

McMaster  
University



# Department of Mechanical Engineering

## Graduate Program Handbook 2024/2025

Updated: August 2024



*Innovation in Education • Excellence in Research • Quality of Student Life*

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## **DEPARTMENT OF MECHANICAL ENGINEERING (2024/2025)**

### **Dr. Gregory Wohl (Chair)**

- Email: [wohlg@mcmaster.ca](mailto:wohlg@mcmaster.ca)
- Point of contact for any issues that cannot be resolved by the Associate Chair (Graduate).

### **Dr. Andrew Gadsden (Associate Chair, Graduate Studies)**

- Email: [gadsden@mcmaster.ca](mailto:gadsden@mcmaster.ca)
- First point of contact for all graduate program academic matters.

### **Mrs. Leslie Kocsis (Academic Department Manager)**

- Email: [kocsisl@mcmaster.ca](mailto:kocsisl@mcmaster.ca)
- First point of contact for all financial matters.

### **Mrs. Diane Siv-Parr (Graduate Program Administrator)**

- Email: [mechgrad@mcmaster.ca](mailto:mechgrad@mcmaster.ca)
- First point of contact for all graduate program administrative matters.

### **Mr. John Colenbrander (Facilities Manager)**

- Email: [colenbjw@mcmaster.ca](mailto:colenbjw@mcmaster.ca)
- First point of contact for laboratory or workshop matters.

### **Mr. Brett Sicard (Mech Eng Graduate Society President)**

- Email: [sicardb@mcmaster.ca](mailto:sicardb@mcmaster.ca)
- Point of contact for graduate student networking events and department liaison.

#### ***Disclaimer:***

*In the event of a discrepancy between the information provided in this handbook and The School of Graduate Studies Calendar, the latter prevails.*

## QUICKLINKS – UNIVERSITY POLICIES AND REGULATIONS

- The School of Graduate Studies Graduate Calendar (2024-2025)  
<https://academiccalendars.romcmaster.ca/index.php?catoid=55>
- Department of Mechanical Engineering – Graduate Student Resources  
<https://www.eng.mcmaster.ca/mech/resources/#tab-content-graduate-students>
- Policies, Procedures and Guidelines (Academic Dishonesty, Appeals, etc.)  
<https://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicIntegrity.pdf>
- Student Code of Conduct  
<https://secretariat.mcmaster.ca/app/uploads/Code-of-Student-Rights-and-Responsibilities.pdf>
- Copyright Policy (MILO)  
<https://research.mcmaster.ca/mcmaster-industry-liaison-office-milo/about-us/>
- Discrimination, Harassment & Sexual Harassment Prevention and Response Policy:  
<https://secretariat.mcmaster.ca/app/uploads/Discrimination-and-Harassment-Policy.pdf>
- Research Integrity Policy  
<https://secretariat.mcmaster.ca/app/uploads/Academic-Integrity-Policy-1-1.pdf>
- Thesis Completion and Defence  
<https://gs.mcmaster.ca/current-students/completing-your-degree/>
- Collective Agreement for TA/RA in lieu of TA:  
<https://cupe3906.org/tas-unit-1/collective-agreement/>

### Conduct Expectations

As a McMaster graduate student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the *Code of Student Rights & Responsibilities* (the “Code”). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online.**

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students’ access to these platforms.

## Academic Accommodations of Students with Disabilities

Students with disabilities who require academic accommodation must contact *Student Accessibility Services* (SAS) at 905-525-9140 ext. 28652 or [sas@mcmaster.ca](mailto:sas@mcmaster.ca) to make arrangements with a Program Coordinator. For further information, consult McMaster University's *Academic Accommodation of Students with Disabilities* policy.

**Note:** Approved accommodations of previous undergraduate students at McMaster **do not** automatically apply during graduate studies. Students needing accommodations should return to SAS soon after commencement of their graduate program to implement or update your student status and to activate accommodations.

## Academic Accommodation for Religious, Indigenous or Spiritual Observances (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the *RISO* policy. Students should submit their request to their Faculty Office **normally within 10 working days** of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

## Copyright And Recording

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by university instructors.

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

## Extreme Circumstances

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email.

## Intellectual Property & Student Ownership

More than roughly 80% of the research carried out in the Faculty of Engineering is done with industry. The university signs intellectual property and ownership agreements with a company and hence the terms of these agreements apply to all members of McMaster, not just the project supervisor. Students are encouraged to talk to their supervisors about the terms covering their research project to understand how

their contributions will be weighted in the intellectual property generated and whether any review of theses and papers is required by the industrial sponsor before public disclosure.

### **Plagiarism-Checking Software (iThenticate)**

Effective December 1, 2023 the university requires all Master's and Doctoral theses to be reviewed by iThenticate, a plagiarism-checking software, before being seen by an external reviewer (Doctoral) or the finished copy submitted (Master's). This requirement can be found in the University's Research Plagiarism Checking Policy (found on the Secretariat website). This requirement is not meant to catch plagiarism; but rather, prevent it. By helping students detect sections of text requiring revision before the document is released to the public, the use of this tool can avoid otherwise serious allegations.

Student and supervisor will work together to revise any sections of the thesis that may be overlapping with previously published content that the student does not have permission to copy; sandwich theses are expected to have a substantial amount of already published content, but in this case the student should have sought, and been granted, permission to use it in their document. The student's supervisor is responsible for confirming the thesis is ready to submit.

A guide on how to use iThenticate is available in the Resources section of our website, under "Internal".

## QUICKLINKS – FINANCIAL MATTERS

- Scholarships Database  
<https://gs.mcmaster.ca/current-students/scholarships/>
- Payroll Information  
<https://hr.mcmaster.ca/employees/payroll/teaching-assistants-payroll-information/>
- Pay Statement Guide  
<https://hr.mcmaster.ca/app/uploads/2019/06/pay-statement-explained-2014-10-20-1-49-1.pdf>
- Tuition Fees  
<https://registrar.mcmaster.ca/fees/graduate/>
- University Health Insurance Plan (UHIP) for International Students  
<https://studentsuccess.mcmaster.ca/international-students/health-insurance/>

### Scholarships, Fellowships, Bursaries and Other Awards

Most graduate students admitted to the M.A.Sc. and Ph.D. programs in Mechanical Engineering will receive financial support in the form of a teaching assistantship and a departmental scholarship. The minimum level of support varies from year to year. Graduate students are encouraged to apply for both [internal and external funding opportunities](#) that may be available to them. (Keep an eye on your email; most of these opportunities will be advertised through that medium.) Awards—such as CGS, PGS and Vanier—are announced in the Fall term, as well as most donor-funded awards. OGS awards are announced in the Winter term. Department-specific awards are often announced between the Winter and Spring terms.

If a graduate student holds a major award (such as NSERC, CGS-M, CGS-D, PGS-D, OGS, QEII GSST, Vanier, etc.), the total stipend provided by the program cannot be reduced by more than \$2,500 per term for each term in which the student holds the award. Any scholarship greater than \$10,000 is considered a major scholarship.

### Teaching Assistantship

#### **First Time Teaching Assistants (TA)**

All first time TA's at McMaster are required to complete five hours of paid mandatory TA training which will include instruction on topics in pedagogy and anti-oppression. This mandatory training is a one-time requirement separate from, and in addition to, other training that you may be expected to complete as part of your employment (which may include general orientations, institution-wide mandatory health and safety training, and assignment-specific health and safety training required by your Employment Supervisor).



Self-registration for training courses is available through the Regulatory Training Tile on the [Mosaic](#) homepage. Once registered, carefully follow the directions under on the welcome page on [Avenue to Learn](#). More detailed instructions will be emailed to students before the beginning of each semester.

*Important notes:*

1. Training should be completed within two weeks of your assignment.
2. A short quiz follows each module on Avenue to Learn, and a score of 100% is required on each quiz. These quizzes can be taken repeatedly until the required score is reached. *These quizzes trigger the payment process - if the quizzes are not successfully completed (i.e. 100%), you risk not being paid for these five hours.*
3. This training is a one-time requirement for the first time that you TA at McMaster. You will not be paid for more than 5 hours of training, even if you TA for multiple faculties.

For more information, please refer to the links below:

1. [https://hr.mcmaster.ca/employees/health\\_safety\\_well-being/our-safety/health-and-safety-training/ta-training/](https://hr.mcmaster.ca/employees/health_safety_well-being/our-safety/health-and-safety-training/ta-training/)
2. <https://mi.mcmaster.ca/new-ta-programming/>
3. <https://fireballacademy.mcmaster.ca/for-students/on-the-job/ta-training-materials>

### **Returning Teaching Assistants**

If for any reason, a returning TA has not taken the pedagogy and anti-oppression training (away on a leave of absence or co-op placement), the TA will be required to take the two-hour anti-oppression training module through MacPherson and will receive two hours of pay accordingly. While additional training is encouraged, it will not be compensated.

### **Teaching Assistants for 2024/2025 Academic Year**

A useful guide is provided here: <https://ecampusontario.pressbooks.pub/taguide/>

You must complete all TA training. Before commencing your Teaching Assistantship duties, you need to complete the following forms in consultation with the course instructor and submit the completed forms to the Graduate Administrator.

1. TA Hours of Work Form: [https://hr.mcmaster.ca/app/uploads/2019/02/TA-Hours-of-Work-Form-August-2021\\_Fillable-Form.pdf](https://hr.mcmaster.ca/app/uploads/2019/02/TA-Hours-of-Work-Form-August-2021_Fillable-Form.pdf)
2. TA Performance Expectations Form: [https://www.eng.mcmaster.ca//app/uploads/2023/12/ta\\_performance\\_expectations\\_form\\_mech\\_eng.pdf](https://www.eng.mcmaster.ca//app/uploads/2023/12/ta_performance_expectations_form_mech_eng.pdf)

Toward the end of your TA assignment, you will be expected to have an exit meeting with the course instructor in which you and the instructor will discuss the extent to which performance expectations were met. At the end of the meeting, you and the course instructor must complete the TA Exit Meeting Form and submit the completed form to the Graduate Administrator.

[https://www.eng.mcmaster.ca//app/uploads/2024/03/Mech-Eng-ta\\_exit\\_meeting\\_form\\_2024.pdf](https://www.eng.mcmaster.ca//app/uploads/2024/03/Mech-Eng-ta_exit_meeting_form_2024.pdf)

## Outstanding Teaching Assistant Awards

Every semester, the department will recognize TAs who have excelled in their assignments with an Outstanding Teaching Assistant Award. These awards are based on recommendations from the course instructor and student reviews.

## Grad Pay

**In order to receive research scholarships and TA income**, you will need to:

1. Ensure that you are properly set up on the Student Centre module (under Graduate Studies' Banking webpage, click "If you are receiving a Research Scholarship, TA, and/or RA in Lieu of TA" to see instructions on how to [enrol in direct deposit](#))
2. Ensure that you are properly set up on the Human Resources module (students must [submit their payroll information](#) via the online Employee Self-Service portal in Mosaic, starting August 2024)

Research scholarships are paid as one lump sum two or three weeks into the start of a new term; TA income is paid biweekly during the term(s) in which you are a TA.

**In order to receive graduate/department bursaries**, you will need to:

1. Ensure that you are properly set up for [Direct Deposit](#)

Bursaries are paid as one lump sum two or three weeks into the start of a new term.

**If you do not see the Enrol in Direct Deposit (Student) tile on your Mosaic Homepage**, please log into University Technology Services' (UTS) [Client Services Portal](#) (again, using your MacID and password) and select:

1. "General Requests"; then
2. "Report a Problem".
3. Detail your issue in the blank field, then click "Create". Please monitor the portal for confirmation that the tile has been added to your Mosaic Homepage. Detail your issue in the blank field, then click "Create". Please monitor the portal for confirmation that the tile has been added to your Mosaic Homepage.

**\*IMPORTANT: If you complete any of the previous steps improperly and/or are not fully enrolled in the Fall 2024, Winter 2025 and Spring/Summer 2025 terms by August 1, 2024, your payments will be delayed until a correction is made.**

## University Health Insurance Plan (UHIP)

UHIP is a mandatory, comprehensive health insurance plan that provides health coverage for international and incoming exchange students. UHIP covers medically necessary doctors and hospital visits within Ontario for international students, incoming exchange students and dependants (spouse and children). For more information, please visit:

<https://studentsuccess.mcmaster.ca/international-students/health-insurance/>

Other topics, such as cost of living and tuition fees, can be found on [The School of Graduate Studies' website under "Cost of Living"](#) or on [The Registrar's website under "Graduate Fees": Tuition and Supplementary Fees.](#)

## QUICKLINKS – MISCELLANEOUS RESOURCES & STUDENT LIFE

- Incoming Graduate Students  
<https://www.eng.mcmaster.ca/future-students/future-graduate-students/incoming-graduate-students/>
- Housing & Student Life  
<https://www.eng.mcmaster.ca/future-students/future-graduate-students/incoming-graduate-students/housing-student-life/>
- Advice From Current Graduate Students  
<https://www.eng.mcmaster.ca/future-students/future-graduate-students/incoming-graduate-students/advice-from-current-students/>
- Student Wellness Centre: Mental Health Resources  
<https://wellness.mcmaster.ca/thriveweek/mentalhealthresources/>
- TalkSpot: A Mental Health Service Exclusively for Mac Eng Students  
<https://www.eng.mcmaster.ca/current-students/talkspot/>
- Supervisory Relationships  
[https://gs.mcmaster.ca/app/uploads/2023/04/Grad-Studies-Expectation-Tool-fillable-final\\_Dec-2023.pdf](https://gs.mcmaster.ca/app/uploads/2023/04/Grad-Studies-Expectation-Tool-fillable-final_Dec-2023.pdf)

### **Thesis Writing and English Language Skills Development**

If you are having difficulty with the English language and thesis writing, there are several on campus resources available to help you. The following are particularly useful:

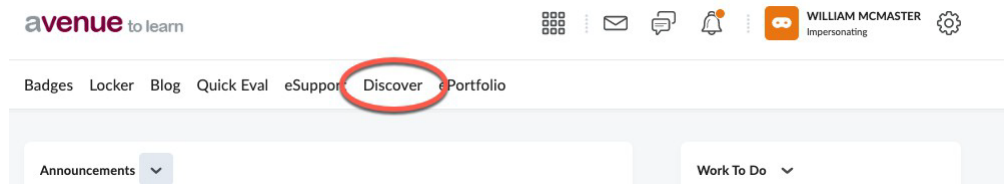
McMaster Office for the Development of English Language Learners (MODEL). This is a FREE service designed to help students with the English Language. They offer training, workshops and support to meet student needs of all academic backgrounds and English language proficiency. You can get more information at [MODEL | MELD Office](#).

The School of Graduate Studies also offers help with Thesis writing. Often, the Thesis writing can be the stumbling block for students to graduate on-time. Using their resources at the start of one's graduate study can significantly help with the writing process. Please check out their resources at [Graduate Writing – School of Graduate Studies](#).

## Build Professional & Technical Skills

Discover the Technical Communications for Graduate Students module on Avenue2Learn: The Art and Science of Persuasion, Audience Analysis, Writing for Publications, Proposing and Reporting a Project, Presentations and Visualizing Data, How to Give an Oral Presentation. All essential skills for success in today's competitive market.

After logging in, click on the 'Discover' link, and search for 'Technical Communications for Graduate Students' to find the course.



# RESPONSIBILITIES OF GRADUATE STUDENTS TO THE UNIVERSITY

## Matters With Regard to Student Responsibilities (Section 1.3 Of The Graduate Calendar)

Just as the University has responsibilities to graduate students, they have responsibilities to the University. The student's responsibilities include, but are not limited to:

1. Maintaining current contact information with the University, including address, phone numbers, and emergency contact information.
2. Using the University provided e-mail address or maintaining a valid forwarding e-mail address.
3. Regularly checking the official University communications channels. Official University communications are considered received if sent by postal mail, by fax, or by e-mail to the student's designated primary e-mail account via their @mcmaster.ca alias.
4. Maintaining contact and meeting regularly with the faculty advisor, thesis/project supervisor or supervisory committee, for observing departmental guidelines, and for meeting the deadlines of the department and the School of Graduate Studies.
5. Full-time students are obliged to be on campus, except for vacation periods or authorized off-campus status, for all three terms of the university year.
6. In cases of unauthorized absence, the student will be deemed to have withdrawn voluntarily from graduate study and will have to petition for readmission. No guarantee of readmission or of renewal of financial arrangements can be made and a decision on readmission is not subject to appeal.
7. Reviewing the University's [Code of Student Rights and Responsibilities](#)

# GRADUATE PROGRAM REGULATIONS – ENROLMENT

## Matters With Regard to Enrolment (Section 2.5 Of The Graduate Calendar)

### **1. Full-Time Student**

A full-time student is one who is studying on a full-time basis; treating studies like a full-time job; attending to coursework and research in a professional manner; being in consultation with and available to their supervisor at regular intervals (daily and/or weekly by mutual agreement) to monitor progress.

### **2. Part-Time Student**

A part-time student is one who usually has a full-time job outside the university, but wants to work towards his or her graduate degree on a part-time basis. A part-time student is limited to 3 graduate courses (9 units) per academic session (Sept 1 – Aug 31) and will usually take more time to complete the degree [M.A.Sc. program: up to five years (60 months) from the original date of registration if student began as “part-time”; Ph.D. program: up to eight years (96 months) from the original date of registration if student began as “part-time”]. Part-time students are not eligible for financial support from the department; nor teaching assistantships; nor scholarship equivalent.

### **3. Status Changes (FT to PT; PT to FT; Withdrawal; Re-admission to Defend; Program Transfers, Leaves of Absence; Full-time Off-Campus)**

Students who wish to change their status (full-time to part-time; part-time to full-time; transferring from M.A.Sc. to Ph.D.; withdrawal from the program; going on leave of absence, studying full-time off-campus), and former students who wish to be readmitted to the program, are expected to complete paperwork within a timeframe that permits their change to be effective on the first day of the next term (September 1st, January 1st or May 1st). Please see the graduate program administrator at least one month in advance of an expected transition to ensure that all paperwork is completed in a timely manner.

### **4. Engineering Co-op Program**

The Engineering Co-Op Program for graduate students is an optional program for full-time domestic and international M.A.Sc. and Ph.D. students in good academic standing, that allows students to gain engineering work experience prior to graduation. Students have the option to complete 4 to 12 months of co-op experience. It is administered by the Career Development & Relationship Manager - Graduate Studies. For more information, please visit:

<https://www.eng.mcmaster.ca/co-op-career-experience/how-co-op-works/graduate/>

### **5. Industrial Ph.D. Program**

The Industrial Ph.D. program allows full-time doctoral students the unique opportunity to work in the field and complete study toward their doctoral degree simultaneously. For more information on the Industrial stream, please visit the Faculty of Engineering’s page on the “Industrial Ph.D.” program.

# MASTER OF APPLIED SCIENCE (M.A.Sc.)

## Program Requirements

The minimum course requirement is four half-courses (50% of which must have the MECHENG course code); three of the four courses must be at the 700 level. A half-course is classified as 3 units. Courses delivered by departments in the School of Engineering and Applied Sciences (listed [here](#)) do not require a petition to count toward degree requirements; however, they cannot replace a MECHENG course.

Incoming graduate students to the Faculty of Engineering are required to complete a [career planning report](#) **within their first year of study**. Students must first book a career planning session with the faculty's career development specialist before submitting a career planning report. The report should not exceed 2 pages and must be submitted to the department's graduate program administrator to be evaluated by the associate chair (graduate).

Students are required to present a thesis that embodies the results of original work that the candidate has completed and demonstrates competence in Mechanical Engineering. Only the standard format thesis, as described in the document [“Guide for the Preparation of Master’s and Doctoral Theses”](#), will be accepted for examination. An oral defence of the thesis is required.

## Degree Requirement Checklist

Incoming graduate students will be given a [Degree Requirement Checklist](#) at the beginning of their academic career. The completion of this checklist is mandatory and should be completed throughout the duration of your studies.

### *Student Responsibility*

1. Keep the checklist up-to-date as you complete your studies.
2. Bring the checklist with you to your [Supervisory Committee Meeting](#) to discuss your progress.

### *Supervisor Responsibility*

1. Discuss the checklist with the student at the Supervisory Committee Meeting to ensure the student is on track.
2. Once all academic requirements are fulfilled, sign the checklist. **The completed signed checklist must be submitted to the graduate administrator before initiating the defence.**

## Additional Requirements

- **ME 758 “Graduate Seminars in Mechanical Engineering.”**: Mandatory annual registration in Mosaic for Term 1 and Term 2 of every academic session. Please visit [Avenue to Learn](#) for more details. M.A.Sc. students are required to make one 7-minute presentation with a 3-minute Q&A period.

- [SGS 101 and SGS 201 \(online courses\)](#): Mandatory registration in Mosaic at the start of a student's program only. Must pass and abide by these online SGS courses.
- [Job Hazard Analysis \(JHA\) form](#): Must complete a job hazard analysis (JHA) form with your supervisor and read and follow the appropriate Standard Operating Procedures (SOPs).  
**Note:** In the context of safety, all graduate students are considered "workers".
- [Core Health and Safety courses](#): Must successfully complete *and abide by* the following core health and safety courses:
  - SAFE training (*replacing Slips, Trips and Falls, Asbestos Awareness, Fire Safety, Ergonomics*)
  - Health and Safety Orientation
  - Violence and Harassment Prevention
  - WHMIS 2015

## Supervision

Supervision of M.A.Sc. students is governed by the School of Graduate Studies regulations as outlined in [Section 3.1 of the Graduate Calendar](#).

### **Supervisory Committee Meeting**

The supervisor shall meet with the student between 9 months to 12 months of commencement of the program for a formal review of progress. The student will complete the M.A.Sc. supervisory committee report form and submit to the supervisor at least one week in advance of the meeting. The supervisor will complete the form and submit it to the Department graduate program administrator at the end of the progress review meeting.

### *Student Responsibility*

1. Set up the meeting with supervisor within 12 months of starting.
2. Complete the student sections of the M.A.Sc. supervisory committee report form. (Details of progress towards meeting degree requirements since beginning of program).
3. Submit the form with a critical literature review of your research area to your supervisor at least one week before the meeting.

### *Supervisor Responsibility*

1. Complete Part A: Progress made towards meeting degree requirements.
2. Complete Part B: Specific goals for next number of months.
3. Complete Part C: Areas for improvement.
4. Provide an overall assessment.
5. Review the form with student, sign and submit to the graduate program administrator.

## M.A.Sc. Examination Committee

Each M.A.Sc. student must successfully defend their thesis in an oral examination before a committee proposed by the supervisor and approved by the Department Chair or their delegate. A member of the committee, other than the supervisor, will be appointed to chair the committee.



The committee shall be composed of 3 (three) members, including the supervisor. In the case of co-supervision, the committee will consist of 4 (four) members including the supervisors.

### M.A.Sc. Thesis Defence

The thesis defence starts with the candidate’s presentation of the main elements of the thesis, including the relevance of their work, approach, samples of the most important findings, and contributions. The presentation should not exceed 20 minutes. This is followed by one round of questions and another round of follow-up questions, as appropriate. The duration of the Master’s defence (including the candidate’s presentation) is expected to vary from 1¼ to 1¾ hours, but it normally should not exceed 2 hrs. If the examining committee is not satisfied with the candidate’s performance in the thesis defence, the candidate must retake the defence after completing any thesis revisions which may be recommended by the examining committee. The student must be informed in writing of the conditions they must meet to be able to succeed in the second and final defence.

Regulations/guidelines for thesis writing, submittal and defence can be found at:

[https://gs.mcmaster.ca/app/uploads/2019/10/Prep\\_Guide\\_Masters\\_and\\_Doctoral\\_Theses\\_August-2021.pdf](https://gs.mcmaster.ca/app/uploads/2019/10/Prep_Guide_Masters_and_Doctoral_Theses_August-2021.pdf)

### **M.A.Sc. Defence Procedures**

<p>Before Defence Initiation</p>	<p><i>Supervisor:</i></p> <p>Sign off on the DEGREE REQUIREMENT CHECKLIST.</p> <p>Set up the examination committee by selecting two additional faculty members (internal or external) who are adequately familiar with the thesis research area.</p> <p><i>Student:</i></p> <p>Return the following completed forms to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. DEGREE REQUIREMENT CHECKLIST</li> </ul> <p>Follow the instructions in the <i>Guide for the Preparation of Master’s and Doctoral Theses</i> found on the SGS website under Current Students &gt; Completing your degree &gt; Masters – Thesis &gt; Quick Links</p> <p><i>Graduate Administrator:</i></p> <p>Confirm all information provided in the Degree Requirement Checklist is accurate and the student is clear to defend.</p>
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<p>At least 2 weeks before the proposed defence date</p>	<p><i>Supervisor:</i></p> <p>Inform Graduate Program Administrator of upcoming defence by submitting APPROVAL OF M.A.SC. DEFENCE EXAMINATION COMMITTEE FORM for approval. The form can be found on the Resources page of our website, under “Graduate” &gt; “MASc info and forms”.</p> <p><i>Graduate Administrator:</i></p> <p>Have examination committee approved by the Department Graduate Associate Chair.</p>
<p>After approval of the examination committee</p>	<p><i>Supervisor:</i></p> <p>Check room availability and email committee confirming defence, including date, time and room location.</p> <p>Sign off on the originality report of the student’s thesis after they scan their theses for originality using iThenticate (plagiarism-checking software).</p> <p><i>Student:</i></p> <p>Thesis candidates are required to use plagiarism-checking software, iThenticate, before submitting. Students must speak with their supervisor for directions on how to submit their thesis through the plagiarism-checking software. Distribute the thesis to the examining committee, normally at 14 days, but no later than 10 days, before the defence date. Submissions later than 10 days before the defence date shall require consent of all members of the defence committee.</p>
<p>After approval of the examination committee, at least one day prior to the defence</p>	<p><i>Graduate Administrator:</i></p> <p>Provide the following forms to the Examination Committee Chair:</p> <ul style="list-style-type: none"> <li>i. REPORT OF EXAMINING COMMITTEE ON MASTER’S THESIS EXAMINATION</li> <li>ii. NSERC APPENDIX D (FORM 100)</li> <li>iii. MASTER’S THESIS – FINAL SUBMISSION SHEET</li> <li>iv. MCMASTER UNIVERSITY LICENCE</li> </ul>
<p>One week prior to defence</p>	<p><i>Graduate Administrator:</i></p> <p>Email defence announcement to Faculty, Graduate Students, and Postdoctoral Fellows.</p>

<p>After Defence</p>	<p><i>Chair of Examining Committee:</i></p> <p>Return the following completed forms to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. REPORT OF EXAMINING COMMITTEE ON MASTER’S THESIS EXAMINATION</li> </ul> <p>Return the following completed forms to the student:</p> <ul style="list-style-type: none"> <li>i. MCMASTER UNIVERSITY LICENCE</li> </ul> <p><i>Supervisor:</i></p> <p>Return the following completed forms to the student:</p> <ul style="list-style-type: none"> <li>i. MASTER’S THESIS – FINAL SUBMISSION SHEET</li> <li>ii. NSERC APPENDIX D (FORM 100)</li> </ul> <p><i>Student:</i></p> <p>Return the following completed forms to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. MASTER’S THESIS – FINAL SUBMISSION SHEET</li> <li>ii. MCMASTER UNIVERSITY LICENCE</li> <li>iii. NSERC APPENDIX D (FORM 100)</li> </ul> <p>Review the SGS Final Submission – Final Thesis Checklist (<a href="#">Masters – Thesis &gt; Step 3. Submit</a>)</p> <p>Submit your electronic thesis to MacSphere. Please follow the link and click on 'Sign on to my MacSphere' to deposit your thesis. There is a \$40 library and archiving fee that must be before your thesis is considered submitted. You can use a credit card to pay the fee online.</p>
<p>Once signed paperwork has been received</p>	<p><i>Graduate Administrator:</i></p> <p>Submit Clear to Graduate paperwork to SGS for processing.</p> <p>Send student notification to complete DEPARTMENT EXIT CHECKLIST.</p> <p><i>Student:</i></p> <p>Return the following completed forms to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. DEPARTMENT EXIT CHECKLIST</li> </ul>

### **Convocation**

Detailed information regarding convocation, including deadlines and the timing of ceremonies, is available on the Office of the Registrar's website: <http://registrar.mcmaster.ca/category/grad/>. Please review the checklist items.

### **Transferring from M.A.Sc. to Ph.D. Without Completing M.A.Sc. Degree**

Students currently enrolled in the M.A.Sc. program may be transferred to the Ph.D. program before they complete their M.A.Sc. degree requirements. Regulations governing this scenario are stated in the current [School of Graduate Studies Calendar, 2.1.4 Transfer to Ph.D.](#)

M.A.Sc. students transferring to Ph.D. will need to have:

1. completed a minimum of TWO terms of study in the M.A.Sc. program;
2. completed a minimum of TWO half courses at the 700 level with a minimum average of A- (McMaster 10/12);
3. completed their M.A.Sc. supervisory meeting and received a rating of EXCELLENT on their report; and
4. garnered a strong letter of support from their supervisor.

If a student would like to transfer to Ph.D., their supervisors will have to inform the graduate administrator via email with their letter of support attached.

### **Transferring from M.A.Sc. to Ph.D. With Completing M.A.Sc. Degree**

If a student is granted permission to enter the Ph.D. program while concurrently completing the M.A.Sc. program, the School of Graduate Studies requires the student to complete all requirements for the M.A.Sc. program (including defence and submission of thesis for binding) within four (4) months of the date of entry into the Ph.D. program. Students who do not complete the requirements for the Master's degree within the four months will lose their status as a Ph.D. student and be returned to Master's status.

### **Accelerated M.A.Sc. Option**

An Accelerated Option is also available to students currently enrolled at McMaster as undergraduate students in the Mechanical Engineering Department whereby the M.A.Sc. degree may be completed in 16-20 months of fulltime study. In exceptional circumstances, students from other Engineering departments in McMaster may apply for entry into the accelerated option by contacting the Mechanical Engineering Department's Associate Chair (Graduate). Application for entry into the Accelerated Option through the Associate Chair (Graduate) occurs in the penultimate year of undergraduate studies. Applicants must have maintained a minimum CGPA of 9.5 for their undergraduate course work with a sessional average of 9.5 at the time they are applying for the option. The Accelerated Option requires students to complete at least one term of their research project with a supervisor from the department prior to completion of their undergraduate degree. A one-term 600-level course is required under the Accelerated Option in the final undergraduate year for graduate credit provided it is listed within the department. For students enrolled in the Accelerated Option, research conducted in MECHENG 4X04 may count towards the Accelerated Option and therefore towards partial fulfillment of the graduate M.A.Sc. thesis work. Entry into the M.A.Sc. program under the Accelerated Option must occur less than one year after completing one's undergraduate degree and must meet the same requirements for admission as other candidates. For more information, please visit [this link](#) (scroll down to "Accelerated M.A.Sc. Option").

# DOCTOR OF PHILOSOPHY (Ph.D.)

## Program Requirements

**Program start date between September 1, 2015 and September 1, 2019:** The minimum course requirements for this degree are two half-courses at the 700 level beyond the Master's degree, **OR** six half-courses, at least five of which should be at the 700 level, beyond the Bachelor's degree. A half-course is classified as 3 units. Half of your courses are required to have "MECHENG" in the course code. Only courses delivered by departments in the School of Engineering and Applied Sciences (listed [here](#)) do not require a petition to count toward course requirements; however, they cannot replace a MECHENG course.

**Program Start Date of September 1, 2019 or later:** The minimum course requirements for this degree are two half-courses at the 700 level beyond the Master's degree, **OR** four half-courses, at the 700 level, beyond the Bachelor's degree. A half-course is classified as 3 units. Half of your courses are required to have "MECHENG" in the course code. Only courses delivered by departments in the School of Engineering and Applied Sciences (listed [here](#)) do not require a petition to count toward course requirements; however, they cannot replace a MECHENG course.

Incoming graduate students to the Faculty of Engineering are required to complete a [career planning report](#) **within their first year of study**. Students must first book a career planning session with the faculty's career development specialist before submitting a career planning report. The report should not exceed 2 pages and must be submitted to the department's graduate program administrator to be evaluated by the associate chair (graduate).

Ph.D. students are required to pass a comprehensive examination designed to test their breadth of knowledge and ability to integrate ideas.

Students are required to present a thesis that embodies the results of original work that the candidate has completed and demonstrates competence in Mechanical Engineering. Only the standard format thesis, as described in the document "[Completing Your Thesis - Ph.D.](#)" (available from the School of Graduate Studies website), will be accepted for examination. An oral defence of the thesis is required.

## Degree Requirement Checklist

Incoming graduate students will be given a [Degree Requirement Checklist](#) at the beginning of their academic career. The completion of this checklist is mandatory and should be completed throughout the duration of your studies.

### *Student Responsibility*

1. Keep the checklist up-to-date as you complete your studies.
2. Bring the checklist with you to your [Supervisory Committee Meetings](#) to discuss your progress.

### *Supervisor Responsibility*

1. Discuss the checklist with the student at the Supervisory Committee Meetings to ensure the student is on track.
2. Once all academic requirements are fulfilled, sign the checklist. **The completed signed checklist must be submitted to the graduate administrator before initiating the defence.**

### Additional Requirements

- ME 758 “Graduate Seminars in Mechanical Engineering.”: Mandatory annual registration in Mosaic for Term 1 and Term 2 of every academic session. Please visit [Avenue to Learn](#) for more details. PhD students are required to make one 7-minute presentation with a 3-minute Q&A period in their 3<sup>rd</sup> or 4<sup>th</sup> year.
- SGS 101 and SGS 201 (online courses): Mandatory registration in Mosaic at the start of a student’s program only. Must pass and abide by these online SGS courses.
- Job Hazard Analysis (JHA) form: Must complete a job hazard analysis (JHA) form with your supervisor and read and follow the appropriate Standard Operating Procedures (SOPs). **Note:** In the context of safety, all graduate students are considered “workers”.
- Core Health and Safety courses: Must successfully complete *and abide by* the following core health and safety courses:
  - SAFE training (*replacing Slips, Trips and Falls, Asbestos Awareness, Fire Safety, Ergonomics*)
  - Health and Safety Orientation
  - Violence and Harassment Prevention
  - WHMIS 2015

### Supervision

Supervision of Ph.D. students is governed by the School of Graduate Studies regulations as outlined in [Section 3.1 of the Graduate Calendar](#).

As soon as possible, and no later than nine (9) months after commencing doctoral studies, a supervisory committee for the student shall be approved by the Department Chair or their delegate, on the recommendation of the supervisor and in consultation with the student. This is done by the supervisor submitting the PH.D. SUPERVISORY COMMITTEE APPROVAL FORM. The form can be found on the Resources page of our website, under “Graduate” > “PhD info and forms”.

The supervisory committee will normally consist of at least three (3) members (4 members in the case of co-supervision). One member, whose scholarly interests include the area of the student’s main interest, will normally be from outside the department if a suitable individual is available. Another member may be from outside the university with departmental approval and permission of the Dean of School of Graduate Studies.

### **Supervisory Committee Meeting**

The Ph.D. student's supervisory committee shall meet with the student a minimum of once a year before November 30th. At each meeting, the student shall prepare a 5-page to 10-page progress report to be given to the committee members at least one week in advance of the meeting. At each meeting, the student shall give a short 20 – 25 minutes presentation of their research progress, entertaining questions from committee members. Additional and/or subsequent meetings shall be held to monitor progress towards the comprehensive exam as well as the completion of the thesis.

### **Supervisory Committee Report Deadlines**

The deadline for completion of the supervisory committee report for students who have been in the program for one semester or more is November 30, 2024 or within ONE year of starting the PhD program, whichever comes **FIRST**.

Student start date of January or May 2024:      Deadline is November 30, 2024

Student start date of September 2024:      Deadline is November 30, 2025

Student start date of January or May 2025:      Deadline is November 30, 2025

# Ph.D. SUPERVISORY COMMITTEE MEETING PROCEDURES

## Supervisor:

- Set up date and time of Ph.D. supervisory committee meeting in consultation with student and other members of the committee.
- Check room availability and send email confirming supervisory committee meeting to student and other members of the committee, including date, time and room location.
- Inform graduate administrator by email or using the PH.D. ANNUAL COMMITTEE MEETING NOTIFICATION (OPTIONAL FORM). This form can be found on the Resources page of our website, under “Graduate” > “PhD info and forms”.

## Student:

- Once date is set, talk to graduate administrator to initiate report. Students will receive this message:

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*Dear Student Name,*

*All PhD students must meet at least once a year with their supervisor and committee. Our records indicate that you should have a meeting this year.*

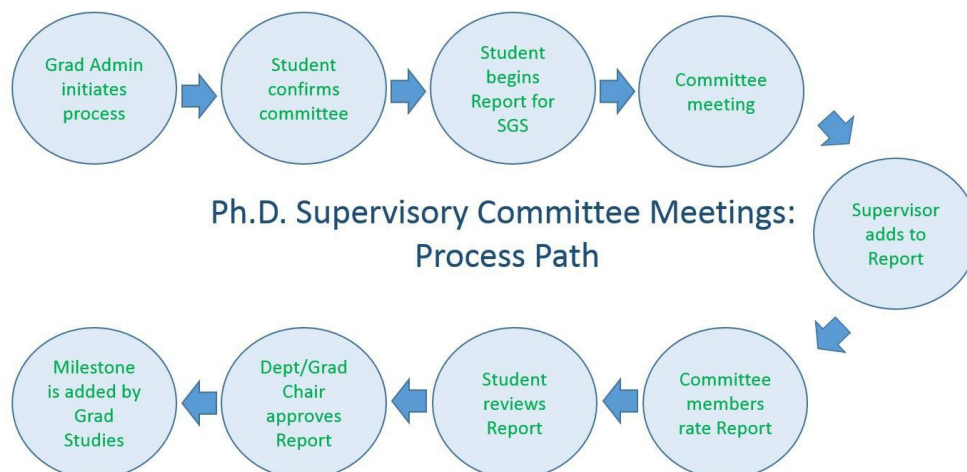
*Please work with your supervisor, and/or graduate office to arrange a meeting date and time. Once a date has been fixed, please click on the link below to initiate the report to be submitted by you to your committee and supervisor, prior to the meeting. **[Link to student’s report]***

## Student Records

*School of Graduate Studies*

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Follow the instructions at the link in the email to complete your Annual Supervisory Committee Report. (Images from the online report appear on the next page.)





# SUPERVISORY COMMITTEE MEETING REPORT

The link will bring the student to the following screen.

**Supervisory Committee Report**

Please make sure all the information listed below is correct. If you find anything incorrect, please contact your department graduate secretary PRIOR to the submission of your supervisory committee report.

Family Name	First Name	Title	Email
Markle-reid	Maureen Frances	Supervisor	mreid@mcmaster.ca
Akhtar-danesh	Noon	Member	daneshn@mcmaster.ca
Mckey	Colleen	Member	mckeyt@mcmaster.ca

If the committee is correct, select Continue.

If the committee is incorrect, close the page and contact the Grad Admin.

## Student Begins Report

Once the student confirms their committee, they'll be shown a screen where they will begin to enter some information about their new meeting.

They'll also be asked to report of their progress since their last report (or since they started their research if this is the first report).

The student will click Submit, and the primary supervisor will receive an email.

**Supervisory Committee Report**

Select a Date to view report or New Meeting to start a new report

Please enter the meeting date:  (YYYY-MM-DD)

The date you began this degree studies at McMaster:  (YYYY-MM-DD)

Please indicate if you are a scholarship holder  Other:

With some qualifications, the Calendar (Section 2.7.3) states that supervisors should respond to a draft of the PhD thesis within two months. Providing comments on individual chapters will take place proportionately less time.

Have you submitted draft research this year?  Yes  No

Details of progress made since the last report

## Supervisor Adds to Report

After the student clicks Submit, the primary supervisor will receive an email inviting them to see what their student submitted.

The supervisor will complete their portion of the report and select the members who will be signing off on the report. An email with a link will be sent to each selected member of the committee.

The screenshot shows the 'Supervisory Committee Report' form. At the top, there is a 'Meeting Date' dropdown set to '2017-06-19' and a 'View Student Report' button. Below this, a note states: 'The School of Graduate Studies Calendar states that the Comprehensive Examination for full-time students will normally have taken place between 12 and 20 months from commencement for students with an upper limit of 24 months.' A question asks 'Is Comprehensive Examination complete?' with radio buttons for 'Yes' and 'No'. A text box prompts the user to 'Please justify an expected date of completion that exceeds 20 months in the program in the comments section.' There are two date pickers: 'The Comprehensive Examination is expected to be completed by' (set to 2020-01-02) and 'YYYY-MM-DD'. A text area for 'Progress made in accomplishing goals set out in last report (or toward meeting degree requirements since student began program, if this is the first report)' is present. Below that is a text area for 'Special goals for the next interval of 6 months'. Another date picker shows 'Anticipated date for the completion of degree requirements' (set to 2021-01-03). A 'Comments' text area is also visible. At the bottom, a table lists committee members for rating:

#	Members	View ?	Role	First Name	Last Name	User Name	Email
<input checked="" type="checkbox"/>	1		Supervisor	Markie-rose	Maureen Frances	mfrances@mcmaster.ca	
<input checked="" type="checkbox"/>	2		Member	Akhil-Danesh	Nasir	daneshn@mcmaster.ca	
<input checked="" type="checkbox"/>	3		Member	Mikey	Colleen	mikeyc@mcmaster.ca	

## Committee Rates the Report

When the supervisor clicks the Submit button, each selected committee members will receive an email with a link inviting them to review the report.

The committee member can view the student's report and must click the tick box acknowledging they've read it.

The committee member will also rate the report from the drop down. The default is Excellent.

The system now sends the report back to the student to view.

The screenshot shows the 'Supervisory Committee Report' form from the perspective of a committee member. At the top, the 'Meeting Date' is '2017-06-21' and the 'Member Name' is 'Markie-rose, Maureen Frances'. A 'View Student Report' button is present. A red circle highlights a checkbox that is checked, with the text 'By checking this box the committee member acknowledges having read the student's report'. Below this is a 'Rating' dropdown menu set to 'Excellent'. A 'Comments' text area is provided. A 'Submit' button is at the bottom. Below the form, a section titled 'The information below is for your review only' contains a 'Supervisor Report' section. It includes a date picker for 'The Comprehensive Examination requirement was completed on', a 'Grade' dropdown set to 'Select Grade', and a text box for 'Please justify an expected date of completion that exceeds 10 months in the program in the comments section'. There are also date pickers for 'The Comprehensive Examination is expected to be completed by' (set to 2020-01-02) and 'YYYY-MM-DD'. A text area for 'Progress made in accomplishing goals set out in last report (or toward meeting degree requirements since student began program, if this is the first report)' is present. At the bottom, a text area for 'Special goals for the next interval of 6 months' is visible.

### Student Reviews the Report

The student receives a final email to view their supervisor's report, committee rating and if they are satisfied with the supervision.

When they select Submit, the report will be sent to the Department Chair/Associate Grad Chair for approval.

The screenshot shows a web form titled "Supervisory Committee Report". At the top, there is a "Meeting Date" dropdown menu set to "2017-06-21". Below this is a checkbox labeled "By checking this box you acknowledge having read the completed report." which is checked. Underneath is the question "Is the supervision satisfactory?" with radio buttons for "Yes" (selected) and "No". A large text area for "Comments" is empty. A "Submit" button is centered below the comments. Below the submit button, a section titled "The information below is for your review only" contains a "Supervisor Report" section. This section includes a date field for "The Comprehensive Examination requirement was completed on" (empty), a "Grade" dropdown menu (set to "Select Grade"), and a note: "Please justify an expected date of completion that exceeds 20 months in the program in the comments section." Below this is another date field for "The Comprehensive Examination is expected to be completed by" (set to "2020-01-02"). At the bottom, there is a text area for "Progress made in accomplishing goals set out in last report (or toward meeting degree requirements since student began program, if this is the first report)".

### Department Chair Approval

An email is sent to the Department Chair/Associate Chair. They can see the report and choose to approve it.

The default is Yes.

Clicking Submit will complete the report.

## Ph.D. Comprehensive Examination

### **Purpose**

The purpose of the comprehensive examination is to test the breadth of knowledge and maturity of approach over a range of topics that are both within and peripheral to the student's discipline. The student's level of achievement in this examination will determine possible academic background deficiencies that the candidate may have. Successful completion of the comprehensive examination is a necessary requirement for the candidate to continue in the program.

Comprehensive Exams are private examinations, open only to the student and their comprehensive examination committee.

### *Program Start Date Prior to September 01, 2022*

The student is expected to complete all requirements of the comprehensive examination **within 20 months of first registration in the Ph.D. program, with an upper limit of 24 months**. Part-time students must take the comprehensive examination by the end of their 36<sup>th</sup> month. Students who transferred from M.A.Sc. to Ph.D. without completion of M.A.Sc. are expected to complete their comprehensive exam 2 years from initial start date of their M.A.Sc. Special exceptions require the approval of the Department Chair or designate and the Graduate School. Normally, course requirements will be completed before the Comprehensive Exam, but this is not a requirement. Likewise, preliminary research results are not required, but the student is expected to present and defend a viable research proposal including anticipated new contributions to the existing scientific literature. It is the responsibility of the supervisor to recommend and notify the graduate administrator that a candidate will take the examination **at least two months in advance**. In consultation with the supervisory committee, the supervisor nominates a comprehensive examination committee and submits the nomination for approval by the Department chair or their designate. This is done by submitting two forms: APPROVAL OF PH.D. COMPREHENSIVE EXAMINATION COMMITTEE FORM and PH.D. COMPREHENSIVE EXAMINATION – EXAMINATION COMMITTEE FORM. These forms can be found on the Resources page of our website, under "Graduate" > "PhD info and forms". Once the committee is approved, it is the **responsibility of the examination committee chair** to initiate and oversee all administrative arrangements of the examination, including the exact dates of the written and oral parts of the exam.

### **Structure of Examination Committee**

The comprehensive examination committee shall consist of:

1. Committee chair;
2. Student's supervisor;
3. At least one (1) member of the supervisory committee (apart from the student's supervisor);
4. An additional member who has scholarly interest in the student's area of specialization; and
5. An external committee member (cannot be supervisor or committee chair).

## Format of the Examination

The comprehensive examination will consist of **two parts**, which are outlined below.

### *Part A: Breadth and Depth of Knowledge*

The objective of this part of the exam is to test the student's comprehension as well as breadth and depth of knowledge of their discipline area, normally at the senior undergraduate/junior graduate level. Although the written exam focuses primarily on the student's understanding of fundamental concepts in two technical areas related to their research topic, the scope of the oral part extends to examining the depth of knowledge in the student's discipline area and possible deficiencies in their academic background.

### *Part B: Research Proposal*

The candidate shall submit a report on the research program: **up to a maximum of 40 pages in length, INCLUDING all figures, graphs, illustrations, tables and appendices (but not including the list of references)**. The report should be typed double-spaced; 12 point Times New Roman; one inch margins on all sides. **IF THE REPORT DOES NOT CONFORM WITH THESE GUIDELINES, IT MAY BE RETURNED TO THE CANDIDATE FOR REVISION AND CAN RESULT IN DELAYING THE EXAMINATION SCHEDULE.** The report must include: (i) a critical survey of the directly related literature in the field; (ii) an outline of the proposed research program including its justification, the approach to be taken, specific analytical or experimental methods, perceived or anticipated problems, preliminary results (if available); (iii) an account of expected contributions the proposed research will bring to the existing scientific literature; and (iv) a proposed timetable to accomplish the task. A copy of the report must be made available to each member of the Examination Committee at least two weeks prior to the date of the oral examination.

## Examination Result

- The candidate's achievement in each of the parts shall be judged as: Pass or Fail.
- **The candidate must pass both parts to successfully complete the comprehensive exam.**
- The committee chair shall communicate the result of the examination to the department chair, who shall communicate the result of the examination, in writing, to the student.
- **Should the candidate fail either or both parts, they may request a re-examination. The re-examination will follow the same format as outlined above, and must be completed within six months of the first examination.** The candidate will be allowed only one re-examination.

## Ph.D. Comprehensive Examination – Procedures and Timeline

<p>At least 8 weeks before written part of the exam</p>	<p><i>Examination Committee:</i></p> <p>Meeting of examination committee takes place to discuss comprehensive exam. The committee will decide two subject areas in which candidate will be examined on, and decide which two committee members will write the two questions that will be given to the student.</p> <p><i>Supervisor:</i></p> <p>Return the following completed form to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. APPROVAL OF PH.D. COMPREHENSIVE EXAMINATION COMMITTEE The form can be found on the Resources page of our website, under “Graduate” &gt; “PhD info and forms”.</li> </ul>
<p>At least 7 weeks before written part of the exam</p>	<p><i>Examination Chair or Supervisor:</i></p> <p>Return the following completed form to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. PH.D. COMPREHENSIVE EXAMINATION – EXAMINATION COMMITTEE FORM The form can be found on the Resources page of our website, under “Graduate” &gt; “PhD info and forms”.</li> </ul> <p><i>Graduate Administrator:</i></p> <p>Have examination committee approved by the Department Graduate Associate Chair.</p>
<p>6 weeks before the written part of the exam</p>	<p><i>Graduate Administrator:</i></p> <p>Provide a written notice of the two subject areas and dates of the written and oral parts of the exam to the student, as well as a notification to examination committee members indicating/confirming same. The examination notice to the student must also include the names of the examination committee members.</p>
<p>At least two weeks before the written part of the exam</p>	<p><i>Committee Members:</i></p> <p>The two committee members preparing the written questions will circulate the questions to the exam committee.</p> <p><i>Examination Chair:</i></p> <p>Seek feedback from the exam committee and reach consensus on the two questions.</p>

<p>At least one week before the written part of exam</p>	<p><i>Examination Chair:</i></p> <p>Submit finalized questions to the graduate administrator.</p> <p><i>Student:</i></p> <p>Submit research report to graduate administrator.</p> <p><i>Graduate Administrator:</i></p> <p>Prepare the examination questions in standard format. Distribute copies of the research report will to the comprehensive examination committee.</p>
<p>Day of written part exam</p>	<p><i>Student:</i></p> <p>Student to receive questions from Graduate Program Administrator and return answers within 7 hours.</p> <p><i>Graduate Administrator:</i></p> <p>Distribute copies of answers to the 2 questions to comprehensive examination committee.</p>
<p>Day of oral part of exam (one week after the written exam)</p>	<p><i>Graduate Administrator:</i></p> <p>Send the following form to the Examination Chair for completion:</p> <ul style="list-style-type: none"> <li>i. COMPREHENSIVE RESULTS TO BE RECORDED ON GRADUATE STUDENT TRANSCRIPT</li> </ul> <p><i>Examination Committee and Student:</i></p> <p>Part B of the oral exam will be approximately 1.5 hours. The candidate will be required to present their proposal in a summary fashion (20 minutes) to the committee followed by questions directly related to the proposal and the candidate’s specific area of research. The candidate is free to choose whether to start with Part A (the two questions) or Part B (the research proposal). To initiate the questions for Part A of the examination, the candidate should provide a brief synopsis (maximum of 5 minutes) of his/ her answers to the two written questions.</p> <p><i>Examination Chair:</i></p> <p>Return the following completed form to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. COMPREHENSIVE RESULTS TO BE RECORDED ON GRADUATE STUDENT TRANSCRIPT</li> </ul>

## Ph.D. Comprehensive Examination – Roles and Responsibilities

### *Supervisor:*

- Set up the examination committee & give notification of committee to Graduate Administrator for approval by department chair/graduate chair on attached form (**8 weeks before written exam**).
- Setup the organizational meeting of the examining committee.

### *Chair of Examining Committee:*

- During the organizational meeting, finalize date and time of written and oral examinations (**8 weeks before written exam**).
- Check room availability and email all members of the examination committee confirming examination, including date, time and location.
- Provide information to Graduate Program Administrator, including committee members, 2 examiners that will set the written questions, dates of written and oral exams, areas of study of examination questions in the form attached (**7 weeks before the written exam**).
- Send email reminder to committee requesting written questions (**at least two weeks before written exam**).
- Circulate questions to committee members once received from the examiners.
- Send finalized questions to Graduate Program Administrator (**at least one week before the written exam**).
- Oral Exam – to be scheduled one week after the written exam.

### *Examiners Setting the Written Questions:*

- Send questions to Chair (**at least two weeks before the written exam**).
- Be available (by phone if not in person) during the written part of the exam in case the student needs some clarification on the question.

### *Graduate Program Administrator:*

- Get approval of examination committee from department chair/graduate chair.
- Give the timeline/information letter with the subject areas to the student (**6 weeks before the written exam**).
- **One week before the written exam**, collect from the student and handout the research proposal to the examination committee.
- Prepare the exam questions once received from the chair in the Department examination format.
- Handout exam questions to the student on the morning (9:00 AM) of the written exam; collect the answers to the written exam questions from student on the afternoon (4:00 PM) of the written exam. Circulate the student's report and answers to exam questions to the examination committee.
- Prepare the (oral) examination result form and give to the Chair (**1 day before the oral exam**). Once complete, the result form is submitted to the School of Graduate Studies so that the student's academic record will show the completion of this milestone.



- Provide the student with a written letter of the result of the Ph.D. Comprehensive Examination. (If the student does not pass, please refer to the process on page 30 of this document titled, “Examination Result”.)

### *Program Start Date of September 01, 2022 or Later*

The student is expected to complete all requirements of the comprehensive examination within 20 months of first registration in the Ph.D. program, with an upper limit of 24 months. Special exceptions require the approval of the Department Chair or designate and the Graduate School. Normally, course requirements will be completed before the Comprehensive Exam, but this is not a requirement. Likewise, preliminary research results are not required, but the student is expected to present and defend a viable research proposal including anticipated new contributions to the existing scientific literature.

### **Format of the Examination**

The comprehensive examination will consist of **two parts**, which are outlined below.

#### *Part A: Breadth and Depth of Knowledge*

The objective of this part of the exam is to test the student’s comprehension as well as breadth and depth of knowledge of their discipline area, normally at the senior undergraduate/junior graduate level. Although the written exam focuses primarily on the student’s understanding of fundamental concepts in two technical areas related to their research topic, the scope of the oral part of the examination extends to examining the depth of knowledge in the student’s discipline area and possible deficiencies in their academic background. The student is expected to complete Part A **within 8 to 14 months of first registration in the PhD program**. Part-time students must complete Part A by the end of their 24<sup>th</sup> month. Students who transferred from M.A.Sc. to Ph.D. without completion of M.A.Sc. are expected to complete Part A of their comprehensive exam within 2-8 months from their transfer date. The examination committee for Part A will comprise of the Student’s PhD Supervisory Committee, with the Supervisor acting as the Chair. The student’s supervisor will be responsible for the administration of this part of the exam. The two committee members will set the two written questions in subject areas related to the student’s research in consultation with the supervisor. The student should be informed of the two subject areas by the supervisor at least six weeks before the written exam. The student will have a total of seven hours to complete the written exam in an open book format. An oral exam will follow one week after the written exam and will normally be held during the student’s first PhD Supervisory Committee meeting. The duration of the oral exam will be 1.5 hours. To initiate the questions for the examination, the candidate should provide a brief synopsis (10 minutes for each question) of his/ her answers to the two written questions. Once the date of Part A is established, the supervisor should complete the PHD COMPREHENSIVE EXAMINATION (PART A) – EXAMINATION FORM and send it to the Graduate Administrator. The form can be found on the Resources page of our website, under “Graduate” > “PhD info and forms”.

#### *Part B: Research Proposal*

Part B will comprise the submission and defence of the student’s research proposal. The student is expected to complete this part **within 20 months of first registration in the Ph.D. program, with an upper**

**limit of 24 months.** Part-time students must complete Part B by the end of their 36<sup>th</sup> month. Students who transferred from M.A.Sc. to Ph.D. without completion of M.A.Sc. are expected to complete Part B of their comprehensive exam within 14-18 months from their transfer date. The candidate shall submit a report on the research program: **up to a maximum of 40 pages in length, INCLUDING all figures, graphs, illustrations, tables and appendices (but not including the list of references)**. The report should be typed double-spaced; 12-point Times New Roman; one inch margins on all sides. IF THE REPORT DOES NOT CONFORM WITH THESE GUIDELINES, IT MAY BE RETURNED TO THE CANDIDATE FOR REVISION AND CAN RESULT IN DELAYING THE EXAMINATION SCHEDULE. The report must include: (i) a critical survey of the directly related literature in the field; (ii) an outline of the proposed research program including its justification, the approach to be taken, specific analytical or experimental methods, perceived or anticipated problems, preliminary results (if available); (iii) an account of expected contributions the proposed research will bring to the existing scientific literature; and (iv) a proposed timetable to accomplish the task. A copy of the report must be made available to each member of the Examination Committee at least two weeks prior to the date of the oral examination. The duration of the oral examination will be 1.5 hours.

The examination committee for Part B will consist of the PhD Supervisory Committee and an additional member who has a scholarly interest in the candidate's research specialization. The additional member will serve as the Chair of the examination committee. Once the date of Part B is established, the supervisor should complete the PHD COMPREHENSIVE EXAMINATION (PART B) – APPROVAL FORM and send it to the Graduate Administrator. The form can be found on the Resources page of our website, under "Graduate" > "PhD info and forms".

### Examination Result

- The candidate's achievement in each of the parts shall be judged as: Pass or Fail.
- **The candidate must pass both parts to successfully complete the comprehensive exam.**
- The committee chair for each part shall communicate the result of the examination to the graduate administrator using the forms attached.
- **Should the candidate fail either part, they may request a re-examination. The re-examination will follow the same format as outlined above, and must be completed within four months of the first examination.** The candidate will be allowed only one re-examination of each part.
- Once the candidate completes both parts of the examination, the graduate administrator will submit the official result to SGS so that the student's academic record will be updated, and the Associate Chair (Graduate) will inform the candidate of the result in writing.

## Ph.D. Comprehensive Examination – Procedures and Timeline

### Part A

<p>At least 8 weeks before written part of the exam</p>	<p><i>Examination Committee:</i></p> <p>Meeting of examination committee takes place to discuss comprehensive exam. The committee will decide two subject areas in which candidate will be examined on, and decide which two committee members will write the two questions that will be given to the student.</p>
<p>At least 7 weeks before written part of the exam</p>	<p><i>Examination Chair / Supervisor:</i></p> <p>Return the following completed form to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. PH.D. COMPREHENSIVE EXAMINATION (PART A) – EXAMINATION FORM</li> </ul> <p>The form can be found on the Resources page of our website, under “Graduate” &gt; “PhD info and forms”.</p>
<p>6 weeks before the written part of the exam</p>	<p><i>Graduate Administrator:</i></p> <p>Provide a written notice of the two subject areas and dates of the written and oral parts of the exam to the student, as well as a notification to examination committee members indicating/confirming same. The examination notice to the student must also include the names of the examination committee members.</p>
<p>At least two weeks before the written part of the exam</p>	<p><i>Supervisory Committee Members:</i></p> <p>The two supervisory committee members preparing the written questions will circulate the questions to the exam committee.</p> <p><i>Examination Chair / Supervisor:</i></p> <p>Seek feedback from the exam committee and reach consensus on the two questions.</p>
<p>At least one week before the written part of exam</p>	<p><i>Examination Chair / Supervisor:</i></p> <p>Submit finalized questions to the graduate administrator.</p> <p><i>Graduate Administrator:</i></p> <p>Prepare the examination questions in standard format.</p>

Day of written part exam	<p><i>Student:</i></p> <p>Student to receive questions from Graduate Program Administrator and return answers within 7 hours.</p> <p><i>Graduate Administrator:</i></p> <p>Distribute copies of answers to the 2 questions to comprehensive examination committee.</p>
Day of oral part of exam (one week after the written exam)	<p><i>Graduate Administrator:</i></p> <p>Send the following form to the Examination Chair for completion:</p> <ul style="list-style-type: none"> <li>i. PH.D. COMPREHENSIVE EXAM (PART A) – RESULT FORM</li> </ul> <p><i>Examination Committee and Student:</i></p> <p>In the oral part of the exam, the candidate will have their first Supervisory Committee Meeting. The candidate should provide a brief synopsis (maximum of 5 minutes) of his/ her answers to the two written questions.</p> <p><i>Examination Chair / Supervisor:</i></p> <p>Return the following completed form to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. PH.D. COMPREHENSIVE EXAM (PART A) – RESULT FORM</li> </ul>

**Part B**

At least 7 weeks before oral exam	<p><i>Supervisor:</i></p> <p>Return the following completed form to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. PH.D. COMPREHENSIVE EXAM (PART B) – APPROVAL FORM The form can be found on the Resources page of our website, under “Graduate” &gt; “PhD info and forms”.</li> </ul> <p><i>Graduate Administrator:</i></p> <p>Have examination committee approved by the Department Graduate Associate Chair.</p>
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6 weeks before oral exam	<p><i>Graduate Administrator:</i></p> <p>Provide a written notice of the oral examination to the student, as well as a notification to examination committee members indicating/confirming same. The examination notice to the student must also include the names of the examination committee members.</p>
Two weeks before oral exam	<p><i>Student:</i></p> <p>Submit research report to graduate administrator.</p> <p><i>Graduate Administrator:</i></p> <p>Distribute copies of the research report will to the comprehensive examination committee.</p>
Day of oral exam	<p><i>Graduate Administrator:</i></p> <p>Send the following form to the Examination Chair for completion:</p> <ul style="list-style-type: none"> <li>i. PH.D. COMPREHENSIVE EXAM (PART B) – RESULT FORM</li> <li>ii. COMPREHENSIVE RESULTS TO BE RECORDED ON GRADUATE STUDENT TRANSCRIPT</li> </ul> <p><i>Student:</i></p> <p>In the oral part of the exam, the candidate will be required to present your report in a summary fashion (20 minutes) to the Ph.D. Comprehensive Examining Committee.</p> <p><i>Examination Chair:</i></p> <p>Return the following completed form to the Graduate Administrator:</p> <ul style="list-style-type: none"> <li>i. PH.D. COMPREHENSIVE EXAM (PART B) – RESULT FORM</li> <li>ii. COMPREHENSIVE RESULTS TO BE RECORDED ON GRADUATE STUDENT TRANSCRIPT</li> </ul>

## Ph.D. Comprehensive Examination – Roles and Responsibilities

### *Supervisor:*

- Set up the examination committee & give notification of committee to Graduate Administrator for approval by department chair/graduate chair on attached form; finalize date and time of written and oral examinations (**Part A: 8 weeks before written exam; Part B: 8 weeks before oral exam**).
- Setup the organizational meeting of the examining committee.

*Chair of Examining Committee:*

- During the organizational meeting, finalize date and time of oral examination (**Part B: 8 weeks before written exam**).
- Check room availability and email all members of the examination committee confirming examination, including date, time and location.
- Provide information to Graduate Program Administrator, including committee members, 2 examiners that will set the written questions, dates of written and oral exams, areas of study of examination questions in the form attached (**Part A: 7 weeks before the written exam; Part B: 7 weeks before the oral exam**).
- Send email reminder to committee requesting written questions (**Part A: at least two weeks before written exam**).
- Circulate questions to committee members once received from the examiners (Part A).
- Send finalized questions to Graduate Program Administrator (**Part A: at least one week before the written exam**).
- Oral Exam (Part A) – to be scheduled one week after the written exam.
- Oral Exam (Part B) – to be scheduled two weeks after the research report submission date.

*Supervisory Committee Members Setting the Written Questions (Part A):*

- Send questions to Chair/Supervisor (**at least two weeks before the written exam**).
- Be available (by phone if not in person) during the written part of the exam in case the student needs some clarification on the question.

*Graduate Program Administrator:*

- Get approval of examination committee from department chair/graduate chair (Part A & B).
- Give the timeline/information letter with the subject areas to the student (**Part A: 6 weeks before written exam; Part B: 6 weeks before oral exam**).
- Prepare the exam questions once received from the chair in the Department examination format.
- Part A: Send exam questions to the student on the morning (9:00 AM) of the written exam; collect the answers to the written exam questions from student on the afternoon (4:00 PM) of the written exam. Circulate the student's answers to exam questions to the examination committee.
- Collect from the student and send the research proposal to the examination committee (**Part B: two weeks before the oral exam**).
- Prepare the examination result form and give to the Chair (**Part A & B: at least 1 day before the oral exam**). Once complete, the result form is submitted to the School of Graduate Studies so that the student's academic record will show the completion of this milestone.
- Provide the student with a written letter of the result of the Ph.D. Comprehensive Examination. (If the student does not pass, please refer to the process on page 38 of this document titled, "Examination Result".)

## Ph.D. DEFENCE AND THESIS SUBMISSION

- The supervisor must go through the [Degree Requirement Checklist](#) with the student to ensure they have completed all academic requirements. **The completed signed checklist must be submitted to the graduate administrator before initiating the defence.**
- Regulations/guidelines for thesis writing, submittal and defence can be found at: [https://gs.mcmaster.ca/app/uploads/2019/10/Prep\\_Guide\\_Masters\\_and\\_Doctoral\\_Theses\\_August-2021.pdf](https://gs.mcmaster.ca/app/uploads/2019/10/Prep_Guide_Masters_and_Doctoral_Theses_August-2021.pdf)
  - Thesis candidates are required to use plagiarism-checking software, iThenticate, before submitting. Students must speak with their supervisor for directions on how to submit their thesis through the plagiarism-checking software.
  - The supervisor must sign off on the originality report of the student's thesis after they scan their theses for originality using iThenticate.
- Review defence [Ph.D. Defence Flowchart](#)
- Please review the SGS Final Submission – Final Thesis Checklist ([PhD \(Doctoral\) > Step 3. Submit](#))

### Convocation

Detailed information regarding convocation, including deadlines and the timing of ceremonies is available on the Office of the Registrar's website: <http://registrar.mcmaster.ca/category/grad/>. Please review the checklist items.