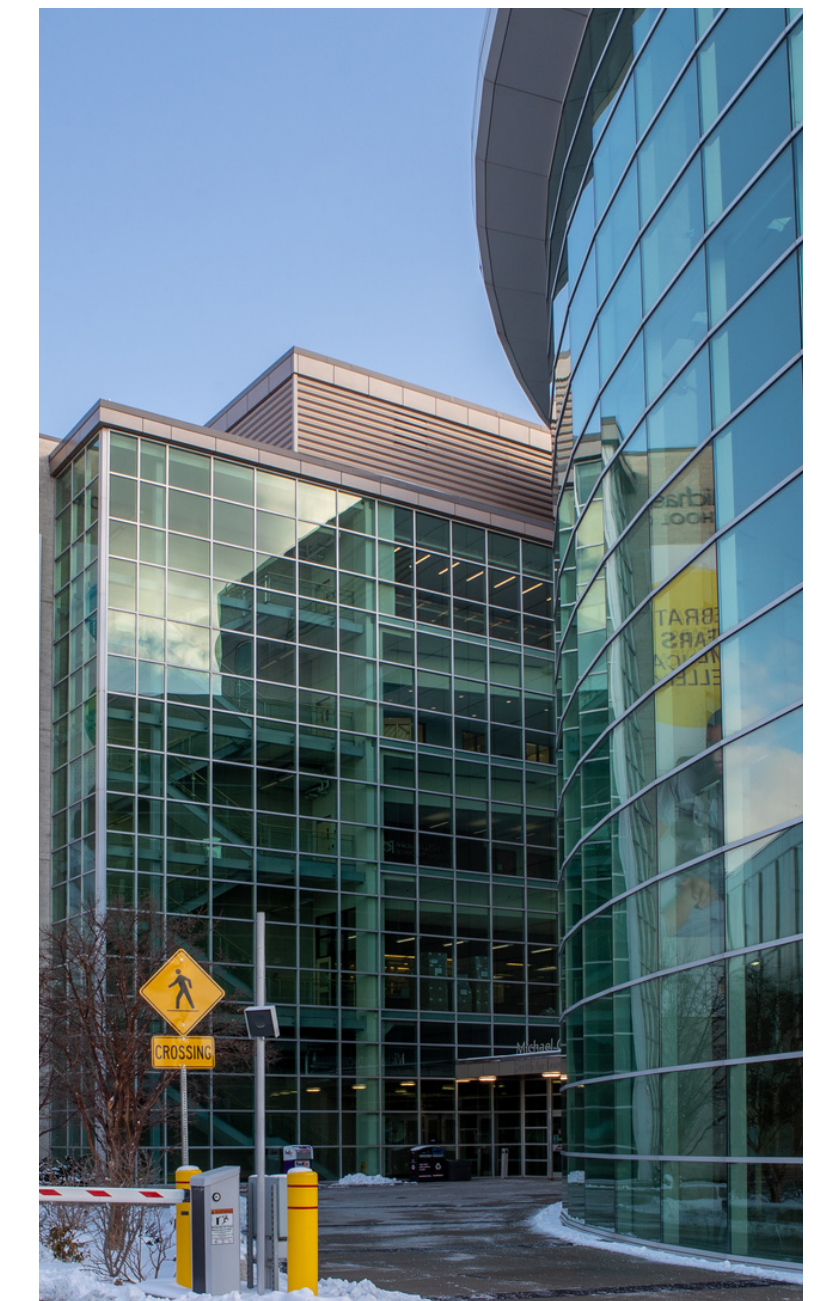
All full-time graduate students are entitled to a 12-month, unlimited ride Presto card from September 1, 2021 to August 31, 2022 with the Hamilton Street Railway (HSR). New students can receive their Presto card from any local retailers and are required to register the bus pass by following these [Instructions](#).

Go to [HSR Buss Pass](#) to learn more.  
Click [Here](#) for the HSR bus schedule.



## Health Sciences Centre Photo ID Badge

Students working in the Health Science Center are required to carry an ID card when on hospital property. This card will provide access to the Graduate Student Lounge (located on the 4th floor, across from the MDCL bridge), various Health Sciences Research Labs and Animal Quarters (if required). Please contact Nadia Butt, to obtain your ID badge.



## MDCL Access Card

As a result of the COVID-19 restrictions, this building will be locked and will require a security card to gain access and to move between the floors. All offices and labs are secured by conventional door locks. All key and security card requests should be made through Lisa Kush and Nadia Butt.





# HEALTH AND DENTAL PLANS

## GRADUATE STUDENT ASSOCIATION (GSA) BENEFITS

The McMaster GSA Health & Dental Plan provides students with unique health benefits. The plan was designed by students for students to provide many important services and cover expenses not covered by a basic health-care plan (i.e. OHIP), or the equivalent (e.g. UHIP for international students) such as prescription drugs, health practitioners, medical equipment, travel health coverage, and more.

The GSA Health & Dental Plan automatically covers members who pay GSA and McMaster fees. This includes international students who are paying McMaster fees. Certain exceptions exist. Please check your student account to confirm if you have been charged the plan fees. New summer semester students may be eligible to enroll themselves in the plan. Please note that you can extend your coverage to your spouse and/or dependent children.

All questions about health and dental should first be directed to [I Have A Plan](#) or [macgsa@mcmaster.ca](mailto:macgsa@mcmaster.ca).

### GSA (OPT OUT)

If you are already covered by an equivalent health and/or dental plan, you can opt out and receive reimbursement of the GSA plan. Please refer to the [GSA website](#) for more information.



## CUPE: UNIT 1 FOR TEACHING ASSISTANTS

### Dental Coverage

Eligibility for the Dental plan runs by academic year (Sept 1 to Aug 31). The eligible amount for reimbursement runs by calendar year (Jan 1 - Dec 31). This means that if you are only employed for one academic year your coverage will be terminated at the end of that academic year (August 31).

To opt-out of dental coverage if you have alternative dental coverage through your parents or spouse, please fill out the forms available at [CUPE 3906](#).

### Other Coverages:

International students who are members of Unit 1 (Teaching Assistants or RAs in lieu) are eligible to apply for a \$250 rebate for UHIP.

Childcare reimbursement funds (\$300/academic term) are available. Costs MUST be related to babysitting, day care, or a similar form of childcare.

Mental health counsellors are available via the Employee Family Assistance Program.

For more information visit [CUPE 3906](#).



## INTERNATIONAL STUDENTS UNIVERSITY HEALTH INSURANCE

UHIP is a compulsory plan for international students (and eligible dependents) at McMaster University who hold a valid study permit issued by Citizenship and Immigration Canada and who are FULLY enrolled in a graduate program. The UHIP coverage period is from September 1 to August 31 of any given year. Exceptions to this rule include exchange students and other students with defined shorter stays at McMaster.

It is the student's responsibility to ensure their coverage is correct by checking their account on Mosaic. After successfully completing enrolment, students will receive a copy of their UHIP card by email.

Please note that supplementary coverage (i.e. vision, dental, prescriptions) is not part of UHIP. However, international students have coverage through the following plans GSA/CUPE benefits.





# STUDENT HEALTH AND WELLNESS

## MENTAL HEALTH RESOURCES

### CRISIS

If you require urgent support please visit the [Student Wellness Centre](#)

### GOOD2TALK

A free, confidential post-secondary student helpline open 24/7 that provides professional counselling and information and referrals for mental health, addictions and well-being.

For more information visit [GOOD2TALK](#) or call 1-866-925-5454

### EMPOWER ME

A 24-hour counselling service funded by the GSA insurance plan. Get support for depression, anxiety, grief, relationship problems, adjusting to life in a new country, addictions and so much more. There are counsellors available who are equipped to help students in crisis. However, you do not need to be in crisis to use this program. There are life coaches who can help you navigate your life such as your relationships, finances, well-being and even career!

For more information call 1-844-741-6389 or visit [EMPOWER ME](#)

### MACCESS

MACCESS provides peer support by trained volunteers, with lived experiences with of either disability, chronic illness, mental illness, madness, mental health concerns, and other disabilities.

For more information visit [MACCESS](#)

### STUDENT WELLNESS CENTRE

A range of counselling options, medical services and wellness programs are available to you.

**Counselling:** You can book an appointment with an experienced counsellor by calling 905-525-9140 x 27700.

**Student Wellness Programs:** There are many excellent programs for you to join and meet other individuals who may share similar wellness experiences. You will gain skills to manage anxiety, depression, eating disorders, and intense emotion. For more information please visit [Student Wellness](#).

**Medical Care:** There are nurses, family medicine doctors and specialist doctors available to provide you with personal health care. For more information please visit [Medical Care](#) services.

### BIG WHITE WALL

Big White Wall is a government-funded, safe and anonymous, online site to help experiencing mental health difficulties to connect and support one another.

For more information please visit [Big White Walls](#)

[Click here for more information](#)





# STUDENT SUPPORT

## GRADUATE SUPERVISION

The relationship between the graduate student and the supervisor is one-of-a-kind. The supervisor has an opportunity to mentor, guide and support the student in all aspects of their academic learning.

### WHAT TO DO IF YOU'RE FEELING STUCK



### MEETING WITH THE ASSISTANT DEAN

A meeting with the Assistant Dean can simply be an open discussion, which may help resolve any questions, concerns or issues that you might have.

## RESOURCES

### GRADUATE SUPERVISION GUIDELINES

This guide outlines the responsibilities of graduate students, supervisors, programs and committee members.

### SUPERVISOR & STUDENT RELATIONSHIP GUIDE

This guide helps to facilitate positive working relationships and enhances communication between supervisors and students.

Click on the titles for more information





# INTERNATIONAL STUDENTS



## INTERNATIONAL STUDENT AUTHORIZATION

Visa students are required to present their study permits to the School of Graduate Studies upon their arrival at McMaster and each time such authorizations are renewed.

Go to the [Government of Canada](#) website for more information.



## IMMIGRATION ADVISING

To seek clarity and guidance throughout the immigration process please contact Anthony Cheah at [immigration@mcmaster.ca](mailto:immigration@mcmaster.ca).

To learn more about your study permit, visa and about working in Canada, go to [Immigrant Advising](#).



## SOCIAL INSURANCE NUMBER

A Social Insurance Number (SIN) is a 9-digit number issued by Service Canada. You need a SIN before starting work in Canada, to file taxes as well as access a programs and benefits.

For more information go to [SIN Overview](#).

## INTERNATIONAL GRAD ADVISOR

Connect with another international graduate student who has been in the same position as you! They can provide you with advice, help you transition to life at McMaster and be a friend to you.

For more information please visit [International Grad Advisor](#).

## GET INVOLVED

There are many support systems, clubs, workshops and events that are offered exclusively to international students. This will provide you with the opportunity to connect with your peers, get involved and explore McMaster! Some the services offered to you include McMaster's Got Talent: International Students Edition, International Student Buddy program and so much more!

For more information please visit [International Student Peer-Support](#).



## INTERNATIONAL STUDENT SERVICES

To find services offered to you and for updated information related to international affairs please visit [International Student Services](#).



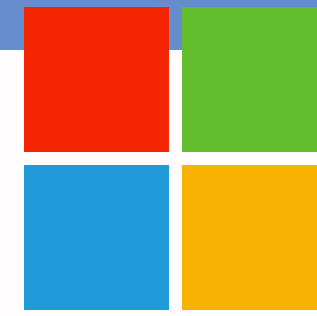


# TECHNOLOGY SERVICES



## EMAIL

Every graduate student will receive a McMaster Student email account powered by Microsoft 365. Students are required to activate their McMaster email accounts. Please note that the MAC ID must be activated for the student to have access to their email.



## MICROSOFT 365

Your McMaster email gives you access to full desktop and mobile versions of Microsoft 365 to install on 5 personal devices. Some of the programs that you are able to install include Word, Excel and PowerPoint. Microsoft License including email will be activated after enrolling.

For training dates and details go to [Office 365 Hub](#).



## AVENUE TO LEARN

[Avenue to Learn](#) is a learning management system for students and instructors. It is a place where you can access course information, assignments, instructions, lecture slides and discussions.



## VIRTUAL PRIVATE NETWORK (VPN)

The use of the McMaster VPN is only for students working and learning outside of Canada. VPN will allow you to connect to the campus network and provide you with security by encrypting your data.

For more information visit [VPN For Student](#).



## LINKEDIN LEARNING

Thousands of online courses are available to you for free! You are able to learn from a variety of industry leaders.

For more information visit [LinkedIn Learning](#).



## MCMASTER LIBRARY ONLINE

You are able to access books & journals online, connect to electronic resources, receive a research consultation and seek media creation support via the online library.

For more information visit the [Library Remote Hub](#).



## ZOOM

This service is free and you will need to sign in with your McMaster email and your MAC ID and password.

Go to [Zoom](#) for more information.



## MORE INFORMATION

For more information on the tech resources available to you, please visit [Technology Resources](#).

For any questions or if you need tech-support please contact UTS at [uts@mcmaster.ca](mailto:uts@mcmaster.ca). UTS also has an online [Live Chat](#) service available to you.



# STIPEND RATES 2021-2022

## **Important Note**

Full-time Biochemistry students who receive funding as part of their offer of admission are guaranteed financial support for either 2 years (MSc students) or 4 years (PhD students) from the initial date they began in their program. After this guaranteed time period, the only support you could potentially receive would come from your supervisor in the form of a research scholarship. It is your responsibility to contact your supervisor 3-4 months before your funding ends to discuss the possibility of continued support. If your supervisor is willing to financially support you beyond the guaranteed timelines, they must confirm with Sarah Cumin, Academic & Staff Operations Manager at [cumins@mcmaster.ca](mailto:cumins@mcmaster.ca) no later than June 30.

All scholarship payments are paid in a lump sum per term by mid-September, mid-January and mid-May. Students that complete all degree requirements one or more months before the end of a term are required to pay back the internal scholarship support for the months that they are no longer enrolled. External scholarship awards end when students complete their degree requirements. Bi-weekly employment is paid as earned over the period in which you hold a TA. Please note taxes, CPP, EI, union dues, dental (if eligible), will be deducted from your teaching assistantship income.

A minimum stipend is approved each year by our Department Chair. The 2021-2022 annual support payments for in time and non-scholarship students is as follows:

<b>Master's Base</b>	\$26,489.10
<b>Doctoral Base</b>	\$28,828.80
<b>Md/PhD Base</b>	\$30,334.70
<b>Master's International Base</b>	\$30,837.00
<b>Doctoral International Base</b>	\$29,085.19

**NOTE:** Salaries of students who hold external or internal scholarships will be adjusted according to our department [Stipend Rates](#).

## **Direct Deposit**

Payments for research scholarship and employment will be deposited directly into your bank account. This method of payment is mandatory. All new students must complete and email the "Employee Contact & Deposit" form to the Human Resources Services Centre ([hr.mcmaster@mcmaster.ca](mailto:hr.mcmaster@mcmaster.ca))

Go to [Direct Deposit](#) for the forms.





# TYPES OF PAYMENTS AND FEES

## TYPES OF PAYMENTS



### NON-RESEARCH SCHOLARSHIP FUNDS

These scholarship funds are paid through the Student Center module in MOSAIC. This is T4A income, which means that if you are enrolled full-time, these payments are not taxable. These funds can be viewed under the View Financial Aid Awards section in MOSAIC and will be paid directly to your student account as a lump sum per term.



### Research Scholarship

These scholarship funds are paid through the HR module in MOSAIC. These scholarship funds are provided by your supervisor and is T4A income, which means that if you are enrolled full-time, scholarships, fellowships and bursaries received are not taxable. These funds can be viewed on your pay statement and will be paid directly to you via direct deposit as a lump sum per term. Go to [Scholarship/Payment Schedule](#) to learn when your funds will be deposited



### Employment Income

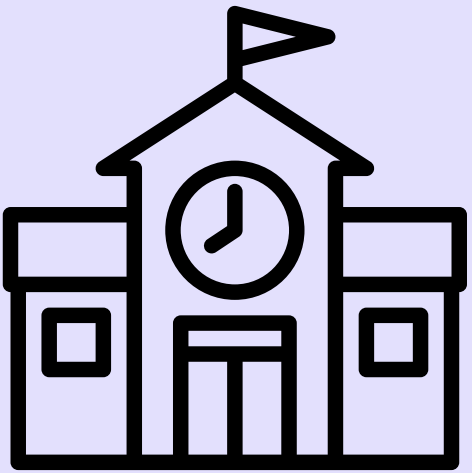
These employment monies are paid through the HR module in MOSAIC. Teaching assistantships (or Research Assistantships in lieu of Teaching Assistantships) are employment funds from work performed on campus and is T4 income. These funds will be paid bi-weekly directly to you via direct bank deposit and can be viewed on your pay statement in Mosaic.



# TYPES OF PAYMENT AND FEES

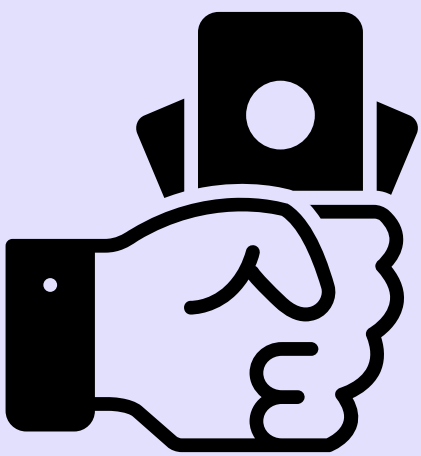
**Types of Fees: For more information go to [Graduate Fees](#)**

## Tuition



Tuition fees are assessed on a term by term basis. Students are solely responsible for paying their tuition. Tuition is due in mid-September, mid-January and mid-May . If tuition is not paid in full, interest will be applied on the second last business day of September, January and May. Please note that interest is at an approximate rate of 1.2%/month.

## Supplementary Fees



Supplementary fees are payable in full and are not refundable. You are not able to opt-out of any supplementary fees, with the exception of health and dental if you have proof of coverage.

## OSAP



The Ontario Student Assistance Program is a government student loan and grant program that helps students pay for University. OSAP is run by the Ministry of Advanced Education and Skills Development and is funded by the federal and provincial governments. OSAP is open to Ontario residents of any age who are Canadian Citizens, permanent residents or protected persons.

For more information go to [OSAP](#).



# VIEWING YOUR PAYMENTS AND TAX FORMS

## Navigating Mosaic

### Viewing your Payments

1. Click on the Student Centre tile and then go to the Finance section.
2. Click "Payment" in the drop down menu.
3. Click "Charges Due" to view your tuition and "Payments" to view your scholarship funding (excluding research scholarships).



In the "**Payments**" tab, click on the funding to see a breakdown of your payment. Please note that the "AP Refund" stands for Accounts Payable Refund, which is the amount you should receive in your bank account.

Please go to [Payment Deadlines](#) for more information.



### Payment Methods For "Charges Due"

#### Canadian Payment:

- Online banking from your Canadian financial institution's website/app.
- Visa/Mastercard. Please note a convenience fee of 2.25% will be charged by the provider.



#### International Payment:

- CIBC International Student Pay web portal
- Western Union Global pay.

Go to [Payment Methods](#) for more information.

### Teaching Assistantship (TA) or Research Assistant in Lieu of TA



#### Payroll

You will be paid biweekly directly to you via direct bank deposit. You will be able to view your paystub on Mosaic by going to the "Employee Self Service" title and clicking the "Pay" tile.

Go to [Payroll](#) for more information.

### Viewing your Tax Forms on Mosaic



To view your T2202A and T4 Form please go to the the Student Centre tile on Mosaic and click the drop down menu on the Finance section.

If you are working at McMaster as a TA you will need to go to the "To employee Self Service" tile on Mosaic to view your T4/T4A tax slip.

The University is required by law to deduct Canada Pension Plan and Employment Insurance premiums on all employment income (TA/RA in lieu of TA). Income Tax will be assessed on employment income only. Please complete the Personal Tax Credit Return forms (TD1 and TD10N) and email the completed forms to [hr.mcmaster@mcmaster.ca](mailto:hr.mcmaster@mcmaster.ca)

Go to [Taxes Canada](#) to learn more.



# NAVIGATING YOUR FUNDS

## Financial Support and Refunds

### IMPORTANT NOTE

Each student is responsible for all financial activity and balances on their student account. Regularly viewing your student account throughout the year will minimize additional administration charges and avoid having a hold on your account which will block you from some essential services.

Holds on accounts can be viewed in MOSAIC via the Student Center tab.



### Non-Research Scholarships

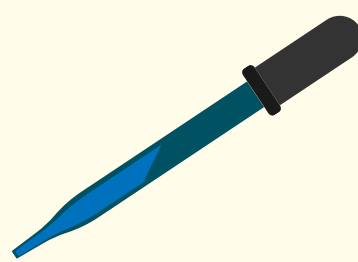
Paid via INTERAC e-transfer which is sent to your McMaster email address

- Graduate scholarships
- Entrance scholarships
- Department scholarships
- External scholarships
- Tuition scholarships
- Tri-Agency awards (CIHR, NSERC, SSHRC)



### Research Scholarship

All students must enrol in direct deposit to receive scholarship and employment payments. This method of payment is mandatory. Instructions can be found on page 15.



### Refunds

If you have a credit (negative balance) on your student account, McMaster will verify and refund the payment.

Please email [refunds@mcmaster.ca](mailto:refunds@mcmaster.ca) to request a refund. Please note the refund will be sent via INTERAC e-transfer.





# TEACHING ASSISTANTS

## Appointments

Each year our program receives an allocation of Teaching Assistantships. All current, in-time and incoming PhD students are required to TA for a total of 130 hours in the upcoming academic year. However, they can have their TA position bought out by their supervisor. Additionally, TA's will be paid 3.0 hours for Health and Safety Training and Orientation per term. Once all PhD guaranteed TA's have been made, any remaining vacancies will be posted for MSc students to apply for a TA position.

## CUPE 3906

If you have been offered a Teaching Assistantship, you will become an employee of McMaster University in addition to being a graduate student. The terms and conditions of your employment are governed by the collective agreement between the Canadian Union of Public Employees (CUPE), Local 3906 Unit 1 and the University.

Go to [Collective Agreement](#) for more information.

## Continuity of Funds

Every regular full-time student, in a **Master's program**, who has been employed as a Teaching Assistant during a part of the first year of study in a program will be re-employed as a TA for an additional succeeding year. Full-time students, in the **Doctoral program**, who have been employed as a TA during a part of the first year of study in a program will be re-employed as a TA during a part of each of the three succeeding years of study.

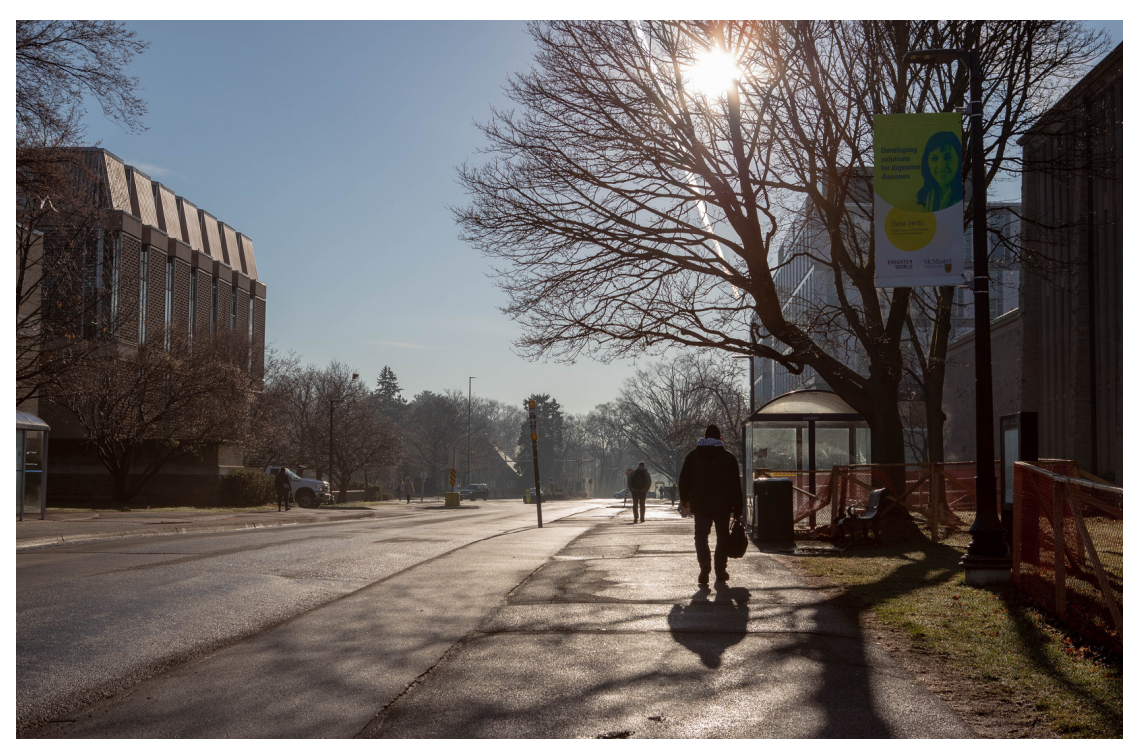
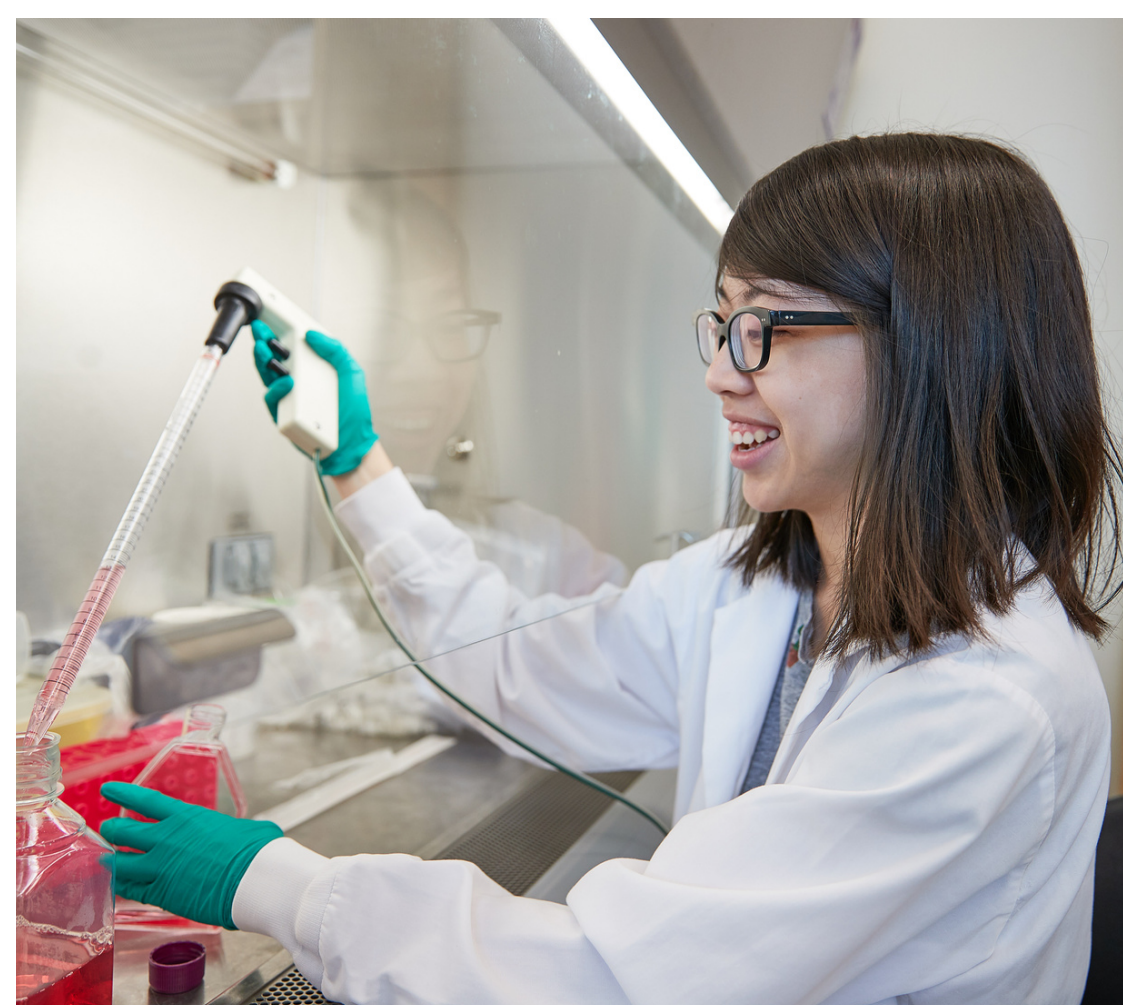
## Responsibilities

A meeting between the course instructor and teaching assistant must be held within 7 days of the TA commencing their duties. At this meeting, the employment supervisor will describe the work to be done including the scheduling of specific assignments and the required hours of work. Please note that the general responsibilities of the TA's include answering emails, monitoring discussion boards, grading assignments, facilitating small group discussion, lab technical support and leading tutorials.

## Vacation

Normal vacation entitlement is two weeks of vacation during the year and is scheduled by the research and employment supervisor.

Go to [Vacations](#) for more information.





# WHERE TO GO FOR QUESTIONS

## DEPARTMENT CONTACT: SARAH CUMIN

cumins@mcmaster.ca  
Health Sciences Centre, 4N59

## TUITION AND FEES: STUDENT ACCOUNTS AND CASHIER OFFICE

student.accounts@mcmaster.ca  
Gilmour Hall, Room 209

## SCHOLARSHIPS AND BANK DEPOSITS: SCHOOL OF GRADUATE STUDIES

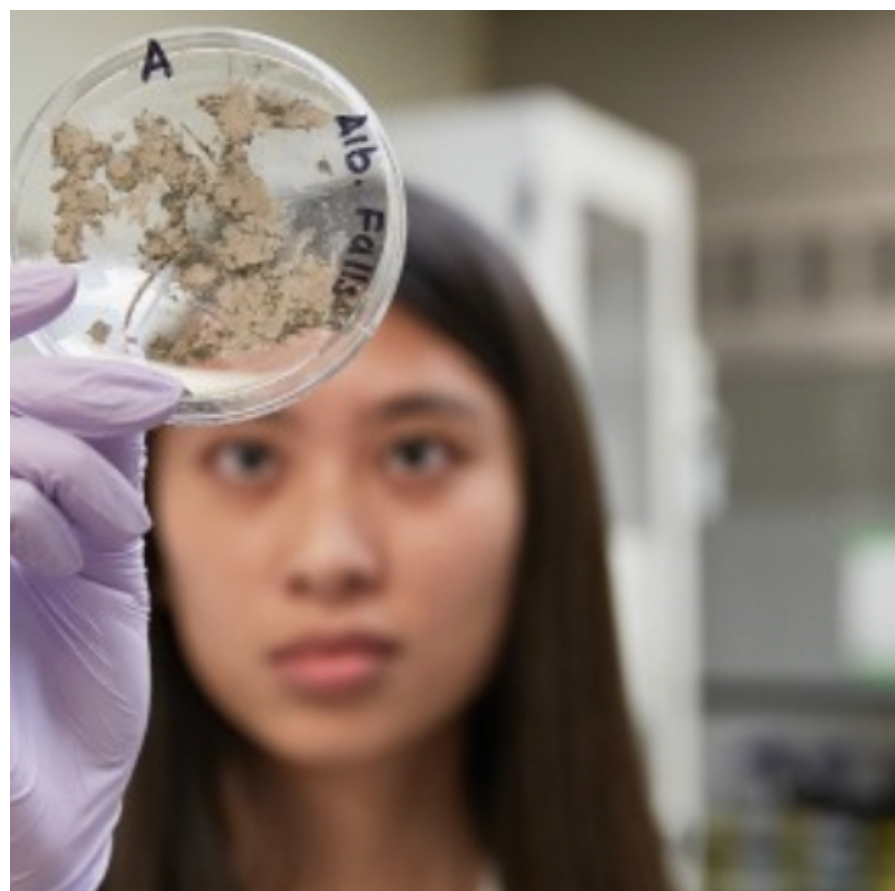
gradpay@mcmaster.ca and graduatescholarships@mcmaster.ca  
Go to [Scholarships](#) for more information

## EMPLOYMENT INCOME: HR SERVICE CENTRE

hr.mcmaster@mcmaster.ca  
Go to [Payroll](#) for more information

## LIST OF REQUIRED FEES AND PAYMENT

Visit [Fees and Payments](#) for more information





# DEPARTMENT AWARDS

## THE KARL FREEMAN PRIZE FOR BIOCHEMISTRY GRADUATE SEMINARS

The Karl Freeman Prize is awarded annually to graduate students in the department who are deemed to have presented the most outstanding graduate seminars. The School of Graduate Studies awards the prizes on the recommendation of the Department. Prizes are given for first and second place seminar ranking in the MSc and PhD program. This prize was established in 2001 by Karl Freeman, Chair of the Department of Biochemistry from 1973 to 1979 and acting chair for six months during 1982.



## IMPACT AWARDS

This award will be presented to Biochemistry and Biomedical Sciences graduate students for highly meritorious contributions to scientific literature during 2022. Up to three awards are given annually for first-authored publication(s) by our graduate students that are evaluated by an external review committee. Nominations should be submitted in the form of a letter to the Chair from the graduate supervisor. The letter should briefly outline the achievements of the candidate, indicating the student's accomplishments with respect to the publication, and should be accompanied by a copy of the publication.



## THOMAS NEILSON SCHOLARSHIP

The Department of Biochemistry and Biomedical Sciences is pleased to invite nominations for the 2022/2023 Thomas Neilson Scholarship. This award is given to the Biochemistry graduate student deemed to show the greatest potential as an independent scientist at the time of transfer to the PhD program. This award was established in memory of Dr. Thomas Neilson by his family, friends and colleagues as a token of their appreciation and respect.

The Neilson Scholarship will be awarded by the School of Graduate Studies on the recommendation of the Departmental Graduate Admissions Committee, based upon performance in the program with particular emphasis upon the overall academic standing, supporting letters, contributions to teaching, the seminar presentation, the report, research contributions and publications. The award will not necessarily be given every year.

Thomas Neilson joined the Department of Biochemistry in its early years and contributed to its chemical expertise. Among his colleagues, Tom was widely admired for his consummate skill in organic synthesis. Within a short time, he developed convenient procedures for the large-scale synthesis of oligoribonucleotides of defined sequence. This accomplishment was recognized internationally and led to many fruitful collaborations. To his students, Dr. Neilson was a devoted teacher who gave of his time generously. Above all, he was a man of sincerity and integrity who earned the trust and affection of those around him. His career at McMaster sets a worthy example to all of us in academic life.





# BURSARIES AND TRAVEL SCHOLARSHIPS

## **GENERAL BURSARY, INTERNAL BURSARIES AND ACADEMIC GRANTS**

The School of Graduate Studies website lists various scholarships and bursaries. An email will be sent to students relaying the various deadline dates. Before applying for a McMaster scholarship, it is important to prepare your application. Graduate students are now able to apply for graduate bursaries through Mosaic's Student Centre. Go through the [Guide](#) to learn the online process for McMaster awards and bursaries that are available in Mosaic.

## **BIOCHEMISTRY AND BIOMEDICAL SCIENCES GRADUATE STUDENT TRAVEL AWARDS**

The Department will grant up to 40 competitive \$500 travel awards each year to assist students planning to attend scientific meetings. To qualify, students must be enrolled on a full-time basis in either the MSc, PhD or MD/PhD program and must present data either as a poster or as a speaker at the meeting they plan to attend. Students who have received a travel award in the past will be eligible for another only if funding permits. Students applying for these awards are strongly encouraged to apply for travel funds from other sources including, in particular, the GSA.

## **GRADUATE STUDENT ASSOCIATION (GSA) TRAVEL GRANTS**

The GSA awards a number of travel awards (up to \$500) every semester (Sept-Dec, Jan-Apr, May-Aug) for travel to conferences to present, or to undertake research relevant to their field of study. GSA Travel Awards are funded from the proceeds of the GSA Development Fund, which is sustained by contributions from Graduate Students and the University. Students can apply through "Aid by Application" in Mosaic.

Go to [Travel Grants](#) for more information.





# EXTERNAL SCHOLARSHIPS

There are a number of external awards available from provincial and national funding agencies. All graduate students are encouraged to compete for awards provided he/she meets the eligibility requirements. Please read and follow all instructions carefully. All award recipients must provide a copy of any external funding documentation to Sarah Cumin, Operations Manager, Biochemistry and Biomedical Sciences {cumins@mcmaster.ca} to adjust stipends accordingly.



For all major scholarship and award guidelines go to [Graduate Studies Scholarships](#).



**IMPORTANT:** For specific instructions and department deadlines, please refer to our department website [External Scholarships](#) page.

## **CANADA GRADUATE SCHOLARSHIPS** **(MASTER'S) – CIHR AND NSERC**

The CGS-M Awards Program provides financial support to high-caliber scholars who are engaged in eligible Master's or, in some cases, doctoral programs in Canada. The CGS-M Program supports up to 2,500 students annually in all disciplines and is administered jointly by Canada's three federal granting agencies: CIHR, NSERC and SSHRC. This is a one-year award valued at \$17,500. The selection process and post-award administration are carried out at the institutional level, under the guidance of the three agencies. Applicants must complete their application using the Research Portal, hosted by NSERC. Applications must be submitted no later than December 1. The results are made available through the portal April 1st of the following year.

## **VANIER (Doctoral) – CIHR or NSERC**

The Vanier Canada Graduate Scholarships (CGS) program is designed to attract and retain world-class doctoral students who demonstrate leadership skills and a high standard of scholarly achievement in doctoral studies. The program helps attract top doctoral students to Canadian universities by offering a significant financial award to assist candidates during their studies. A Vanier CGS is valued at \$50,000 per year up to three years. Canadian, Permanent Residents and International students are eligible to be nominated. The VANIER competition is separate from the doctoral (CIHR/NSERC) Canada Graduate Scholarship (CGS) competition, therefore students MUST submit an application to BOTH competitions to be considered for both awards. There is a two-stage internal review process in place at McMaster to help identify the strongest applications and to select the most competitive candidates in each research mandate of CIHR or NSERC. In order to submit a Stage 1 Letter of Intent package at McMaster, you will need the support of your current or proposed department and supervisor. Please contact the Biochemistry Graduate Assistant for details for details how to submit a Stage 1 Letter of Intent package.



## **NSERC (Doctoral) – NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL OF CANADA**

To be eligible for support from NSERC, you must and/or will be undertaking a program of study or research in one of the fields that NSERC supports. In addition, the research must be supervised by a faculty member whose own research field is in a field that NSERC supports. In cases where the proposed research is deemed to fall within the mandate of either CIHR or SSHRC, NSERC will not accept the application. If you hold or have held a CGS from another federal granting agency (CIHR or SSHRC), you are not eligible to apply to NSERC for support at the same level. Scholarship values are: CGS-D (\$35,000 per annum) and PGS-D (\$21,000 per annum). Duration: 2 or 3 years. NOTE: There is an internal McMaster deadline to submit your application through NSERC's On-Line System. For more information, please refer to the "External Scholarships" Tab under the Funding Section on our website or contact the Biochemistry Graduate Assistant.

## **CIHR (Doctoral) – CANADIAN INSTITUTE OF HEALTH RESEARCH**

Doctoral Research Awards are intended to provide special recognition and support to students who are pursuing a PhD degree in a health-related field in Canada or abroad. These candidates are expected to have an exceptionally high potential for future research achievement and productivity. Candidates interested in applying for a CGS Doctoral Award must apply for a Doctoral Research Award (DRA); all DRA candidates will be automatically considered for a CGS based on CGS eligibility requirements and ranking in the DRA competition. If you already hold, or have held, any federally funded doctoral award, you are not eligible for a CGS Doctoral Award unless the term of the doctoral award awarded was less than the maximum allowed and you continue to meet the eligibility requirements for a DRA described below. For this competition, applications will be accepted in all areas of health research. As of the application deadline, all candidates must have completed a minimum of 12 months of graduate study at the Master's or Doctoral level. The program is open to applicants who are Canadian Citizens and Permanent Residents of Canada at the time of application. Value = \$30,000 scholarship, \$5,000 research allowance per annum. Duration: 3 years. \*NOTE: Students must be nominated by the School of Graduate Studies. For more information, please refer to the "External Scholarships" Tab under the Funding Section on our website or contact the Biochemistry Graduate Assistant.

## **OGS – Ontario Graduate Scholarships and Queen Elizabeth II Graduate Scholarships in Science and Technology (QEII-GSST)**

The Ontario Graduate Scholarship (OGS) Program provides funding to full-time students at the master's and doctoral levels. The Ontario Graduate Scholarship is a one-year award with a value of \$15,000 (\$5,000 per term) and the Ontario Graduate Fellowship is a one-year award with a value of \$12,000 (\$4,000 per term). If you apply for a CGS-M or CGS-D through McMaster, you will automatically be considered for one of these provincial awards. This award will be withdrawn if you are offered and accept any major government external awards or, if you fail to maintain registration as a full-time graduate student. Students entering the first or second year of graduate studies at the time of the application deadline must have achieved a first-class average (which is 10/12 or 80/100 at McMaster) in each of the last two completed years of study (full-time equivalent). Incoming applicants for new admission and Canadian Graduate Scholarship (CGS) applicants are automatically considered for these awards. Students entering the third year or beyond of graduate studies at the time of the application deadline must have an overall average of at least A- (or equivalent) on all graduate courses completed. Please contact the Department Graduate Assistant for more information.



# LABORATORY SAFETY TRAINING

Every employee of McMaster University must participate in basic health and safety training sessions as it relates to their work environment. It is important to participate in the safety training that is required for your lab, therefore it is imperative you consult with your supervisor to ensure you attend all appropriate training upon your arrival and prior to the commencement of any laboratory work. The training is online through the Mosaic system and Avenue 2 Learn. Once you have successfully completed the training, which includes a quiz for each module, your record will be stored in Mosaic. You can access your training record through Mosaic as well. **Each laboratory has a dedicated safety representative. Please consult with your research supervisor to find out who this person is for your lab.**

## Safety Training For On Campus Buildings

Students working in the hospital building require training from the FHS SAFETY OFFICE.

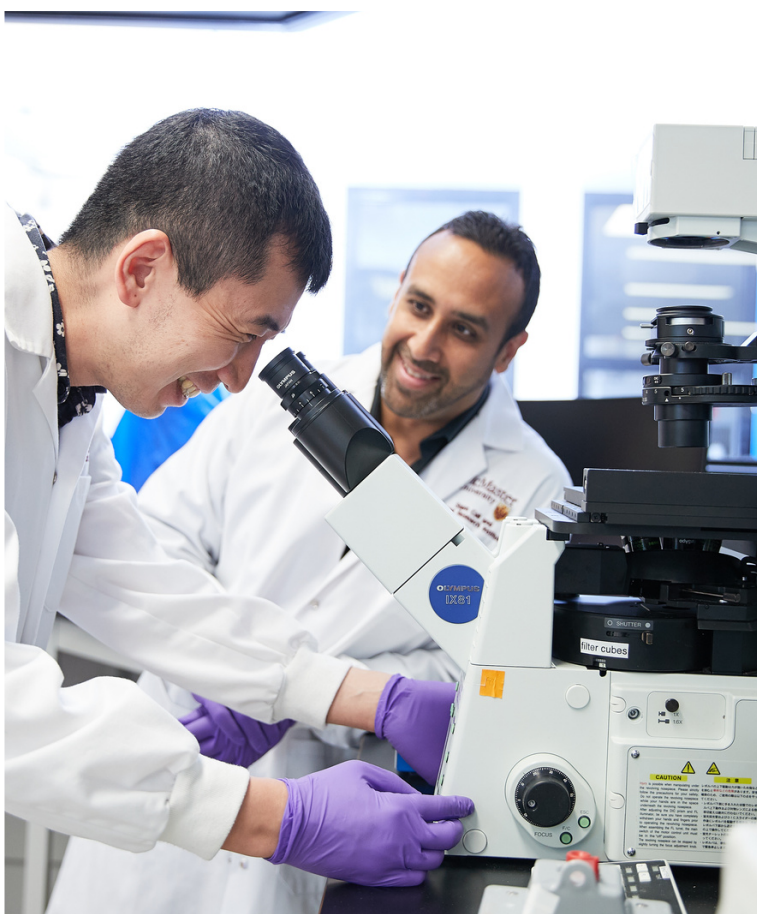
Students working in other buildings on campus require training from the Environmental & Occupational Health Support Services.

## McMaster Injury/Incident Report

The McMaster Injury/Incident Report must be submitted within 24 hours of an injury. During the COVID19 pandemic, please email the report to [fhss@mcmaster.ca](mailto:fhss@mcmaster.ca)



**SAFETY IS OUR  
FIRST PRIORITY**





# MANDATORY COURSE

## For NEW Students: Mandatory Training Courses

### ✓ SGS 101: Academic Integrity and Ethics

ALL new students must complete the "Academic Integrity and Research Ethics Course" administered by the School of Graduate Studies within the **first** term after their admission into graduate studies at McMaster University. The purpose of this course is to ensure that the standards and expectations of academic integrity and research ethics are communicated early and are understood by incoming students. A graduate student may not obtain a graduate degree at McMaster without having passed this course. In the event that a student fails this course, they must retake it at the earliest opportunity.

### ✓ SGS 201: Accessibility for Ontarians with Disability Act (AODA)

The Ontario government legislated a requirement for all graduate students to complete AODA training. The passing grade for SGS 201 is 10/10. The course content is offered through the [Accessibility Hub](#)

If you have any questions about the training modules, you can contact the Accessibility Office directly at [aoda@mcmaster.ca](mailto:aoda@mcmaster.ca).

Note: Any student who has taken an AODA equivalent course should contact [aoda@mcmaster.ca](mailto:aoda@mcmaster.ca) for confirmation. Please then forward this confirmation to [sgsrec@mcmaster.ca](mailto:sgsrec@mcmaster.ca).



#### NOTE

- Students who have taken SGS 101 and 201 for a previous graduate degree do not need to take the courses again.
- Once you complete SGS 101 and 201, please forward a screenshot of your test results to [kushL@mcmaster.ca](mailto:kushL@mcmaster.ca) and [buttn1@mcmaster.ca](mailto:buttn1@mcmaster.ca).

## For NEW and RETURNING Students

### ✓ SGS 700 or an Academic-Accredited Course(Mandatory )

SGS 700 (Placeholder): Mosaic requires graduate students to enrol in a course in **every term** they are an active student (even if defending in first or second term). If there is a term in which you are **not** taking an academic course, you must enrol in **SGS 700**. Students need to add a course before being able to drop the last course in each term.





## Enrollment Example

### FALL TERM

- SGS101
- SGS201
- SGS700 or Academic Course

### WINTER TERM

- SGS700 or Academic Course

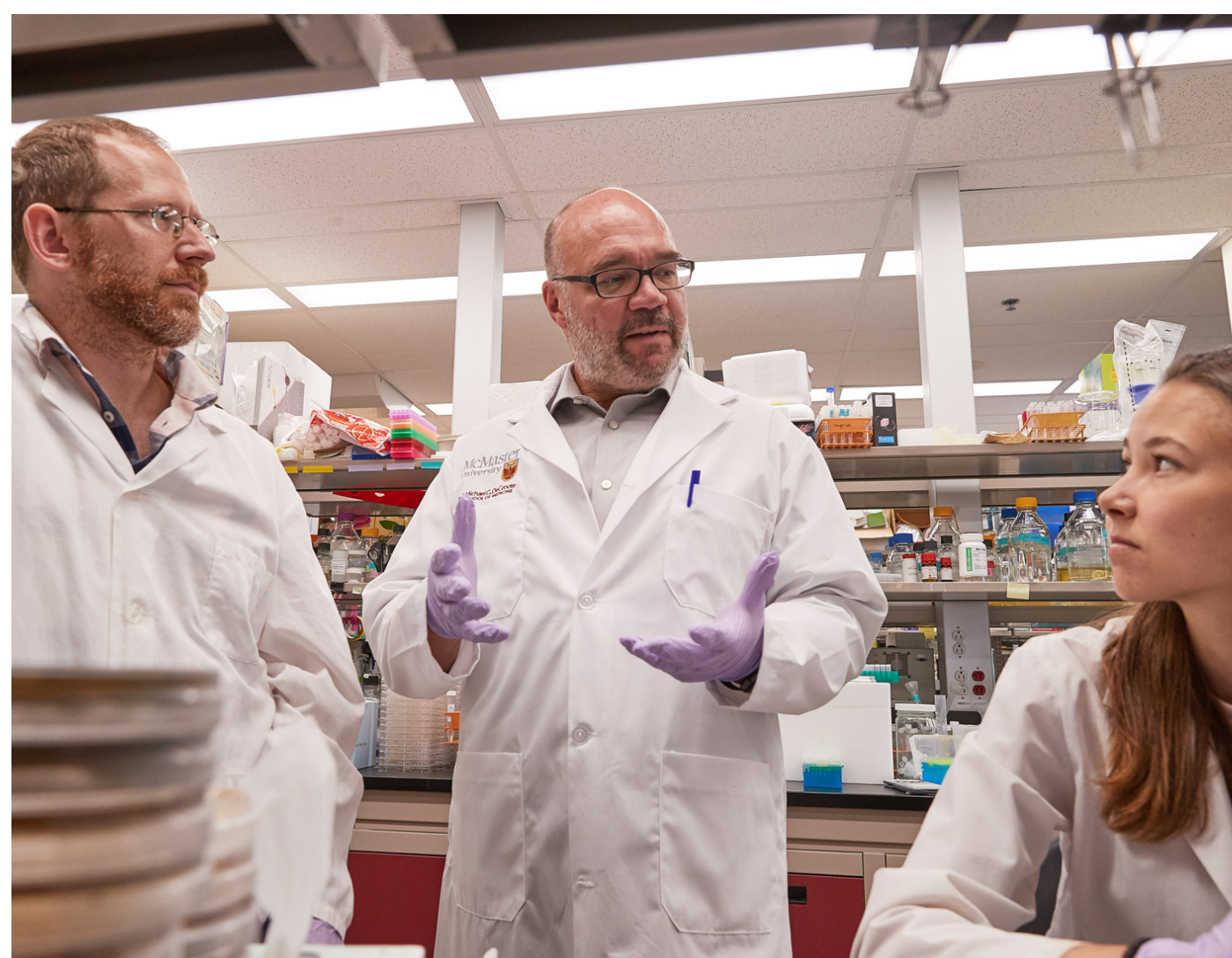
### SPRING/SUMMER TERM

- SGS700 (there is no academic course offered this term)

## Mandatory Workshop

### RESEARCH ETHICS WORKSHOP

All graduate students are required to receive training and exposure to ethical issues related to research in general and working in a laboratory setting. The Department of Biochemistry and Biomedical Sciences schedules an annual "Research Ethics Day" for all incoming students. The date for this workshop is to be determined.





# COURSE REQUIREMENTS AND ENROLMENT



## MASTERS OF SCIENCE

In selecting courses, master's students are encouraged to consult with their supervisor. At least one full, 700-level graduate course (or two half courses) must be completed, which must include at least one half, 700-level graduate course in **Biochemistry**. Students may take 600-level courses, however they do not count towards degree requirements. Under normal circumstances a student who fails to obtain B- in a prescribed course is asked to withdraw from the program. Those allowed to remain in the program must either repeat or replace the failed course. A failing grade in a prescribed course remains on the transcript.

## DOCTOR OF PHILOSOPHY

No formal course requirements. Must complete the PhD Candidacy Exam.

## DOCTOR OF MEDICINE AND PHILOSOPHY

Students must successfully complete the new MD curriculum, electives and clerkship rotations. Horizontal electives are required for graduation in the MD/PhD program and must be completed during graduate research block (3 years). A minimum of 80 hours in horizontal electives must be completed satisfactorily. These electives must be documented and evaluated by a clinical supervisor.



## ENROLLMENT

At the start of each academic year, students must confirm enrolment details before accessing the student centre. This confirmation will include both the citizenship and program of study. Any errors should be reported to the program office. After confirming these details, the student can proceed to the student centre and select courses and access other services.

Go to [How To Enrol](#) to find enrollment instructions.

## AUDITED COURSES

Graduate students may request to audit graduate courses only. This requires a completed form, signed by the instructor and student's supervisor. Upon completion of the course, and subject to confirmation from the instructor that their expectations regarding the student's participation were met (i.e. that the student attended at least 80% of the class), a grade of "AUD" will be recorded on the transcript. No other grade will be assigned. Audited courses have no academic credit and an audited course may not be retaken for credit.



# BIOCHEMISTRY 700 LEVEL COURSES



**THIS YEAR THE FOLLOWING GRADUATE COURSES WILL BE OFFERED ONLINE BY THE DEPARTMENT OF BIOCHEMISTRY AND BIOMEDICAL SCIENCES.**

**BIOCHEM 720  
SCIENTIFIC COMMUNICATION  
TERM: SEPT – DEC & JAN - APR  
INSTRUCTOR: MATTHEW MILLER**

**NOTE: This is a multi-term course for students in their second year**

Biochemistry Masters Students. This course will introduce students to various methods of scientific communication and provide them with the tools to become better communicators in speaking, writing, and publishing. Topics include effective public speaking strategies, development of effective visual material for presentations and scientific manuscripts, and writing strategies for scientific manuscripts. As part of this course, students will apply the skills learned by presenting a research seminar to the department as part of an ongoing colloquium series, and by writing a scholarly review article on their research topics.

**BIOCHEM 732  
WRITING FOR SCIENCE  
TERM: SEPT- DEC  
INSTRUCTOR: ALEXANDER HYNES**

Scientific writing spans journalism, manuscripts, patents, posters, grant proposals, commentaries - the list goes on. This course will expose students to a variety of scientific writing, exploring their purpose(s) and how they are evaluated by their intended audiences. A large practical component will have students writing and/or evaluating writing every week. The emphasis will be on guiding students to become better, more effective communicators.

**BIOCHEM 733  
BIOMEDICAL  
COMMERCIALIZATION &  
ENTREPRENEURSHIP  
TERM: JAN - APR  
INSTRUCTOR: LEIGH WILSON**

Biomedical Commercialization and Entrepreneurship has been developed with the following goals in mind- to educate learners on the process of research commercialization, and to enlighten students on the intricacies of the life science industry, prepare them for possible non-academic careers, and foster interest in life sciences entrepreneurship. Key themes of the course include understanding intellectual property and market assessment, and application of this knowledge to evaluate commercial potential of research projects (from the learner's own laboratory, where possible).



# SEMINARS

Learning to communicate the results of basic research is an integral part of graduate education. It is also important for students to be exposed to research outside their own area of specialization. Students are therefore expected to attend their colleagues' seminars and make the graduate student seminar series a fixed commitment in their weekly schedules. MSc and PhD students are required to present one and two seminars respectively. Students will receive feedback from faculty and other graduate students following each seminar.



MSc Seminar: Second year master's students will present a 15-20 minute seminar (with 5 minutes set aside for questions from the audience) during our Monday seminar series. This should be a very focused presentation. The problem the student is trying to address should be explained in such a way that any scientifically literate audience member can grasp what they're working on.



PhD Seminars: The first doctoral level seminar will be presented in second year. The student has 45-50 minutes to present reserving 10 minutes for questions from the audience. The second seminar is typically during the last 12 months in the program. The student will have 20-25 minutes to present reserving 5 minutes for questions. Seminars must place the student's sizeable body of work in the context of their field. It is important to explain how the specific work contributes to this field.

PARTICIPATION IN THE  
DEPARTMENTAL SEMINAR  
PROGRAM IS **MANDATORY FOR  
ALL GRADUATE STUDENTS**

OUR SEMINARS ARE HELD  
EVERY MONDAY FROM 11:30-  
12:30 PM.

PLEASE REFER TO OUR  
WEBSITE FOR THIS YEAR'S  
SEMINAR SERIES SCHEDULE:  
**[CLICK HERE](#)**



# SUPERVISORY COMMITTEE MEETINGS

## OVERVIEW

University regulations require all graduate students meet formally with their supervisory committee to discuss their progress. Committee meetings provide a tool for both communicating and documenting student accomplishments and their supervisory committees' expectations.

Supervisors are responsible for assembling their student's committee members. The research interests of all committee members will encompass the thesis topic of the student. The committee will consist of the student's supervisor plus two other members (at least one must be a full-time faculty or associate member from the Biochemistry and Biomedical Sciences Department). A third member, whose scholarly interests include the area of the student's main interest, may be from outside the department.

Students are responsible for scheduling their committee meetings on time. The Biochemistry Graduate Administrative Assistant must be notified by the student once the meeting date is confirmed.

Students will be assigned one of five grades by each of their committee members: "excellent", "good", "satisfactory", "marginal" or "unsatisfactory". If marginal is given by any one member, another committee meeting must be held within 3 months to re-assess their progress. In cases where a student receives "unsatisfactory", the Department will determine whether the student should be required to withdraw or be allowed to continue in the program until their next committee meeting.

Students should come prepared to give a ~20 minute presentation on what they have described in their meeting report. The presentation should provide the rationale of the project, a description of the experimental approaches being used, an overview of progress, on-going work, and future directions. The Committee will then discuss the project in detail with the student. Students receive a grade and specific recommendations in writing following each committee meeting. Students whose performance is not considered to meet the minimum standards will be graded marginal to unsatisfactory for that meeting. Depending on the circumstances, two subsequent grades of unsatisfactory can be grounds for withdrawal from the program.

Students should feel free to bring up any issues they would like guidance on and to clearly articulate their expectations with their committee members. During the presentation, the committee members may ask questions that are relevant to the project. This can include challenges on the interpretation of data, first principles, and scientific questions that are relevant to the topic or to planned experiments. Committee members may ask the student to briefly explain any of the references they cite in their report.

Students are asked to bring lab notebooks containing relevant experimental observations to each meeting. One important aspect of the scientific method is the reproducibility of each important observation: typically, the most publishable version of an experiment will be shown in the meeting report, however, students must be able to provide evidence that each observation has been made more than once.

## WHAT HAPPENS?





# COMMITTEE MEETING TIMELINE

## MASTERS OF SCIENCE: MEET EVERY 6 MONTHS

### FIRST MEETING 4-6 Months

The first supervisory committee meeting is to be held within 4-6 months of registration in the graduate program. The goal of this initial meeting is to determine whether the student has a well-defined project and whether the student is making the necessary effort to become well versed in the background literature to their field. We expect all students to attempt to master this material within their first year of graduate school. At this first meeting, the student should also have made some basic progress towards their research goals although it may be of a preliminary nature.

### SECOND MEETING 9-12 Months

The second committee meeting is to be held between 9 and 12 months after arrival in the program. It is expected the student will have made further progress in mastering the literature relevant to their field and to have made headway in their research. Students may present a request to be reclassified to the PhD program to their supervisor and supervisory committee members.

### THIRD MEETING 18-20 Months

The third committee meeting will be held no later than 18 months after initial registration in the program. The purpose of this meeting is to decide what the student needs to do to complete their MSc thesis. Alternatively, if the student has the support of their supervisor and committee members, he/she may request permission for reclassification into the PhD program without obtaining a Master's degree before going beyond 22 months.

### FORMS

Committee form will be emailed to the student from the Biochemistry administrator. It is the student's responsibility to ensure their supervisor completes, discusses and returns all forms to the Graduate Assistant at [buttn1@mcmaster.ca](mailto:buttn1@mcmaster.ca) as soon as possible.





# COMMITTEE MEETING TIMELINE

## DOCTOR OF PHILOSOPHY: MEET ONCE A YEAR

### FIRST MEETING 4-6 Months

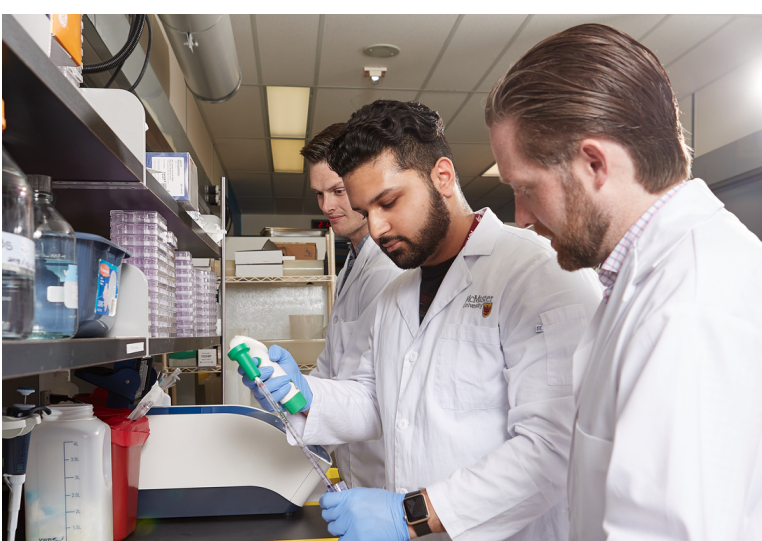
The first supervisory committee meeting is to be held within 4-6 months of registration in the graduate program. The goal of this initial meeting is to determine whether the student has a well-defined project and whether the student is making the necessary effort to become well versed in the background literature to their field. We expect all students to attempt to master this material within their first year of graduate school. At this first meeting, the student should also have made some basic progress towards their research goals although it may be of a preliminary nature.

### SUBSEQUENT MEETINGS Once every academic year

Every PhD student must have a Supervisory Committee meeting at least once every academic year (between September 1 and August 31). However, if desired or considered necessary by their supervisor, additional meetings may be arranged. The committee meeting report **MUST** be received by the School of Graduate Studies within two weeks of the end of the academic year.

### FORMS

Students will use the online forms through Admin Tools to document their committee meetings. Please **email** the Graduate Assistant at [buttn1@mcmaster.ca](mailto:buttn1@mcmaster.ca) to initiate your online form. It is the student's responsibility to confirm their committee members, and complete their portion of the virtual forms before submitting using Admin Tools. Once rated, the student must review their supervisor's comments and submit the completed forms to the Assistant Dean of the Biochemistry graduate program for approval using the online system.





# Masters Program Requirements

PROGRAM START DATE

\_\_\_\_\_

EXPECTED DATE OF GRADUATION

\_\_\_\_\_

## NOTES

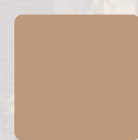
The MSc program is typically 18-24 months in length. A candidate is required to spend at least one calendar year in full-time study. The maximum permissible time for completion is limited to **THREE** years from initial registration in the program.



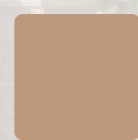
**A STUDENT WHOSE WORK IS UNSATISFACTORY MAY AT ANY TIME BE REQUIRED TO WITHDRAW FROM THE PROGRAM**



Complete, with at least a B- standing, at least one full, 700-level graduate course (or two half-courses), which must include at least one half, 700-level graduate course in Biochemistry.



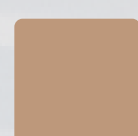
Obtain a passing grade in the following courses: SGS 201 and 101



Present one public seminar in second year in the departmental seminar program.



Participate in the research ethics workshop



Present a thesis in a final oral examination that embodies the results of their original research



# MASTER'S THESIS EVALUATION

Please consult the [School of Graduate Studies' Guide](#) for the preparation of theses.



01

## Scheduling Defense

Permission to write is given by the student's committee at the third supervisory meeting usually held at the 18-month mark. Acting on behalf of the chair, the time of the defense will be set by the Department Graduate Administrator. The candidate is to inform the Administrator they have started to prepare for their defense approximately 8-12 weeks prior to the anticipated oral examination. Note: A master's thesis defense committee must include a chair (your supervisor), a second faculty member from Biochemistry and a third faculty member.

The administrator will do the following in anticipation of the defense:

1. Confirm date with committee members
2. Send instructions and forms to supervisor

02

## Get your thesis approved by supervisor

Produce a draft of your thesis to your supervisor 8-12 weeks before your defense. Your draft should be correctly formatted with attention to detail (see MSc guidelines on the SGS website). You will be assessed mainly on its content, but also on its appearance. The draft should be free of typos and illustrations should be sharp. In addition to your supervisor, you should get a colleague to read over your thesis as well. Your supervisor should try to give you a reasonable "turnaround time" on drafts and your revision time should be factored in.

03

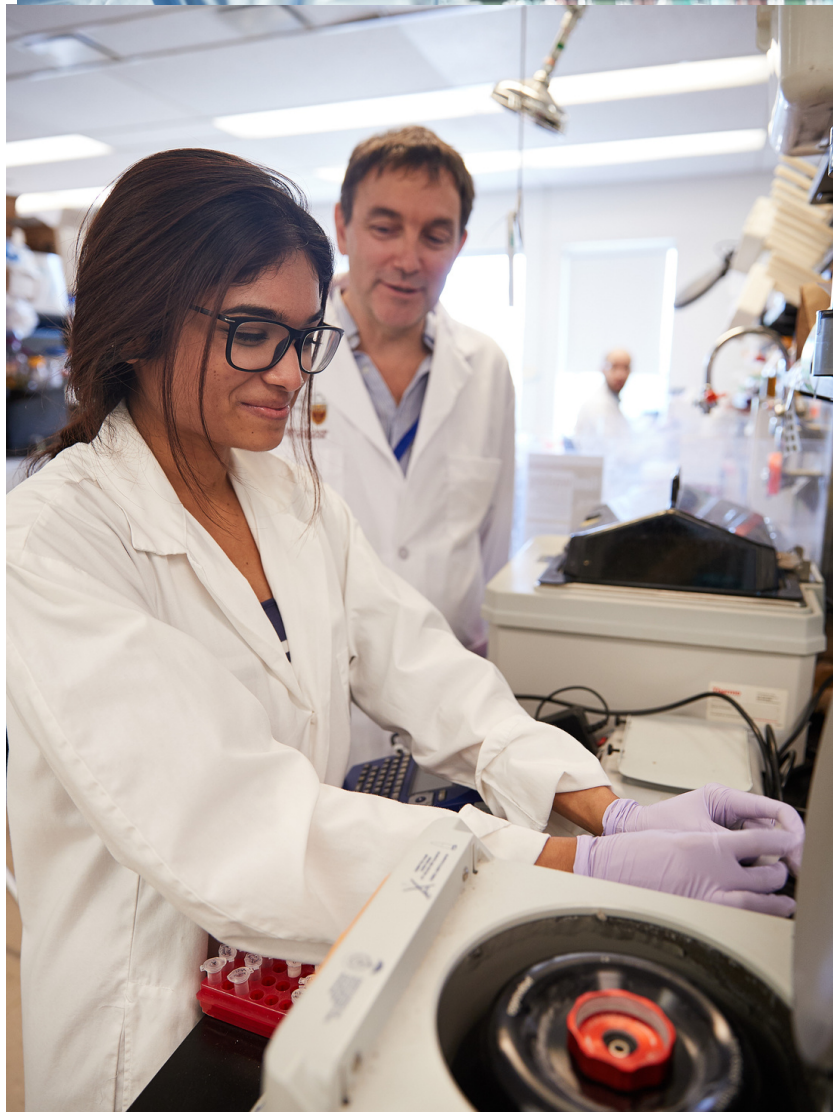
## Plagiarism checking maybe required

Please review the [Thesis Defence](#) section in the Graduate Calendar for details.

04

## Get your supervisor to sign the Request for Thesis Defense Form

When your supervisor has agreed the thesis is ready to defend, then you must have your supervisor and our Graduate Student Advisor sign the "Request for Thesis Defense" form **two-three weeks** prior to the defense. The signed form is to be returned to the Department Graduate Administrator. This is an important part of the process. By signing this form, your supervisor is stating they feel the thesis is defensible.







05

### Initiation of Masters Defense on Mosaic

In your student center, select “My Academics” then the “Thesis Intent – Defend Thesis” link. Check that your supervisor, members and academic plan are correct. If any information is incorrect, you should contact the department administrator before proceeding. You can now enter your abstract and the date, time and room confirmed by your program administrator. Confirm and submit.

06

### Submit thesis to committee members

Provide a copy of your thesis to your committee members a minimum of two weeks prior to your defense. Ask your members if they want you to provide them with an electronic or hard copy.

07

### Defense day

Make sure your presentation is loaded and all fonts, images, animations etc. appear as intended. You will be asked to present a 15-20 minute oral statement of the research that comprises the thesis. Your brief presentation should highlight any major issues dealt with in the thesis, the conclusions which have been reached and the significance of the findings. Notes or other aids may be used, however the statement may not be read from a prepared script.

08

### Following the defense

Candidates who have successfully completed their thesis oral examination including all the revisions and corrections required by the examining committee, must obtain the appropriate signature(s) on the "Final Thesis Submission Sheet" and "McMaster University Licence." These forms are to be emailed to the Department Graduate Administrator who will then submit the forms to SGS as a service request in Mosaic. Lastly, you must submit your final thesis copy (pdf format) to MacSphere.



Your degree requirements are considered complete when one electronic copy of the thesis is submitted through the E-Thesis module in MacSphere, the forms have been uploaded in mosaic and your student account is clear of any outstanding fees.





# TRANSFER TO PHD PROGRAM

This process has been established to assess MSc students' academic and research ability and potential to carry out PhD studies. Students who have demonstrated this ability may proceed directly to the PhD program without writing up their Master's thesis provided the following conditions have been met:

## FIRST COMMITTEE MEETING

The student has completed their first supervisory committee meeting within 4 to 6 months of initial registration in the Master's program. At this meeting the committee will expect that the student has taken significant steps to master the literature relevant to their fields. Some preliminary progress at the bench is also expected.

## SECOND COMMITTEE MEETING

A second meeting will be held within 9 to 12 months and will serve to address any shortcomings identified during the first meeting. At this point it is anticipated that the student will have made significant progress in their research. The student must have a solid grasp of the literature relevant to his or her field at this time in order to be eligible to transfer to the PhD program.

## REQUEST

The candidate must present a request to be reclassified to the PhD program to the supervisor and the supervisory committee prior to the second (or third) supervisory committee meeting. Approval to transfer will be determined at the conclusion of the supervisory committee meeting.

## CONDITIONS

Students may request to be reclassified to the PhD program no sooner than 12 months and no later than 18 months after initial registration in the MSc program. The candidate must present a request for transfer to the supervisor and the supervisory committee and all must be in agreement to proceed with the transfer. Students enrolled in the Master's program beyond 22 months must complete the MSc degree requirements including all course work and the thesis defence prior to admission to the PhD program.

1  
*one*

2  
*two*

3  
*three*

4  
*four*





# PHD Program Requirements

STARTED PROGRAM DATE

EXPECTED DATE OF GRADUATION

NOTES

The minimum time to complete a PhD is **THREE** calendar years beyond the bachelor's level or **TWO** calendar years beyond the master's level. Completion of the PhD degree is normally limited to **SIX** years from initial registration.

Students applying to our program who already hold an MSc degree from another institution have the possibility for direct admission into our PhD program subject to approval from our admissions panel. Such students are required to take the PhD Candidacy Examination.



**A STUDENT WHOSE WORK IS UNSATISFACTORY MAY AT ANY TIME BE REQUIRED TO WITHDRAW FROM THE PROGRAM**



Complete SGS 101 and 201



Participate in the departmental seminar program



Meet annually for committee meeting



Pass a PhD candidacy examination, consisting of a written research proposal representing the student's own original proposed work, followed by an oral examination



Participate in the research ethics workshop



There is no minimum course requirement for the completion of the PhD degree, unless the student's supervisory committee has made a specific recommendation for additional course work to supplement the student's knowledge in their area of research



Present a thesis in a final oral examination that embodies the results of their original research



# PHD CANDIDACY EXAMINATION

All PhD candidates must pass a PhD candidacy examination, consisting of a written research proposal representing the student's own original proposed work, followed by an oral examination. The PhD candidacy examination is designed to test students for breadth of knowledge and the ability to integrate ideas. The PhD candidacy examination typically takes place at **12 months** after the student has begun PhD studies, with an upper limit of **20 months**.



## WHY THE EXAMINATION?

- #1** Tests the student's preparation for PhD level research by determining whether they have mastered the theoretical background to their fields. Students will therefore be expected to have researched and read the publications that form the foundation of their field as well as the necessary background for the technology they intend to employ.
- #2** Provide independent assessment of performance to-date and the student's ability to execute the longer-term strategy of the proposed PhD research project.
- #3** This exam will help reveal the student's strengths and weaknesses. While questioning in the exam can be expected to be rigorous, students are not expected to have the correct answers for everything. A student coming out of this examination therefore will have had an independent evaluation of their project and background knowledge, and will have been made aware of areas in which they need improvement. This last point may include the recommendation of specific course work.

## PROCEDURES

Students will complete a proposal using the format of a **CIHR operating grant**. This written proposal must represent the student's own original work; the inevitable input of the supervisor notwithstanding, McMaster University policies on Academic Ethics and Academic Dishonesty apply.

The aim of this proposal is to describe the theoretical background to the project and outline the goals of the research. This document should illustrate that the student's goals have sufficient depth to form the basis of a PhD project and must clearly demonstrate the progress that the student has made during the first 12-18 months as a PhD graduate student. This proposal is expected to be a major exercise in writing and should describe novel research in a concise and informative manner. It must be comprehensible to faculty members who are not necessarily experts in the field. This proposal should include an **abstract** of no more than 300 words, an **introduction** to the student's field and basic research direction, a summary of **progress** and a detailed **discussion** of the research to be carried out towards a PhD, including hypothesis, rationale and aims. It is important to explain and justify the approach being taken and include a projected time line for the completion of each goal.

There is an absolute length limitation of 20 pages (double-spaced, 12-point font, not including figures or references). The first 2-3 pages should introduce the subject of the student's thesis. Following the introduction there should be a 2-3 page summary of the student's progress. The remaining 14-16 pages should explain the proposed research. Students may subdivide each section in whatever manner they deem to be the most readily digested by the examining committee. References must conform to accepted practices.

Preparation time for this proposal is limited. Students will be assigned a date for their exam 4-5 weeks in advance of their exam. The **report must be submitted to the committee members and examination chair at least one week prior to the exam.**



## EXAMINATION

The student will give a 15-20 minute presentation outlining the major points of their proposal, including accomplishments to-date and the research proposed for the PhD. The exam will then consist of two rounds of questioning from each of the voting committee members, which can deal with any aspects of the presentation and proposal. The total time for the questioning will not exceed two hours. This committee will consist of members of the candidate's supervisory committee, as well as the examination chair, who will be a member of the BBS Graduate Curriculum and Recruitment Committee. The supervisor will verify the originality of the proposal at the outset of the examination. The Chair will ensure that the exam is conducted in a fair manner in keeping with the objective of this document. In the event that a student is at a loss to answer a particular question, the Chair may ask the examiner for clarification or to move on to a more fruitful line of questioning. Additionally, the supervisor does ask questions and the Chair is a voting member, who does not examine and is an impartial observer. The outcome of the exam will be: pass with distinction, pass, or fail. At the end of the examination, the chair secures the written votes of the examining committee on a form, provided by an administrator. In the case of a negative vote or votes, the committee will determine the requirements for re-examination. The chair will then communicate the decisions of the examining committee to the student and send the signed form to the program office. The form will then be submitted in mosaic by service request for Graduate Studies to post the final grade on the student's transcript. Failure of the exam will normally result in the candidate repeating the exam within six weeks of the initial exam and prior to the maximum 24-month period. Two failures will lead to withdrawal from the PhD program





# DOCTORAL THESIS EVALUATION



## WRITING YOUR THESIS

Please consult the [School of Graduate Studies Guide](#) for the Preparation of theses. All graduate theses must conform to the style and form requirements as detailed in the guide.

### **QUESTIONS?**

Please contact the School of Graduate Studies Thesis Coordinator at [gthesis@mcmaster.ca](mailto:gthesis@mcmaster.ca)

## PLAGIARISM CHECKING MAY BE REQUIRED FOR SUBMISSION

Please review the [Thesis Defence](#) section in the Graduate Calendar for details.

## ORAL EXAMINATION

The PhD final oral examination takes the form of a brief statement by the candidate and questioning by their committee. You should prepare a statement that will take 15 to 20 minutes to deliver. When preparing, you should consider that you are speaking to an audience who has read your thesis. Thus, you should stress the main points of your contribution to the advancement of knowledge and the principal technical difficulties either of an experimental or theoretical nature which you have overcome. Notes or other aids may be used but the statement may not be read from a prepared script.

## PLANNING AND SCHEDULING

### **OPTION 1: Standard process**

Student initiates process minimum 8 weeks prior to defence (refer to the School of Graduate Studies website).

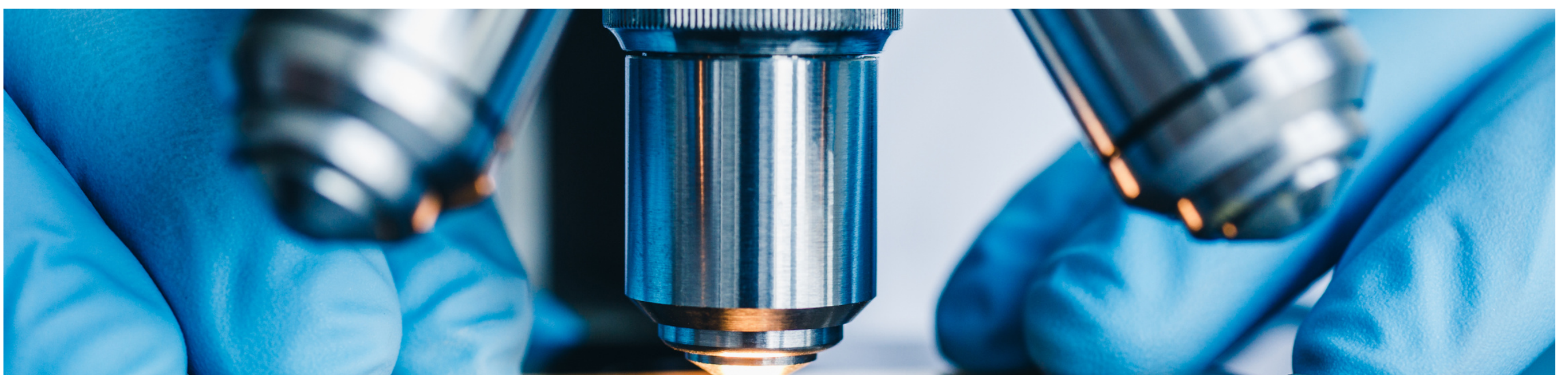
### **OPTION 2: Accelerated process**

Supervisor contacts SGS minimum 6 weeks prior to defense. The timeline is shortened giving students 3-4 more weeks before submitting their thesis.

*\*For more information on the options please refer to the website.*

### **Initiating the process**

The process begins when a student and their supervisory committee members agree that the thesis is acceptable to defend. The student will initiate the defence process electronically approximately 2 weeks before submitting their thesis to the School of Graduate Studies. In Mosaic, navigate to your Student Centre and under the "My Academics" tab, select "other academics" and then select "Thesis Intent-Defend my Thesis".





# COMBINED MD/PHD PROGRAM

## ABOUT THE PROGRAM

The program seeks to train individuals who will pursue research as a major priority and to prepare graduates for leadership roles in integrated research initiatives, particularly those involving interdisciplinary and translational health research endeavours. The program expects that McMaster MD/PhD graduates will contribute significantly to the need for clinician scientists in a variety of roles. The MD/PhD program is offered in an integrated format with specific blocks of time provided for activities in either program. There will be opportunity for flexibility in the arrangement of a student curriculum, if requested and/or deemed appropriate. The MD/PhD program committee and the student's doctoral program will review these requests before making a recommendation to the Associate Deans.



## MD PROGRAM FUFILLMENT

- Complete the new MD curriculum, electives and clerkship rotations
- Horizontal electives are required for graduation in the MD/PhD program and must be completed during graduate research block (3 years)
- A minimum of 80 hours in horizontal electives must be completed satisfactorily



## PHD PROGRAM FUFILLMENT

- Complete SGS 101 and 201 Course
- Participate in the research ethics workshop
- Participate in Departments Seminar
- PhD candidacy and comprehensive exam
- Defend a research thesis



## RESOURCES

For more information, go to [MD/PhD requirements](#).

Check out [Frequently Asked Questions](#)



# ASTROBIOLOGY PROGRAM

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## ABOUT THE PROGRAM

The Origins Institute in collaboration with five “home” departments offers Canada’s first graduate program in Astrobiology. The “Collaborative Graduate Program in Astrobiology” offer students a M.Sc. or Ph.D. in the interdisciplinary science of Astrobiology. Students must be accepted to do graduate studies in any of five participating home departments: Biochemistry, Biology, Chemistry and Chemical Biology, Physics and Astronomy, and the School of Geography and Earth Sciences. Researchers must possess expertise in specific fields such as astrophysics, microbiology, planetary sciences, biochemistry and chemistry, etc. but also must have the training that allows them to work effectively within multidisciplinary teams. For more information, please refer to the [Origins Institute homepage](#)



# CONVOCATION



## WE ARE SO PROUD OF OUR GRADUATES!

### Diplomas

Graduates have the option to receive a digital diploma via bitcoin blockchain. You will receive your printed diploma around the time of your convocation. You may also request early conferral to receive your diploma before your convocation date.

For more information, go to [Digital Diplomas](#).

### Next Steps

You will need to fill out the graduation forms . The form will verify the name which will be written on your diploma and the address that your diploma will be mailed to. To fill out the forms, click on the "Graduation" tile on Mosaic.

To get your graduation photos please book an appointment with [Lifetouch Graduation Photos](#).

### Considerations

The **Approved to Graduate/Post-Graduate Work Permit** letter is available to you once your status on Mosaic is 'Approved to Graduate'. **Transcripts** and **Degree Awarded** Letters indicating that your degree was awarded with the conferral date will be available to you the day after convocation.

**For Dates & More Information, go to [Grad Details](#).**



# RESOURCES

## HOUSING

### OFF-CAMPUS HOUSING

Mac Off-Campus services can help you find rental properties that are close to McMaster University and are exclusively offered to McMaster students, staff and faculty. Go to [Off-Campus Housing](#) for more information.

### LEARN YOUR RIGHTS

If you are renting a house it is crucial you learn about your tenant rights. Go to [Renting in Ontario](#) for information.

### IMPORTANT RENTING INFORMATION

To learn about the types of housing, lease agreements, credit checks, rents & deposits and what you should consider when renting a house please visit [Renal Housing](#).

### COMMUTING FROM HOME

Living at home while transitioning into university can be a challenge. To learn tips and find resources to help you as a commuter student please visit [Off-Campus Commuting](#).



## MCMASTER IS HERE TO SUPPORT YOU

## FINANCIAL HEALTH

### MAC'S MONEY CENTRE RESOURCES

To learn how to build a budget, compare credit, manage your savings plan and evaluate investing opportunities please visit [Mac's Money Centre](#).

### PAYING FOR SCHOOL

To find financial opportunities to help you pay for your schooling such as scholarships, bursaries, OSAP, student line of credit and emergency funding please visit [Paying For School](#).

### FINDING A JOB WHILE IN SCHOOL

The Student Success Centre will provide you with strategies, resources and guidance throughout your job search process. For instance, career counsellors can read over your resume & cover letter, provide you with interview tips, help you create your LinkedIn account and help you figure out a job that is best for you!

For more information visit [Job Search](#).





# RESOURCES

## CAREER AND PROFESSIONAL DEVELOPMENT

### MENTORING, NETWORKING AND LEADERSHIP

There are many opportunities for students to connect with employers and seeks clarity on their career goals. See below for a list of some of the opportunities available to you.

- **Alumni & Partners Advisor Network:** Receive advice and coaching from individuals in the industry
- **Women in Science & Engineering Initiative:** Provides opportunities for students to attend conferences, workshop and creates networking opportunities for women in science and engineering.
- **MaRS:** Helps you in your journey to startup your own business in one the following sectors: healthcare, clean technology, financial technology and enterprise

### ONLINE LEARNING

There are a variety of professional development courses available to you to gain skills in technology, leadership, management, communication and entrepreneurialism. Additionally, you can receive training on a variety of topics covering business, creativity and technology using your free subscription to [LinkedIn Learning](#).

### CAREER PREP AND JOB SEARCH

There are tons of resources available to you as a graduate student to help you prepare and find a job. See below for a list of some of the services and events available to you

- o **Careers Fairs**
- o **Career Opportunities at McMaster**
- o **Career Access Program for Students:** Program that helps students from equity-seeking groups or facing barriers for employment find a job
- o To learn more: [click here](#)

### RESOURCE

Go to [Careers & Professional Development](#) to learn about the resources available to you.



## ON-CAMPUS PROFESSIONAL SERVICE

### SEXUAL VIOLENCE AND PREVENTION OFFICE

McMaster is committed to fostering a safe environment. For more information, please email [svpro.mcmaster.ca](mailto:svpro.mcmaster.ca)

### EQUITY AND INCLUSION OFFICE

McMaster University is a place where everyone is treated equitably and respectfully. There are many programs in place such as confidential complaint resolution, educational opportunities, and identification and removal of barriers to accessibility.

### GRADUATE STUDENT SUCCESS

They help with program selection, funding & awards, and opportunities.

### OMBUDS OFFICE

Ombuds Office provides dispute-resolution advice and assistance.

### INDIGENOUS STUDENTS SERVICES

They offer counselling, elder-in-residence program, writing skills workshops etc.

### STUDENT ACCESSIBILITY SERVICES (SAS)

SAS supports students who have a disability or disorder with their academic and disability-related needs.

## ON CAMPUS PEER-LED SERVICES

### GRADUATE STUDENT ASSOCIATION

Organizes events, workshops and learning opportunities for graduate students.

### MSU STUDENT HEALTH EDUCATION CENTRE (SHEC)

SHEC is a health promotion, education and referral service offered to students. SHEC offers many health related events throughout the year.

### PRIDE COMMUNITY CENTRE (PCC)

PCC is a space for those identified as gender and sexual minorities and their allies.

### WOMEN AND GENDER EQUITY NETWORK (WGEN)

WGEN has services and events to help create a safe space on campus for women-identified people, trans\* people and survivors of sexual assault.

### FOOD COLLECTIVE CENTRE (FCC)

FCC is a food bank and food security resource for students. They ensure that food is always accessible to food insecure individuals.



Click on the title to learn more!