

**Department of Chemistry & Chemical Biology**

**McMaster University**

**Guide to Graduate Studies in Chemistry**

**2022-23**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dear Graduate Students,

This guide contains practical information about graduate studies in Chemistry at McMaster. We hope it will be of use to you and complement the classical approach of asking the right person the right question. Please help us keep this guide up to date. If you find any errors, or have comments or suggestions, please contact the Graduate Program Administrator for Chemistry (chemgrad@mcmaster.ca). In the case of discrepancy between this guide and other university policy, you are advised to consult the authoritative Graduate Calendar published by the School of Graduate Studies, <https://academiccalendars.romcmaster.ca/index.php?catoid=45>

*Note:* Information in the Graduate Calendar always prevails over other sources of information, your supervisor, or the Associate Chair, Graduate Studies in Chemistry.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**TABLE OF CONTENTS**

1. IMPORTANT CONTACTS 3

2. FREQUENTLY- ASKED QUESTIONS 4

2.1. Upon Arrival 4

2.2 MOSAIC, Including Registration, Course Enrollment, and Email 4

2.3 Student Number/Employee Number and Security ID Cards 5

 2.4 Health & Safety 6

2.5 Orientation Meeting for Graduate Students 7

2.6 Student Cards, Bus Passes and Parking on Campus 7

2.7 Full-time and Part-time Status 7

2.8 Employment Regulations 8

2.9 International Students 9

2.10 Ontario Health Insurance 9

2.11 Social Insurance Number 9

2.12 Research Placements Outside of McMaster University 9

3. ACADEMIC MATTERS 10

3.1 Supervision 10

3.1.1 MSc Supervisory Committees 10

3.1.2 Transfer from MSc to PhD Program 11

3.1.3 PhD Supervisory Committee 13

3.1.4 Supervisory Committee Report Forms 14

3.2 Chemistry & Chemical Biology Degree Requirements 15

3.3 Comprehensive Examination 16

3.4 Graduate Courses 18

3.4.1 Zero-credit Grad Courses Required by Grad Studies 18

3.4.2 Sessional Dates, Add/Drop Deadlines 19

3.4.3 Chemistry Graduate Course List 19

3.4.4 Auditing (rather than enrolling in) Graduate Courses 19

3.4.5 Module / Course Failure 19

3.4.6 Course Assessment by Students 20

3.5 Seminars and Colloquia 20

3.6 Thesis and Oral Defence 20

3.7 Review of Academic Decisions 22

4. SCHOLARSHIPS AND AWARDS 23

4.1 External Awards 23

4.2 Internal Awards 24

4.3 NSERC Postdoctoral Fellowships 25

5. THE ADMINISTRATIVE ORGANIZATION 25

6. FINANCIAL MATTERS 26

6.1 Minimum Financial Support 26

6.2 Teaching Assistantships 26

6.3 Tuition 27

6.4 Student Pay 27

6.5 Taxes 28

6.6 Union Dues 28

6.7 Dental Plan 28

6.8 Vacation, Leave of Absence, Maternity or Parental Leave 28

6.9 Financial Statement 29

7. ACADEMIC INTEGRITY 29

8. WHERE TO GO FOR HELP 30

8.1 Academic, research or personal matters 30

8.2 TA-related matters 31

8.3 Complaints and grievances 31

8.4 Personal Counselling 31

8.5 Disability Accomodations 31

8.6 International Students 32

8.7 Student Success 32

8.8 Getting Home Safely at Night 32

8.9 Financial and Administrative Matters 32

APPENDIX: TIMELINES FOR GRADUATE DEGREE COMPLETION................................................................................... 33

# 1. IMPORTANT CONTACTS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Position** | **Office** | **Ext.** | **Email id** |
| Dr. Bhagwati Gupta | Associate Dean of Graduate Studies (Faculty of Science) | BSB-102 | 24643 | adeangss |
| Mr. Ryan Trepanier | Graduate Support Officer (Faculty of Science) | BSB-102 | 22733 | trepanr |
| Dr. Giuseppe Melacini | Acting Chair | ABB-156 | 24504 | melacin |
| Dr. Peter Kruse  | Associate Chair of Graduate Studies | ABB-420 | 23480 | pkruse |
| Ms. Tanja Petrovic | Department Manager | ABB-156 | 23487 | petrovt |
| Dr. Adriana Brook | Graduate Program Administrator Chemistry / Assistant to the Chair | ABB-156 | 24504 | chemgrad |
| Dr. Darko Ljubic | Research Lab Manager | ABB-401 | 24511 | ljubicd |
| Dr. Yurij Mozharivskyj | Chemistry Seminar Coordinator | ABB-423 | 27796 | mozhar |
| Dr. David Emslie | Graduate Colloquia Coordinator | ABB-450 | 23307 | emslied |
| Dr. Jim McNulty | Health and Safety Committee Chair | ABB-262 | 27393 | jmcnult |
| Dr. Peter Kruse | TA Coordinator | ABB-420 | 23480 | pkruse |
| Laura Matchett | McMaster Chemistry Graduate Student Society (MCGSS), President |  |  | matchetl |
| Novan Gray | Graduate Student Ambassador |  |  | grayna |
| Alex Ly | Graduate Student Ambassador |  |  | lya13 |
| Dusan Srdic | Graduate Student Ambassador |  |  | srdicd |

#

# 2. FREQUENTLY- ASKED QUESTIONS

## 2.1. Upon Arrival

The first thing to do when you arrive at McMaster is to meet with your supervisor and start making plans, including getting your safety training done. Another important person to meet is Adriana Brook, our Graduate Program Administrator. She works in the Chemistry & Chemical Biology main office (ABB-156) and will be able to answer many of your questions. You will also need to take care of your health insurance coverage and provide us with your social insurance number (see sections 2.10 and 2.11).

## 2.2 MOSAIC, Including Registration, Course Enrollment, and Email

MOSAIC is an administrative information system that you can log into for various functions, including academic planning/advisement, course enrollment, course schedules, viewing grade history, making requests for formal transcripts, registering for safety training (on-line or in-person), updating contact information, account enquiries, making payments, and viewing/printing T2202A/T4A forms.

**Registration**

All graduate students, in both the regular and part-time programs, are required to enroll and pay supplementary fees annually and tuition fees term by term (within the first month of the term).

To be registered, students **must be enrolled** (see below) in one or more course in each term of their degree (for continuing students, on-time enrollment for **all 3 terms** is typically completed by the beginning of August each year). If a student is not planning to take any course in a particular term, they must enroll in SGS-700 (for full-time students) or SGS-701 (for part time students). These are placeholder courses (i.e. they do not require any activity from the student). If a student fails to enrol by the advertised SGS deadline (typically end of August), their funding cannot be loaded until they register and there will be delays in pay disbursement. If a student fails to enrol for a term altogether, they cannot retain the status of graduate student, will be withdrawn in good standing, and must apply for re-admission if they wish at a later date to continue their studies.

**Enrollment**

Prior to course enrollment, students can pre-select their desired courses through an academic planner function in MOSAIC, enrol in courses, and organize their entire academic program.  A student's class schedule is automatically generated as they enroll. Students can continue to add, drop or swap courses until the last day to drop a class for the term.

**Transcripts**

In Mosaic, students are able to review their entire grade and course history. Unofficial transcripts can be viewed and printed immediately. Requests for official transcripts can be made through Mosaic as well. See the website of the Office of the Registrar for instructions on how to do so.

**The Mosaic Student Center**

Mosaic's new Student Center provides access to academic, personal and financial information. It includes the following features:

**ACADEMICS**

* + - Class Search
		- Academic Planner
		- Enrollment (formerly called registration)
		- Class Schedule - List & Weekly views
		- Course History
		- Enrollment/Financial Letters
		- Grades
		- Program/Plan/Sub-plan Selection
		- Transcripts - instant access to unofficial transcripts and ability to order official transcripts

**FINANCES**

* + - Account Inquiry
		- Make a Payment
		- Charges Due
		- Enrollment/Financial Letters
		- View/Print T2202A/T4A

**PERSONAL INFORMATION**

* Change mailing address
* Add emergency contacts

**E‑MAIL**

Graduate student e-mail accounts are created through MOSAIC. Most announcements within our department are sent by e-mail to your McMaster e-mail address. **All new graduate students must obtain a McMaster e-mail address and use it for all departmental communication.** E‑mail addresses provided by commercial vendors (e.g., Hotmail, yahoo, etc.) will **not be** used by the department.

## 2.3 Student Number/Employee Number and Security ID Cards

 Your student number and your employee number are the same.

 Most of the research labs are accessible via security card ("Working at McMaster" card or non-personalized card). Also, some of the labs still require a key combined with card access. You will need to have completed all the required safety training (see next section) prior to getting access to labs.

 New students will be contacted by Adriana to have a Working at McMaster card generated. You will need to complete all of the required safety training modules, then complete the [Lab Keycard Access Request Form](https://forms.office.com/pages/responsepage.aspx?id=B2M3RCm0rUKMJSjNSW9Hcth91pgcfu5Bggnm4zkvNRJURUVWNVdRUVZNMU9SSjdXQ01YWTlSWTdaMS4u) in order to have the card activated for building and lab access. Most building access is managed via this swipe card system. If you need a physical key for any of the spaces you regularly use, please coordinate with Sarra Saiyed in ABB 156 (saiyem2@mcmaster.ca).

##

# 2.4 Health & Safety

 In order to ensure everyone is working safely in our labs, the following training is to be completed. Supervisors may request, at their discretion, that people in their lab complete refresher training of the current health and safety courses offered by the University on a more frequent basis as is deemed necessary:

**Minimum Safety Requirements:**

* **WHMIS 2015 – to be updated every 5 years**
* **Asbestos Awareness – to be updated every 5 years**
* **Ergonomics – to be updated every 5 years**
* **Chemical Handling & Spills – to be updated every 3 years**
* **Due Diligence – to be updated every 3 years**
* **Fire Safety – to be updated every 3 years**
* **Violence and Harassment Prevention in the Workplace – to be updated every 3 years**
* **Biosafety Awareness**
* **Gas Cylinder**
* **Health and Safety Orientation**
* **Primer on Privacy**
* **Slips, Trips & Falls**
* **Back to Mac COVID-19 Training (new in 2021)**
* **Site-Specific Training – to be given by the person’s supervisor or their designate**
* **Department Orientation (part of Chem 700 in Fall, for Jan or May starts date t.b.d.)**

The following safety training may be required if they apply to your lab.  Please discuss these requirements with your supervisor to see if any apply.

**Lab specific training:**

* **Biosafety Training (mandatory for any BSL level)**
* **Biosafety Update (to be completed annually after Biosafety Training is completed)**
* **Biosafety Level 3**
* **Nanotechnology Awareness**
* **Autoclave Awareness**
* **Hydrogen Fluoride – to be updated every 3 years**
* **Laser Safety – to be updated every 2 years**
* **Lock Out/Tag Out – to be updated every 2 years**
* **Radiation**

Online health and safety courses offered by EOHSS, the FHS safety office, and the Biosafety office are now being conducted through the University’s learning management system, Avenue to Learn.  To register for either in class or online training, log in to the MOSAIC Portal and on the home screen search for the tab Regulatory Training >> Search by Course Name.

Please note that 24 hours after registering for an online session of a health and safety training course in Mosaic, the course material and quiz will become available to students for review and completion by logging into their Avenue to Learn account.  These online courses will be automatically graded in Avenue to Learn and the result recorded in Mosaic 24 hours after successful completion.

## 2.5 Orientation Meeting for Graduate Students

 At the beginning of each term, a meeting is scheduled to provide introductions, information about the department, and a safety orientation. This meeting is mandatory for all new graduate students. During the Fall term, the meeting is part of the Chem 700 course which is mandatory for all new graduate students.

## 2.6 Student Cards, Bus Passes and Parking on Campus

Your student card is created by submitting a request and a photo on Mosaic. Keep an eye out for an email from Adriana about when you can pick up your student card from the Chemistry office (ABB 156).

 Bus passes which allow unlimited transport on HSR (Hamilton Street Railway) buses throughout the school year are included as part of graduate students' mandatory fees. New students receive a complementary Presto card and load their HSR pass onto it by following the instructions here: https://msumcmaster.ca/info/hsr-bus-pass/.

 Applications for a parking permit are available online (<http://parking.mcmaster.ca>), or from the Parking Office in the Clarke Building (Room 102, ext. 24232).

## 2.7 Full-time and Part-time Status

Excerpts from the Graduate Studies Calendar (<https://academiccalendars.romcmaster.ca/index.php?catoid=45>)

**2.5.2 Definition of Full- and Part-time Status**

Full-Time Status

A full-time graduate student must:

1. have been admitted to a graduate program as a full-time student;
2. be pursuing their studies as a full-time occupation;
3. identify themself as a full-time graduate student;
4. be designated by the university as a full-time graduate student;
5. for most programs (and all research-based programs) be geographically available and visit the campus regularly. Other programs may have different requirements and may be conducted fully on-line. Without forfeiting full-time status, a graduate student, while still under supervision, may be away from the university (e.g. visiting libraries, doing field work, attending a graduate course at another institution, etc.) provided that, if any such period exceeds four weeks in any one term, written evidence shall be available in the Graduate Studies Office to the effect that this request has the approval of the department or program Chair and Graduate Associate Dean. For information on full time off campus please consult section 2.5.6.
6. be considered to be a full-time graduate student by their supervisor or equivalent (designated by the program office)
7. students who change status from full to part-time, do not receive any more time to complete their program and will continue to be charged tuition fees at the full-time level.
8. students who change part to full time will have their term count re-set on a ratio of 2:1

 All active graduate students other than full-time graduate students as defined above are part-time graduate students. See also section 3.6 or 4.6 for more information on program progression.

**2.5.3 McMaster University’s Regulations for Full- and Part-time Status**

In accordance with the above provincial regulations, McMaster requires students to register annually, and to confirm their status as a full-time graduate student. Only full-time graduate students are eligible for scholarship support.

McMaster University complies with the OCGS document “Principles for Graduate Study at Ontario’s Universities” (March 2017) which, in Resolution 5, states the following:

* Full-time graduate students are expected to pursue their graduate degree on a full-time basis and make satisfactory progress toward timely completion of all program requirements. It is not possible, or desirable, for the university to monitor and enforce the employment activities of its graduate students outside the university. However, it is both possible and desirable for the university to ensure that it does not itself create a structural situation that jeopardizes the ability of the graduate student to make full-time progress towards the completion of graduate program requirements. Accordingly, OCGS is committed to the principle that full-time graduate students are employed no more than an average of 20 hours per week on campus.
* Full-time students who are participating in McMaster-based paid employment should work no more than an average of 20 hours a week to a maximum of 1005 hours in the academic year. Normally students who exceed this limit are asked to drop down to part-time status, to stop working or reduce their hours of work. Changing student status from full-time to part-time will affect a student’s scholarship funding and OSAP status. For international students with study permits, changing to part-time status may also impact their ability to fulfil the conditions of their study permit and eligibility for the post-graduate work permit.

 The University considers full-time students to be those that have their studies as their priority. All full-time students must be available to conduct research (as appropriate), participate in courses and the other activities required by their program. In some cases award holders may face employment restrictions, but it is the responsibility of the student to ensure their work arrangements are compliant with the terms of their awards.

All active graduate students other than full-time graduate students as defined above are part-time graduate students.

## 2.8 Employment Regulations

Excerpt from Section 2.5.4. of the Graduate Studies Calendar:

 In the McMaster context, there are three terms in the School of Graduate Studies for purposes of interpreting the rule in Section 2.5.3 limiting employment with the University to ten hours per week on average: Fall (September through December); Winter (January through April); and Summer (May through August). These are deemed to have 17, 17, and 18 weeks respectively. The ten-hour limit includes work as a Teaching Assistant at McMaster.

## 2.9 International Students

 In accordance with provincial regulations, McMaster University requires students to register annually and to confirm their full-time status. New international students must provide the School of Graduate Studies with photocopies of their student visa and/or employment authorization when registering. Returning students who have recently renewed their visa documents must also submit copies to the School of Graduate Studies. The student number and program name (Chemistry & Chemical Biology) should be included on all copies.

 Official copies should be brought or mailed to the Chemistry & Chemical Biology office. If these documents are not provided on time, it will be necessary to withhold student pay cheques until they are received, and you will also not receive your student card.

## 2.10 Ontario Health Insurance

 Ontario Health Insurance Plan (OHIP) coverage is restricted to permanent residents who live in Ontario. Permanent residents are Canadian citizens, landed immigrants and convention refugees. International students are not eligible for OHIP coverage. Ontario Universities and Blue Cross have instituted a Health Insurance Plan (UHIP) which is mandatory for all visa students, unless they can provide evidence of an acceptable alternative coverage. All international students are automatically enrolled in UHIP every year but should ensure that their coverage is correct in Mosaic as explained here: <https://studentsuccess.mcmaster.ca/international-students/health-insurance/>

 Students applying for permanent resident status (landing) from within Canada are not immediately eligible for OHIP coverage unless the Federal Government confirms to the Ontario Ministry of Health that the applicant has passed the immigration medical examination. This rule also applies to accompanying family members.

 More information about OHIP is available online at: <http://www.health.gov.on.ca/en/>

 More information about UHIP is available online through International Student Services: <https://iss.mcmaster.ca/studentlife/healthcare/> and at: <https://gsamcmaster.org/health-dental/>

## 2.11 Social Insurance Number

 Through Mosaic, all students must provide a Social Insurance Number (SIN) as soon as possiblefor payroll authorization.

## 2.12 Research Placements Outside of McMaster University

Activities in which students conduct part of their graduate work outside of McMaster [not including conferences, meetings, seminars, visits to academic or related institutions, and student placements (parts of professional programs that are undertaken for academic credit) within Canada], require research activity assessment and approval. For more details, see RMM #801 (both the Guidelines and the Program document) in section 8 at: <http://www.workingatmcmaster.ca/rmm/>.

Risks are rated as Low, Significant or High, and can be due to the planned activity or travel/location. Low risk activities are those that may expose the participant to hazards that are greater than those encountered in their working lives, but which can be minimized through planning, training, and standard operating procedures. For LOW risk activities only, based on the RMM-801 program document and guidance document, the following requirements must be met:

Complete the RMM #801 *Research Activity Approval and Review Form*.

Ensure that the activity has the support of the Chair of the department (by submitting the aforementioned form for signature by your supervisor and the chair).

Review the Safety Travel Checklist (on pages 4-8 of the guidelines document)

* + - * If at any point the risks associated with the activity change, revisit this process and adjust accordingly.

 No further action required (EOHSS Approval is NOT required).

# 3. ACADEMIC MATTERS

## 3.1 Supervision

 Each graduate student will be supervised by a faculty member in the department. The supervisor, assisted by a supervisory committee, will provide leadership and guidance to the student. The supervisory committee will also monitor the student's progress. Committees are appointed by the Department on the recommendation of the student's research supervisor.

 You can find University regulations regarding supervision and supervisory committees in the Graduate Calendar (sections 2.7, 3.5 and 4.4). Aspects of supervision specific to the Department of Chemistry & Chemical Biology are described below.

Note that graduate students are responsible for reporting cases of inadequate supervision to the Associate Chair in a timely fashion.

### 3.1.1 MSc Supervisory Committees

 Each MSc student will have a supervisory committee consisting of the student's supervisor and one other faculty member. The committee meets regularly (see below) and the students are encouraged to seek advice between meetings as well. Once you know who will be on your committee, please let the Chemistry Graduate Program Administrator know as soon as possible; this needs to be done within the first month of your arrival. After each meeting, forms must be completed and returned to the Graduate Program Administrator as soon as possible after the meeting. It is the responsibility of each student to schedule the meeting and to obtain the requisite forms (available here: <https://www.chemistry.mcmaster.ca/graduate/chemistry/current-students.html#graduate-forms>) to prepare in advance and bring to the committee meetings. See below for more information:

* 1st Meeting --- after 8-9 months; usually April-May of the first academic year:

For the first supervisory meeting, the student will prepare a 6 page[[1]](#footnote-1) report that introduces the research topic and research goal, describes the experimental approach as well as experimental results. Please make sure to include a summary at the beginning of your report. The summary should not exceed one page.

 The purpose of this meeting is to give the student an opportunity to present their research topic, and early results, and to receive feedback from the committee. The meeting will start with a 20-30-minute oral presentation by the student, with about 30 minutes of questions and discussion (often questions are asked as the student proceeds through their presentation). The supervisory committee will want to assess whether the research objectives are clearly laid out, whether the student understands the research objectives and the background chemistry, and whether there are reasonable signs of effort and progress.

* 2nd Meeting --- after ~ 16-18 months; usually Dec-Feb of the 2nd academic year (this timing ensures that the meeting is well placed to discuss the possibility of a transfer to the PhD program, or the M.Sc. thesis outline, remaining research, and the timing of remaining lab work and thesis writing).

At this second meeting, the student will again present a brief overview of the project's goals, and will outline their experimental results; they will typically have publishable data, whether or not they plan to transfer to the PhD program. There should also be some discussion of relevant literature, and evidence that the student is participating in the design as well as the execution and interpretation of experiments. The student's report for this meeting will be about 20 pages (same guidelines as in note 1 above) to give room for experimental results. Please make sure to include a summary page at the beginning of your report. As with the first meeting, there will be a 20-minute oral presentation, with questions and discussion (meetings are typically ~ 90 minutes long and room bookings should be for 2 hours).

For students planning to graduate with an MSc degree, the committee will look at the student's progress to date and, if necessary, make recommendations on what work must be accomplished for completion of the MSc thesis. The student must present a plan to finish all experimental work, submit drafts, and complete their thesis on time; *i.e.,* within 2 years of beginning the MSc program.

For students planning to transfer to the Ph.D. program, the committee will look at whether the student is on track for a transfer. *Alternatively, for M.Sc. students who intend to transfer to the Ph.D. program, and have strong support for this from their supervisor and committee, the transfer exam (see below for more details) can double as the 2nd M.Sc. committee meeting.*

### 3.1.2 Transfer from MSc to PhD Program

 We encourage graduate students registered in the MSc program, and interested in pursuing a PhD degree, to transfer to the PhD program without completing all of the formal MSc requirements. Transferring is an attractive route to the PhD degree, as it removes the need to write and defend an MSc thesis, and allows you to use your research results obtained to date as part of your PhD thesis.

 The Transfer Exam is designed to make sure you have the skills needed to succeed in the PhD program. In addition to evidence of significant experimental progress, this includes a good understanding of the scientific principles of your research, and the ability to discuss your research in a broader context. Our graduate program offers multiple opportunities to hone these skills, including courses, meetings with your supervisor and committee, as well as TA duties and informal discussions with other graduate students and local and visiting faculty – we encourage you to take advantage of these opportunities!

 Your supervisory committee will formally consider you for the transfer process around the time of your second supervisory committee meeting, and after you have completed most of your MSc courses and have made good progress in your research. The transfer exam MUST be held within 22 months from your start date in the MSc program.

 You will be asked to submit aTransfer Report (see below) summarizing your research results and outlining your plans for their extension into the PhD program. At the meeting, you will be asked to give a 20 min presentation summarizing your research, and then to field questions designed to test your background knowledge, familiarity with the research field, and research skills (~90 min).

 Your transfer exam committee will consist of your MSc supervisory committee, one additional faculty member, and the chair of the exam (a member of the graduate oversight committee, for a total of four professors. The possible outcomes of the Transfer Exam are:

* Transfer approved
* Transfer approved with conditions, such as registration in specified courses, or required readings.
* Transfer not recommended. You would then be advised to submit and defend an MSc thesis by the end of term 6 (e.g. the end of August in year 2). You may subsequently apply to enter the PhD program.

*Preparation of the Transfer Report:*

The transfer report and the transfer exam differ from the earlier committee reports and meetings. Their purpose is to allow the transfer committee to assess your research progress and your level of scientific thinking as well as your future research plans. It is important that you structure your report and presentation according to these purposes.

 The report should start with a review of the relevant literature, and then summarize the research questions you have addressed to date, supported by key results. It should not list every experiment you have carried out, but rather concentrate on results and the bigger picture. The report should go on to explain how you plan to extend this research into your PhD program. Again, your focus should include discussion of the big picture, with enough detail to permit your committee to appraise your plan.

A central goal of the transfer report and exam is to clearly communicate to your supervisory committee: **(a)** the key questions that you plan to address during your Ph.D.; **(b)** the main aims that you propose for your doctoral research; **(c)** the related experimental plan. If possible, also include a statement of the central hypothesis that you plan to test during your Ph.D. studies.

 In format the transfer report is closer to an extended supervisory committee report than to an MSc thesis, which typically requires much more detail. Manuscripts may be appended to the report. Transfer reports are typically 20 pages, double spaced, font size 12, plus tables, figures and references. Additional material can be included as an Appendix. Any manuscripts and published papers should be appended to the transfer report.  In this case, the transfer report can be correspondingly shorter, briefly summarizing the highlights of that work, rather than reiterating the manuscript. Make sure to include a one-page summary at the beginning of your transfer report. We encourage you to show an early draft of the transfer report to your supervisor for feedback before the actual transfer meeting.

*Combining the 2nd MSc Supervisory Committee Meeting and the Transfer Exam*

If your supervisor and supervisory committee agree, the transfer exam may double as the 2nd M.Sc. supervisory committee meeting, so long as the transfer exam form, the change of status form *and* the M.Sc. committee meeting form are all completed and submitted for this meeting. You will need a total of three forms for the department and SGS. You only need to write a single research report (follow the guidelines for the transfer report), which counts toward both your supervisory committee meeting and your transfer exam. This meeting MUST happen within 22 months from your start date, like any transfer exam.

*Preparing for the M.Sc. Defense:*

The details of the M.Sc. defence are provided in section 3.6. (iii). In preparation for the M.Sc. defense, you will need to:

**a)**Ask your supervisor the name of an additional examiner, who must be different from the MSc supervisory committee member and who serves also as Chair of your M.Sc. defense.

**b)** E-mail the MSc thesis draft to the examination committee at least two weeks before the date of the defense, which has to occur within 24 months from the start of the MSc.

**d)** Schedule the MSc thesis defense at a time suitable for you and the professors involved in the defense.

**e)** Please make sure to bring to the M.Sc. defense three forms: *i.* Report on M.Sc. defense (available [here](https://macdrive.mcmaster.ca/f/fe5509ea746042818a9f/)); *ii.* Final Thesis Submission Sheet; *iii.* McMaster University License (for the last two forms see https://gs.mcmaster.ca/current-students/completing-your-degree/masters-thesis/)

### 3.1.3 PhD Supervisory Committee

The PhD supervisory committee consists of the supervisor and two other faculty members. For students who transferred into the PhD program from the MSc program, this committee is typically the same as the examining committee from the transfer exam. These faculty members are usually, but not necessarily, from within the Department, and additional members may be added at the discretion of the Department.

 Excerpt from the Graduate Studies Calendar (Section 4.4) --- the duties of the PhD supervisory committee will be as follows:

* to assist in planning and to approve the student’s program of courses and research;
* to approve the thesis proposal;
* to decide, within departmental regulations, on the timing of the comprehensive examination and, where applicable, of the language and other examinations;
* to maintain knowledge of the student’s research activities and progress;
* to give advice on research, usually through the student’s supervisor;
* to provide the student with regular appraisals of progress or lack of it;
* to perform such other duties as may be required by the department;
* to report on the above matters annually, in writing, on the approved form to the department, which in turn will report to the Faculty Graduate Committee on Admissions and Study;
* to initiate appropriate action if the student’s progress is unsatisfactory (indicated by a grade of marginal or unsatisfactory in a committee meeting), including any recommendation that the student withdraw, for approval by the department and the Faculty Committee on Graduate Admissions and Study;
* to decide when the student is to write the thesis and give advice during this process;
* to act as internal examiners for the student’s thesis;
* to act as members of the examination committee for the final oral when so appointed.

 The PhD supervisory committee must meet at least once per year, *before November 30th*, to review the student's progress. It is the joint responsibility of both the supervisor and student to ensure that supervisory committee meetings take place at the proper times. With respect to the timing of PhD committee meetings, important points are:

* + For students with a January or May start date, a PhD committee meeting must be completed before November 30th of the same year (even if you had an M.Sc. committee meeting and/or transfer exam within this time period - this is a regulation from graduate studies).
	+ For students with a September start date, a PhD meeting must be completed before November 30th of the following year, but an earlier meeting is strongly encouraged.
	+ Please note that ~$8,000 of your PhD funding will not be transferred from grad studies to our department if your PhD committee meeting does not happen before the end of November each year, so it is very important that students and supervisors ensure that this happens!More frequent meetings may be held at the student's or committee's request.

Before each meeting, students should reach out to the Graduate Program Administrator to initiate a supervisory committee meeting report (chemgrad@mcmaster.ca). The report will arrive be email – complete the first two pages of the report and follow the instructions that accompany that email.

 All PhD committee meetings will involve an oral presentation detailing progress and results since the last meeting (or transfer meeting), accompanied by questions from committee members and discussion of the results and future directions.

 The exact format of reports or documentation required for a meeting may vary between research groups. Check with your supervisor before your first PhD meeting. Most committees will require a written report of progress, results, and future work. This must be delivered to the committee members at least one week before the meeting. Some committees may only require a hard copy of the slides from the oral presentation, also delivered to the committee members one week before the meeting. In all cases, any publications or drafts of publications since the last meeting should be appended to the report. Students are strongly encouraged to write up completed work continuously throughout their studies rather than waiting to write everything in the thesis at the end of their studies. Please include a summary page at the beginning of your report.

###

### 3.1.4 Supervisory Committee Report Forms

 Supervisory committee meetings must be officially recorded by completing a PhD Supervisory Committee Meeting Report form online by asking the Graduate Program Administrator to initiate the report (email chemgrad@mcmaster.ca).

 Some sections of the report must be completed by the student *before* the committee meeting. The supervisory committee completes and electronically approves the report at the end of the meeting or as soon as possible after the meeting. The student then has the opportunity to read the committee's comments and approve the report. It is the joint responsibility of the student and the supervisor to see that the online report of each meeting are submitted promptly within a few days after the meeting. While MSc reports remain in the Department, PhD reports are electronically forwarded to the School of Graduate Studies and saved as ‘milestones’ in the student’s record, after approval by the Associate Chair of Graduate Studies. More information about Ph.D. supervisory committee forms in Mosaic is available [here](https://socialwork.mcmaster.ca/documents/supervisory-committee-meeting-report-guide-new-online-system.pdf).

 On the report, each committee member must indicate whether the progress made by the student has been excellent, good, satisfactory, marginal or unsatisfactory. If an unsatisfactory grade is given by any member of the supervisory committee, another committee meeting must be held within three to six months to re-assess the student's progress. A specific course of action will be recommended to help ensure a satisfactory result at the next meeting. The Associate Chair may be invited to attend this meeting (as a non-voting member) at the invitation of either the student or the supervisor.

If progress is deemed to be unsatisfactory (based on a rating of unsatisfactory or marginal by *all* committee members in a committee meeting), the supervisor will confer with the Associate Chair (Graduate Chemistry) and/or the Associate Dean of Graduate Studies (Science) to decide what further course of action to take, which could include asking the student to withdraw from the program.

 In all cases, a student will be asked to withdraw from the program if progress is deemed to be unsatisfactory (as determined by unanimous unsatisfactory or marginal supervisory committee ratings) at two consecutive supervisory committee meetings.

## 3.2 Chemistry Degree Requirements

* **MSc Degree**

 The minimum course requirement for the MSc degree is five graduate modules or the equivalent, including Chem 700, with the remainder selected from Chemistry 700-level courses, 600-level courses (one module credit each; a maximum of one 600-level course may be included in the minimum course requirement), or extra-departmental graduate courses (usually full-term graduate courses worth two module credits each). Students are strongly encouraged to complete a minimum of two prescribed modules within their sub-discipline, and all extra-departmental courses must be relevant to the student's research and approved by the supervisor. *Additional courses beyond the minimum requirement may be recommended by the supervisory committee.*

 For graduate students, the minimum passing grade for any module or course is B-.

 MSc candidates must also present a departmental research colloquium (see below). In addition, a thesis embodying the results of original research must be defended in a final oral examination.

 Students who have satisfactorily completed the requirements for the MSc degree and have made satisfactory progress in their research may apply to the Department for transfer to the PhD program, without first satisfying the MSc thesis requirement. The transfer must occur within 22 months of starting the M.Sc. degree. In the case of an early transfer, the requirement for a departmental research colloquium can also be fulfilled during the year following the transfer. The transfer examination involves the submission and defence of a report detailing the student's research progress and a comprehensive proposal for future research (see above).

* **PhD Degree**

There is no course requirement at the Ph.D. level for students who have completed the M.Sc. requirements (listed [here](https://academiccalendars.romcmaster.ca/preview_program.php?catoid=46&poid=23738)). Students with direct entry into the Ph.D. program (without first completing an M.Sc.) must complete [CHEM 700](https://academiccalendars.romcmaster.ca/preview_program.php?catoid=46&poid=23739&hl=%22chemistry%22&returnto=search#tt2749) and a minimum of two prescribed modules within their sub-discipline (See [Chemistry Courses](https://chemistry.mcmaster.ca/graduate/chemistry/current-students/12-graduate/302-graduate-courses.html)), and must present a departmental research colloquium. However, in all cases, additional courses may be recommended by the supervisory committee.

A student who enters the Ph.D. program with an appropriate M. Sc. degree from another university must complete [CHEM 700](https://academiccalendars.romcmaster.ca/preview_program.php?catoid=46&poid=23739&hl=%22chemistry%22&returnto=search#tt8012) and a minimum of two prescribed modules, or the equivalent, and present a departmental research colloquium (see [here](https://academiccalendars.romcmaster.ca/preview_program.php?catoid=46&poid=23739#DepartmentalColloquiaAndSeminars)). Additional courses may be recommended by the supervisory committee in cases where background is deemed inadequate for the research being undertaken.

*Additional courses may be recommended by the supervisory committee in cases where background is deemed inadequate for the research being undertaken.*

All Ph.D. candidates must pass a Comprehensive Examination (described in more detail in Section 3.3), normally taken within the first 20 months after beginning Ph.D. work (with an upper limit of 24 months set by Graduate Studies) that tests breadth of knowledge within the student’s major field of study. The Comprehensive Examination will require the submission of a document that provides a review of a relevant, current field of research, along with an original proposal for research. The defence will consist of a 20-minute oral presentation, followed by an oral examination.

 A thesis embodying the results of original research must be defended in a final oral examination. In their final year of study, PhD students must present a departmental seminar on their research before defending their thesis. Details about the thesis submission process can be found [here](https://gs.mcmaster.ca/sites/default/files/resources/the_student_guide_to_the_phd_defence_process_0.pdf).

## 3.3 Comprehensive Examination

 The comprehensive examination provides practice in developing and defending new research ideas and is designed to foster creative and broad critical thinking. It involves a literature review and research proposal, and its discussion in a broader context. All comprehensive examinations are required to occur by the end of the second year of PhD studies. Fall term comprehensive exams will take advantage of McMaster Reading Week in October (no classes or TAing) while Winter term exams take advantage of McMaster Reading Week in February (no classes or TAing).

The **Scope of Proposal** must be significantly different from the immediate research project being carried out by the student but can be within the same general field. For example, a student in an organic synthetic group can propose to do a synthesis of a natural product. However, the methodology required should be different than what the student is using in their research.

Graduate students learn to discuss new research ideas throughout their studies. For example, your supervisory committee meetings are good places to learn how to generate and discuss ideas, and to become familiar with the fundamental concepts in your area of research. The “comp” is just one more opportunity to do this, and also provides good practice for your thesis defense.

Ideas for proposals often come from current literature or seminars, or may be extensions of your current research or course work (but not too closely related). Sometimes it helps to ask yourself what you might like to work on in a new post-doctoral, industrial or faculty position. Proposals may involve the preparation of new compounds, the study of reaction mechanisms, or the design of new ways to measure or predict compositions and properties. Your supervisor will work with you to identify and define two suitable proposal topics. Your two topic outlines should convey the scientific questions, and your excitement about pursuing them.

You should strive to challenge yourself by choosing a topic that you are interested in but know little about:

* this enhances your learning experience
* if your topic is too close to your research, the supervisory committee will be familiar with it and will ask harder questions!

**Mechanics** – In consultation with your supervisor, you must come up with 2 viable topics for your comprehensive exam. The 2 topics should be provided to your committee 2 weeks prior to the start of the exam. Topic outlines are 1-page documents that provide 1-2 paragraphs about the topic, as well as a brief description of the direction the proposal will take. Each outline should include ~5 leading references.

* The examining committee (PhD supervisory committee) will look at the two topics and will choose one for you to do.
* On the first day of the exam (5 weeks before the scheduled oral exam date), you will receive an email from the associate chair (grad studies) letting you know which topic the committee has chosen.
* You have 2 weeks to provide a rough draft of the document, which will be reviewed by the committee. Within a week, the committee will provide recommendations about things to focus on in the final document.
* You will have 1 more week to complete and polish the document (sometimes an extension of 1-3 days is given if extensive revisions are needed).
* The final document must be submitted 1 week before the scheduled oral exam date.

**The Document** – a 20-page document (double spaced, not including figures, references, title page) will be submitted at the end of the 4-week exam period. This document should contain the following:

* a 10-page review of the field that provides an overview of what has been done, and what are the problems that remain unsolved, the central questions that are still outstanding or the areas that remain unexplored.
* A 10-page proposal that details the original research you want to do in the proposed field.
	+ This should include a clear statement of the driving hypothesis that you plan to test, the aims of the proposal, and a discussion of the experimental plan designed to test your hypothesis.
	+ The experimental plan should include an explanation of the key methodologies as well as positive and negative controls and problem mitigation plans.
	+ In terms of the scope of the proposal, you should pretend that you are a starting professor or a new employee at a company and need to employ 1-3 people for ~5 years with your ideas, e. g. include a Gantt table outlining who does what and when.
* You need to propose a hypothesis or an idea that is:
	+ - **Novel** (has not been done before)
		- **Justifiable** (you should be able to convince your committee that the research is worthy of taxpayer’s or company’s money - i.e. it will yield results of scientific interest/value)
		- **Feasible** (you are qualified to carry out the research, you are familiar with what is needed to succeed, and the research has a reasonable chance of success)
* You should expect to read dozens of papers on the topic (much of the literature review should be done as part of initial preparation of the two topics).
* Format: the document should be on 8.5" × 11" pages, double-spaced, using 12 pt. font (Times New Roman is preferable), with margins set at a minimum of ¾ inches (1.87 cm), and pages numbered sequentially.

**The Oral Exam** – the actual exam consists of a 15-20 minute presentation by the student, giving an overview of the field and a description of the proposed research.

* The presentation is followed by two rounds of questioning by the committee.
* Questions can be very broad in scope and will assume a sound understanding of undergraduate-level concepts. Typically, questions start with something related to the comprehensive topic and submitted document but can then extend to fundamental concepts that the student is expected to know.

**At the end of the oral examination:** the committee will deliberate briefly, and then provide the student with their decision and feedback. The possible outcomes are:

1. Comprehensive exam passed,
2. Comprehensive exam passed, with some required course work or readings,
3. Retake oral part only, within 2 months, or
4. Retake entire comprehensive exam, within 2 months.

## 3.4 Graduate Courses

 The Department of Chemistry & Chemical Biology offers graduate courses in the form of modules, which are short quarter courses of six weeks duration with generally 3 hours of lectures per week. Approximately eight to ten different modules are offered every year in four time periods, two in the Fall term (Sept-Oct & Nov-Dec) and two in the Winter term (Jan-Feb & Mar-Apr). Each year, available graduate courses are listed in Mosaic before the end of the Summer.

### 3.4.1 Zero-credit Grad Courses Required by Grad Studies

 All graduate students, including part-time students, must complete and pass the course SGS‑101 (Academic Research Integrity and Ethics) within one month of beginning graduate studies at McMaster; the deadlines are given here: https://gs.mcmaster.ca/how-to-enrol-in-and-complete-sgs-101-and-201/. 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. All students are required to take and pass SGS-101. Students may not graduate or register in subsequent academic year without having successfully completed this course.

 All graduate students are also required to complete and pass SGS-201 (Accessibility for Ontarians with Disabilities Act; AODA), which can be completed on-line [through](http://through) Avenue to Learn. Students may not graduate or register for subsequent years in their program until they have completed their required training.

### 3.4.2 Sessional Dates, Add/Drop Deadlines

 Sessional dates and add/drop deadlines for courses and modules are listed in the Graduate Calendar and change each year. Note that the add/drop deadlines are not the same as for undergraduate courses.

### 3.4.3 Chemistry Graduate Course List

 Brief descriptions for all Chemistry modules (offered periodically) are available by scrolling down the page at <https://www.chemistry.mcmaster.ca/graduate/chemistry/current-students.html#graduate-courses>. For more detailed information about the content and format of particular graduate modules, students are encouraged to consult with the course instructors directly.

### 3.4.4 Auditing (rather than enrolling in) Graduate Courses

 Graduate students may audit graduate courses, in which case a record of the course appears on the student's transcript (as audited, but with no grade). For a course to be audited, the student is required to attend >80% of the lectures, or the equivalent for non-lecture-based courses. Note: it is only possible for grad students to audit grad courses, not undergrad courses, and to audit, students should **not** register through Mosaic). In order to audit a graduate course, a graduate student should:

* Obtain a copy of the course outline from the course instructor and discuss the requirements for auditing the course.
* Before the start of the course, fill out the top part of auditing form (<https://gs.mcmaster.ca/app/uploads/2019/10/audit_course_fillable.pdf>), sign the form, and obtain signatures from their supervisor and the course instructor.
* At end of the course, the instructor will check the appropriate box on the auditing form to confirm whether the student attended at least 80% of the lectures (or equivalent for courses with a non-lecture-based component).
* If the course was successfully audited, the form is then provided to the Graduate Program Administrator (chemgrad@mcmaster.ca), who will obtain a signature from the chair or associate chair, grad studies, and then send the form over the graduate studies, who will manually input the record of Auditing into Mosaic.
* If the course was not successfully audited, no further action is taken and no record of the course appears on the student's transcript.

### 3.4.5 Module / Course Failure

 The university stipulates that the minimum passing grade is B‑ in all graduate courses or modules. A grade below B‑ is considered a failure. All instances of failures are reviewed by the appropriate Faculty Committee on Graduate Admissions and Study or the Associate Dean. In the absence of a favorable departmental recommendation to allow the student to continue, the student will be required to withdraw. Those allowed to remain in the program must either repeat or replace the failed course. Students who fail a second course will be required to withdraw from the program without exception.

### 3.4.6 Course Assessment by Students

 Student feedback on all Chemistry & Chemical Biology graduate modules is requested. Each student will be sent a course evaluation that will be completed online. Students remain anonymous. The information will be provided to the instructor to help to maintain and improve the usefulness and quality of our module offerings.

## 3.5 Seminars and Colloquia

 ***All graduate students are expected to attend departmental seminars and colloquia regularly.***

 MSc and direct-entry PhD students are required to present a departmental colloquium on their research progress in their second year of study (Chemistry Graduate Colloquium days are typically held at the ends of the Fall and Winter terms each year; talks are usually 25 min. including time for questions). PhD students must also present their research work in a departmental seminar (50 min. including questions) during their final year of study before defending their thesis. Contact the Graduate Program Administrator (chemgrad@mcmaster.ca) to reserve a date for your seminar presentation.

 Be sure to investigate the AV capabilities of your seminar room ahead of time.

## 3.6 Thesis and Oral Defence

 Students should consult the "Guide for the Preparation of Masters and Doctoral Theses" <https://gs.mcmaster.ca/current-students/completing-your-degree/> The guide explains the style and format preferred by the School of Graduate Studies. An archive of MSc and PhD theses from McMaster is available for download in PDF format on MacSphere ([https://macsphere.mcmaster.ca](https://macsphere.mcmaster.ca/)).

For a list of MSc and PhD thesis from our department in reverse chronological order going back all the way to 1946, try this link:

<https://macsphere.mcmaster.ca/simple-search?location=&query=&filter_field_1=department&filter_type_1=contains&filter_value_1=Chemistry&rpp=100&sort_by=dc.date.issued_dt&order=DESC&etal=0&submit_search=Update>

 The submission of MSc theses is arranged within the Department according to the process outlined below. On the other hand, PhD thesis submissions and defences are organized by the School of Graduate Studies, <https://gs.mcmaster.ca/>.

 Process for completing an MSc thesis:

1. The student is given permission to write the thesis when they have conducted sufficient research to justify preparation of a thesis. Permission to write may be conditional (i.e., permission to write after a defined list of experiments are complete).
2. Drafts of chapters of the thesis should be provided to the supervisor for review and comments/corrections as thesis writing progresses. A first complete draft of the thesis document is also submitted to the supervisor for review and critical comments. After suitable revisions and approval by the supervisor, the revised version of the thesis may be submitted to the Examination Committee, which consists of the supervisory committee and one other qualified faculty member selected by the supervisor. The final version of the thesis must not exceed 150 pages (at least 12 pt. font, double-spaced letter-size paper), including all figures, and tables, but excluding table of contents, title page, references and appendices.
3. The MSc thesis defence is organized by the supervisor at least two weeks after submission of the thesis. The MSc defence requires an examination committee composed of your two-member M.Sc. supervisory committee (see above) and an additional examiner who serves also as chair. The defence is open to the public. The chair will usually start the defence by asking all persons except the Examination Committee to leave the room, in order to discuss the format of the examination and the responsibilities of the examiners. The examination will consist of an oral presentation (15 - 20 minutes) by the student, followed by a series of questions asked by the members of the Examination Committee in turn. The defence should not normally exceed two hours in duration. At the end of the defence, the Examination Committee will consider their verdict in closed session. The Chair will then call the student into the room to give the committee's decision.

iv) When the student has made any further corrections and revisions suggested by the examiners to the satisfaction of the supervisor and Examination Chair, then the student submits the final version to the School of Graduate Studies electronically. The detailed instructions and forms are at <https://gs.mcmaster.ca/current-students/completing-your-degree/masters-thesis/>. The MSc degree will be awarded on receipt of a thesis submitted electronically according to the regulations of the School of Graduate Studies.

Process for completing a PhD thesis:

1. The student asks the supervisor for "permission to write" the thesis. This request is considered formally at a Supervisory Committee meeting, usually after the student has summarized his/her research. The majority of the committee must agree with the request. Permission to write indicates that the student has conducted sufficient research to justify preparation of a thesis. The Supervisory Committee may give conditional permission to write (i.e., permission to write after a defined list of experiments are complete).
2. Drafts of chapters of the thesis should be provided to the supervisor for review and comments/corrections as thesis writing progresses. A first complete draft of the thesis document is also submitted to the supervisor for review and critical comments.
3. Once the thesis is complete, the defence process must be initiated by the student electronically in Mosaic. After logging into Mosaic, navigate to your Student Centre and under the “My Academics” tab select 'other academics' and then select ‘Thesis Intent-Defend my Thesis’ to initiate the process. At this point, you and your supervisor will be asked to select either the Standard Process (where SGS organizes all aspects of your defence; you must give at least 8 weeks notice for this process) or the Accelerated Process (your supervisor organizes all aspects of your defence and the timing is left up to you).
4. If you have chosen the Standard Process, within the following week, your supervisor will suggest 3 possible external examiners, and your supervisory committee will have to approve this selection. From this list of recommended external examiners, SGS will contact one examiner and secure their agreement to read the thesis and provide a written report. If you have chosen the Accelerated Process, your supervisor completes all of these steps.

iii) After approximately 2 weeks, the candidate is required to submit an electronic copy of their thesis (pre-defence version) and to suggest a date for the thesis defence (in consultation with his/her committee members). In the remaining time before the defence, the examining committee will read the thesis and prepare questions and comments. The external examiner will also report back to the Dean of Graduate Studies whether or not the thesis is acceptable for defence. If it is acceptable, the School of Graduate Studies will confirm the date and time, and will arrange the location for the examination.

iv) In the Standard Process, the PhD defence is organized by the Thesis Coordinator in the School of Graduate Studies (if Accelerated, by your supervisor). The Examination Committee will consist of the supervisor, the Supervisory Committee members, the external examiner (if they wish to attend in person or virtually; if not, an internal external examiner - a McMaster faculty member from outside of the department - will typically take their place) and the Examination Chair.

v) A PhD Examination Chair, representing the Dean of Graduate Studies, will oversee the PhD defence; the Examination Chair does not read or evaluate the thesis and does not have voting privileges. The examination is open to the public. The examination is conducted in essentially the same manner as described for the MSc defence (see above). Any questions posed by an external examiner unable to attend the examination will be asked by either the supervisor or the Chair in proxy.

vi) When the student has completed all revisions and corrections, the final thesis is submitted to the School of Graduate Studies electronically. Please follow this link for the details regarding the submission of the theses, <https://gs.mcmaster.ca/current-students/completing-your-degree/doctoral-degree/> and the forms that are required. The PhD degree will be awarded on receipt of a thesis according to the regulations of the School of Graduate Studies.

##

## 3.7 Review of Academic Decisions

Excerpt from the Graduate Studies Calendar (Section 6.3):

* The University has a responsibility to provide fair and equitable procedures for the lodging and hearing of student complaints arising from University regulations, policies and actions that affect them directly. The procedures described in the Student Appeal Procedures are intended to provide a mechanism to remedy injustices and may culminate in a hearing before the Senate Board for Student Appeals.
* Students are strongly encouraged, however, to pursue any complaint or grievance through informal channels, before following the formal procedures. Experience has shown that many complaints can be resolved satisfactorily through informal communication.
* A graduate student should consult with the Chair of his/her Supervisory Committee (or the Department Graduate Advisor where no committee exists), the Department Chair and/or the Associate Dean of Graduate Studies before beginning the formal appeal process.
* Students should seek remedies for their grievances as promptly as possible, and must do so within six months of the academic year in which the grievance occurred.
* A Master’s or doctoral thesis is specifically excluded from the re-read procedures identified in the Student Appeal Procedures, as is a PhD comprehensive exam. If a student does poorly in any of these examinations, the original examining committee is required to allow the student a second opportunity at the examination after at least a week. If the student fails on that second attempt, no further “re-read” of the examination is permitted.

The full procedures for student appeals are available at <https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/>.

# 4. SCHOLARSHIPS AND AWARDS

##

## 4.1 External Awards

External awards tenable at the University are given by federal and provincial government agencies and other private organizations that rely on McMaster University to recommend candidates, facilitate payments, and ensure compliance of terms and conditions of the award. Examples of these agencies/awards include the Canadian Institute of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), and the Ontario Graduate Scholarships (OGS).

The application process for these external awards is usually held in the year prior to receipt of the award (for example, competitions are held in the Fall for awards starting in May or September of the subsequent year, or January of the year following this). Applications and eligibility requirements are usually indicated on respective government agency web sites by late August and the Graduate Program Administrator will circulate further details from the Graduate Scholarships Team around this time.

The major external scholarships available to Chemistry graduate students are offered by the Natural Sciences & Engineering Research Council (NSERC) – CGS-D at the doctoral level and CGS-M at the master’s level - and Ontario Graduate Scholarships (OGS).

Award application deadlines vary, but CGS-D applications are typically due in early October of each academic year (there may also be a departmental deadline in late September), while CGS-M applications are due later; typically early December.

 In case of a successful application, students must provide a copy of the award notice of any externally funded scholarship to the Graduate Program Administrator. As the recipient of a CIHR, NSERC, SSHRC, OGS or similar award, the student may also be required to complete acceptance/refusal forms, and provide copies to the department. If the student changes their status, or is granted a leave of absence, the student may be required to notify the external agency as outlined in the guidelines (or terms and conditions) of the award. It may also be the case that the external award is subject to restrictions that require altered terms of the original letter of offer, or else forfeit the award.

**NSERC (CGS-D and CGS-M)**

 All McMaster applicants are assessed and ranked by a central university scholarships committee. Then, the applications are forwarded to NSERC along with these rankings, and the NSERC committee compares the rankings from all universities. After NSERC award winners have been identified, runners-up on the university ranking list will be offered OGS awards.

 All MSc level NSERC awards are CGS-M (Canada Graduate Scholarship; Masters) awards.

PhD level NSERC awards are PGS-D (Postgraduate Scholarship; Doctoral) and CGS-D (Canada Graduate Scholarship; Doctoral) awards; there is just one competition for NSERC doctoral awards (i.e. students do not apply separately for PGS-D and CGS-D awards), and the distinction is that only the top tier of NSERC doctoral award recipients are awarded a CGS-D award.

NSERC CGS-M Awards are awarded for 1 year, and selection criteria are heavily weighted on a student's academic performance in undergraduate courses. NSERC CGS-D awards are for 2-3 years to PhD students. Their selection criteria place more weight on research accomplishments, particularly publications and oral or poster presentations at conferences.

**OGS**

 As noted above, all students who submit an NSERC award application will be considered for an OGS award. Therefore, all NSERC-eligible students who wish to be considered for an OGS award, should submit an application for an NSERC award. After ranking of all McMaster applications by a central scholarship committee, and once NSERC award winners have been identified, runners-up on the ranking list will be offered OGS awards.

 For students who wish to be considered for an OGS award but are not NSERC-eligible (e.g. students who are not Canadian citizens or permanent residents), a small number of additional OGS awards (typically 2 or 3) are provided to the program, to be allocated by the Scholarship Committee in a separate competition, with applications due each year in the Spring (typically in April).

## 4.2 Internal Awards

**University Awards**

 University awards (e.g. Queen Elizabeth II Graduate Scholarships in Science and Technology (QEII-GSST), Ontario Graduate Fellowships, OGS International Awards, NSERC CGS-Michael Smith Foreign Study Supplements) are made primarily on the basis of academic qualifications set by the Scholarships Committee of the School of Graduate Studies. Students will receive notification of procedures for applying for these awards as application deadlines approach each year.

**Departmental Awards**

 A number of Chemistry & Chemical Biology scholarships and bursaries are awarded at the end of each academic year (in the Summer) by the School of Graduate Studies upon recommendation by the Department’s Graduate Reviewing and Scholarships Committee. The selection criteria include performance in course work and in thesis research (publications, conference presentations etc.) as well as citizenship within the department or the university.

 Departmental awards include:

* International Excellence Awards
* Faculty Ontario Graduate Scholarship (OGS) Awards
* The Brian McCarry Graduate Chemistry Scholarship
* The Dr. Ronald J Gillespie Prize
* Impact Awards (for students in Chemistry who have published a particularly high impact research article or communication with the student typically as first author)
* Manske-McLean and Brooman Bursaries
* The James A Morrison Scholarship and Arthur Bourns Ontario Graduate Scholarship (both are in-name-only awards for existing OGS winners)
* Ed Hileman Travel Awards to assist with the cost of conferences in North America (value $500)[[2]](#footnote-2)
* Russell Bell Travel Awards to assist with the cost of conferences outside of North America (typically $1000-2000)2

*Note: the GSA also offers $500 travel awards with 2 deadlines for applications each year, typically in September and May,*

## 4.3 NSERC Postdoctoral Fellowships

Students considering applying for an NSERC PDF are encouraged to consult the NSERC web site (http://www.nserc-crsng.gc.ca/Students-Etudiants/PD-NP/PDF-BP\_eng.asp), and to discuss their plans well in advance with their supervisor and members of their supervisory committee. Note that, in most cases, students will complete their postdoc at another school and will apply through that institution, not McMaster.

# 5. THE ADMINISTRATIVE ORGANIZATION

* **The University**

 All matters pertaining to Graduate Studies at McMaster University are the responsibility of the Dean of the School of Graduate Studies. The Dean of Graduate Studies may delegate certain responsibilities to the Associate Dean of Graduate Studies (Science).

* **The Department of Chemistry & Chemical Biology; Chemistry Graduate Program**

 Within the Department of Chemistry & Chemical Biology, the Chair and the Associate Chair, Graduate Studies are responsible for all aspects of the graduate program in collaboration with the relevant departmental graduate committees. The Departmental Administrator and the Graduate Program Administrator maintain academic, financial and administrative records for each graduate student. They and the Associate Chair also serve as liaison between graduate students and the School of Graduate Studies.

* **Associate Chair, Grad Studies in Chemistry**

 The Associate Chair, Graduate Studies co-ordinates the work of the graduate committees. Together with the Teaching Assistant (TA) Coordinator, the Chair is responsible for the assignment of TA duties to graduate students. The Associate Chair also becomes involved in issues requiring informal or formal intervention related to course work, supervision, appeals, *etc*.

* **Chemistry Graduate Program Advisory Committee**

 The committee advises and assists the Associate Chair in identifying strengths and weaknesses of the graduate program in chemistry and implementing improvements. The committee is composed of four faculty members, the Graduate Program Administrator, graduate student representatives, and the Associate Chair.

# 6. FINANCIAL MATTERS

## 6.1 Minimum Financial Support

 Students who have been in the PhD program for less than 4 years are "in time", those who have been in the program for more than 4 years but less than 6 are "over time", and any students who have been in the program for 6 or more years are "out-of-time", and are required to withdraw from the program unless they successfully petition the School of Graduate Studies for special consideration. M.Sc. students are classified similarly, with the "in time"/"over time" and "over time"/"out of time" transitions after 2 and 3 years, respectively.

A minimum level of financial support (stipend) is guaranteed for all in-time graduate students, which consists of a Teaching Assistantship (TA) and a research scholarship paid from their supervisor's research grant.

 Some students win scholarships, fellowships or bursaries which provide financial support through some or all of their time as graduate students. The stipends of students with external or internal scholarships are higher than those without scholarships.

## 6.2 Teaching Assistantships

 At the beginning of each academic year, TA positions are assigned by the TA co-ordinator in consultation with the Associate Chair and the course instructors. TA salaries and conditions of employment are regulated by the School of Graduate Studies and CUPE, Local 3906.

 New graduate students are normally assigned full TA duties equivalent to 260 hrs per year, in 4 units of 65 hrs each.

 Students holding major external awards (e.g. NSERC, OGS) are normally assigned reduced teaching loads; typically, 1 unit per year. for NSERC-CGSD, 2 units per year for NSERC-PGS-D (awarded through the same application process as CGS-D) or CGS-M, and 3 units per year for OGS. More information can be obtained from the TA coordinator or the Associate Chair.

## 6.3 Tuition

 Tuition fees for graduate students are determined annually by the Board of Governors of the University. Applicable tuition fees and other miscellaneous fees are listed in the current Graduate Calendar (Section 5.1) <http://future.mcmaster.ca/money-matters/cost-estimator/>.

 For students paid for a period which is less than 12 months, tuition fees for the academic year, September to August, will be deducted in monthly instalments during that period (*i.e*., if a student is being paid for four months, all the fees will be deducted during that period).

 Students must be registered and pay tuition until their thesis (MSc or PhD) has been submitted to the School of Graduate Studies (unless a student is on leave of absence or decides to withdraw in good standing and then re-apply at a later date, typically for the purpose of submitting and defending the PhD thesis). If a student completes the degree requirements before the end of the academic year, they will be entitled to a refund. (This does not apply to students who are re-admitted.) The refund is based on the number of full months remaining in the academic year at the time when the academic change form is received by the School of Graduate Studies.

Full-time Ph.D. students (Canadian and international), who have reached term 13 or greater of their Ph.D. studies, will be charged tuition at a discounted fee rate. The discounted tuition rate is normally equal to 1/2 of the Canadian tuition rate. Students on leave of absence do not pay tuition fees but do pay mandatory supplemental fees. Students who are on leave for a complete academic year do not pay mandatory supplemental fees. Students who have “withdrawn in good standing due to time limit” do not pay fees until readmission.

 Graduate studies publishes a deadline by which time theses must be submitted for each academic term. Deadlines for each term are published online under the "Sessional Dates" heading with the Graduate Calendar.

## 6.4 Student Pay

 The following information has been compiled to assist you in understanding your stipend as a full-time graduate student:

**Where handled**

The Graduate Program Administrator enters payroll information into the database and obtains authorization from supervisors and research finance to disburse this funding. SGS will send you an email each year with a summary of the payments you should expect to receive in each term.

**Employee Number**

 Each student has a student number, which is the same as their employee number

**When Available**

 TA and RA payments are deposited directly into your bank account biweekly on Fridays. Research stipends and scholarship payments, in contrast, are deposited into your account as a lump sum at the beginning of each term.

 Vacation pay is included in your TA wages, as per Article 20 in the collective agreement between CUPE and McMaster University. You will not receive a lump sum payment at the end of the year.

## 6.5 Taxes

 The University is required by law to deduct Unemployment Insurance and Canada Pension premiums on all *employment* income, (*e.g.,* TA payments). Federal Income Tax is assessed on allincome, including some scholarships and bursaries. You may obtain a Tax Exemption Return (form TD1) from the School of Graduate Studies if you have additional exemptions (*e.g.,* you are supporting a spouse in Canada) which will change the rate at which you are taxed.

## 6.6 Union Dues

 If you receive a TA, you are a member of CUPE (Canadian Union of Public Employees Local 3906). Union dues will be deducted for each month in which TA wages are received. Copies of the current agreement between CUPE and McMaster University are available at the School of Graduate Studies (<https://hr.mcmaster.ca/resources/collective-agreements-contracts/>)

## 6.7 Dental Plan

 All full-time graduate students receiving a TAship have Dental Plan premiums deducted each month for the full year (September to August). If you will not be receiving any cheques from the University during the May to August term but will continue to be registered as a full-time graduate student, the premiums for that term will be deducted in April along with the April premium.

 Provisions for opting out of the Dental Plan or for obtaining family coverage are covered in a separate document. Please contact the CUPE office for information.

## 6.8 Vacation, Leave of Absence, Maternity or Parental Leave

 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. Students who absent themselves from campus for more than two weeks during the fall or winter terms or four weeks in the summer term, without permission from the Department and the appropriate Associate Dean of Graduate Studies, will be deemed to have withdrawn voluntarily from graduate study. Students may arrange, through the Department and the Associate Dean of Graduate Studies, to be “full-time off-campus” for periods of up to a year. In cases of unauthorized absence, the student will have to petition for readmission. The appropriate Committee on Graduate Admissions and Study will rule on each request on a case-by-case basis. No guarantee of readmission or of renewal of financial arrangements can be made. For detailed information on leaves of absence and parental leave, see: <https://academiccalendars.romcmaster.ca/content.php?catoid=37&navoid=7553#2-5-7_leaves_of_absence>

**Excerpt from the CUPE collective agreement (Section 20.02):**

 Employees will be allowed a total of two (2) weeks' vacation, which may be taken during the mid-term recess or subsequent to the completion of employment duties within an academic term during which they are employed. Scheduling of vacations shall be subject to the academic and residency requirements of the employee's programme of studies.

 Procedures concerning Leaves of Absence are described in the Graduate Studies Calendar (Section 2.4.5). Request forms are available at <http://graduate.mcmaster.ca/resources> (Petitions for Special Consideration to the Committee for Graduate Admissions and Study).

##

## 6.9 Financial Statement

 During August, a letter with details of the financial support for the coming academic year is sent to each student. The details will include any external or internal awards, TA salary and any contribution from the supervisor's grant(s).

# 7. ACADEMIC INTEGRITY

 The Senate Academic Integrity Policy specifies the procedure to be followed in the event that a student, graduate or undergraduate, is charged with academic dishonesty. Copies may be obtained from the Office of Academic Integrity. (<https://www.mcmaster.ca/academicintegrity/>)

 Excerpt from the Graduate Studies Calendar (Section 6.1): McMaster University demands scholarly integrity of all its members.

**Academic Work**

 Academic work includes any academic paper, term test, proficiency test, essay, thesis, research report, evaluation, project, assignment or examination, whether oral, in writing, in other media or otherwise and/or registration and participation in any course, program, seminar, workshop, conference or symposium offered by the University.

For graduate students, comprehensive/qualifying exams, any research work, and thesis work (a thesis proposal, or thesis draft, or draft of one or more chapters) also constitute academic work and must adhere to standards of academic integrity.

**Academic Dishonesty**

**Definition**

 Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage.

 Wherever in this policy an offence is described as depending on “knowingly,” the offence is deemed to have been committed if the person ought reasonably to have known.

 Students and applicants to graduate programs are responsible for being aware of and demonstrating behaviour that is honest and ethical in their academic work. Such behaviour includes:

1. adhering to the principles of academic integrity when submitting application materials
2. following the expectations articulated by instructors for referencing sources of information and for group work;
3. asking for clarification of expectations as necessary;
4. identifying testing situations that may allow copying;
5. preventing their work from being used by others, e.g., protecting access to computer files; and
6. adhering to the principles of academic integrity when conducting and reporting research.

 Students are responsible for their behaviour and may face penalties under the Academic Integrity or Research Integrity policies if they commit academic dishonesty or research misconduct.

Graduate students, having been deemed admissible to higher studies, are expected to be competent in the acknowledgement of other people’s work, whether that work is in print or electronic media.

Graduate students are expected to understand the demands of ethical conduct of research and reporting research results and behave ethically and responsibly in conducting and reporting research. All graduate students are responsible for familiarizing themselves with the definition of research misconduct in the University’s policy, namely, “a researcher must be honest in proposing, seeking support for, conducting, and reporting research; a researcher must respect the rights of others in these activities.”

**Research Integrity**

 The University states unequivocally that it demands research integrity from all of its members.  Research misconduct, in whatever form, is ultimately destructive to the values of the University and society; furthermore, it is unfair and discouraging to those who conduct their research with integrity.   This Policy applies to all institutional personnel. The Office of Academic Integrity is the administrative office responsible for the receipt and processing of allegations of misconduct at the investigation stage. A complete list of Policy violations can be found within the Research Integrity Policy.

# 8. WHERE TO GO FOR HELP

##

## 8.1 Academic, research or personal matters

 i) Your supervisor or supervisory committee are the first people to approach with academic or other problems.

 ii) If your supervisor is unavailable or is unable to help, the Associate Chair is the next person to approach for academic matters (or even personal problems).

 iii) If the Associate Chair is unable to help, the next person to approach is the Chair.

 iv) If no one in the department is able to help, the Associate Dean of Graduate Studies (Science) is the final person to contact.

 For purely academic concerns (e.g., issues with graduate courses,comprehensive examinations, thesis defences, transfer from MSc to PhD, external and internal scholarship awards, special events information, program policies and procedures), please contact the Associate Chair.

## 8.2 TA-related matters

 i) The course instructor as your employment supervisor should be your first contact for any concerns related to your TA-ship.

 ii) If you TA assignment is not yet known, or your course instructor is unable to help you, you should approach the departmental TA Coordinator (as listed at the front of this document).

 iii) If the TA Coordinator is unable to help, you may also approach the Associate Chair with your concern.

 iv) If the Associate Chair is unable to help, the next person to approach is the Chair.

 While we would much prefer for all TA-related problems to be resolved within the department, you are a member of CUPE (Canadian Union of Public Employees Local 3906) and have the right to contact your Union Steward for advice on how to proceed.

 If you enjoy teaching, would consider it as part of your future career plans and would like to access resources that help you become a better teacher, you should check out the Paul R. MacPherson Institute for Leadership, Innovation and Excellence in Teaching ([https://mi.mcmaster.ca](https://mi.mcmaster.ca/)).

## 8.3 Complaints and grievances

 It is possible, from time to time, that serious interpersonal disagreements will occur between members of a lab, or between a student and a supervisor. Formal procedures exist to deal with these situations, as detailed in the Graduate Studies Calendar (section 6.3). However, students are strongly encouraged to pursue any complaint or grievance through informal channels before following the formal procedures. Experience has shown that many complaints can be resolved satisfactorily through informal communication with the people listed above.

 If these resolution mechanisms fail, students may also seek the advice of the University Ombudsperson <https://www.mcmaster.ca/ombuds/> or the Human Rights & Equity Services Office <https://equity.mcmaster.ca/>

## 8.4 Personal Counselling

 If you encounter personal difficulties, you are encouraged to approach your supervisor or any other person in the Department that you are comfortable with.

 The Student Wellness Centre (located in MUSC B‑101) offers confidential personal counselling. They are there to help you deal with any issue that is interfering with your well-being, happiness, or ability to succeed at university. All services are provided by psychologists, professional counsellors, or supervised psychology interns. All appointments are private and confidential. To arrange an appointment with a counsellor, contact the SWC reception (call ext. 27700 or visit <http://wellness.mcmaster.ca/> )

## 8.5 Disability Accommodations

Student Accessibility Services (SAS) provides academic accommodation assistance and related supports to students with disabilities at McMaster: <http://sas.mcmaster.ca/>

##

## 8.6 International Students

 The International Student Services provides resources for people whose first language is not English. All of the services are free. The International Student Services offers information and services for students who have recently arrived in Canada. Visit their web site at: <https://iss.mcmaster.ca/>

## 8.7 Student Success

 From the time you accept your offer of admission, up to ten years after graduation, the Student Success Centre (SCC; <https://studentsuccess.mcmaster.ca/> , located in GH-110), will provide services, programs and resources to help you achieve your immediate and future goals. Focus areas are academic support, personal growth, and professional development. Further information on professional skills development is available at: <https://studentsuccess.mcmaster.ca/develop-skills/>

## 8.8 Getting Home Safely at Night

 The Student Walk Home Attendant Team (SWHAT) is a volunteer service within the McMaster Students Union that will walk or bus with McMaster students during the evening hours (7pm-1am) every day of the week, whatever the weather. SWHAT will walk anywhere on campus or off campus from University Plaza to the 403 to the edge of the escarpment. They will even take the bus with you if requested. They can be reached at ext. 27500. Their website is:

<https://msumcmaster.ca/service/swhat/>

*Note that this service may temporarily not operate during the COVID-19 pandemic. Please check their website for updates*

## 8.9 Financial and Administrative Matters

 For all financial matters or other administrative matters, please contact the Graduate Program Administrator at chemgrad@mcmaster.ca.

**Appendix**

**Timelines for Graduate Degree Completion**

***MSc (Thesis)***

|  |  |  |  |
| --- | --- | --- | --- |
| **Fall Entry** | September - December | January - April | May - August |
| Year 1 | Take SGS-101+SGS-201Take Chem 700Apply for major scholarships for your 2nd year. |  | 1st committee meeting (April-May)Consider early transfer to PhD. |
| Year 2 | If planning to transfer to PhD, apply for major scholarships. | 2nd committee meeting (Dec-Feb)Colloquium (April) | Transfer to PhD by end of June, or defend MSc thesis by end of Aug. |
| Year 3 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 4 | OUT OF TIME!! - You can only continue with special permission. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Winter Entry** | January - April | May - August | September - December |
| Year 1 | Take SGS-101+SGS-201 |  | Take Chem 7001st committee meeting (August-September)If planning to transfer to PhD, apply for major scholarships.Consider early transfer to PhD. |
| Year 2 | Colloquium (April) | 2nd committee meeting (April-June) | Transfer to PhD by end of October, or defend MSc thesis by end of Dec. |
| Year 3 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 4 | OUT OF TIME!! - You can only continue with special permission. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Spring Entry** | May - August | September - December | January - April |
| Year 1 | Take SGS-101+SGS-201 | Take Chem 700Apply for major scholarships for your 2nd year. | 1st committee meeting (December-January)Consider early transfer to PhD.Colloquium (April) |
| Year 2 |  | 2nd committee meeting (August-October)If planning to transfer to PhD, apply for major scholarships. | Transfer to PhD by end of February, or defend MSc thesis by end of April |
| Year 3 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 4 | OUT OF TIME!! - You can only continue with special permission. |

***PhD after Transfer from MSc***

*(your clock starts with the term in which your transfer took effect)*

| **Fall Entry** | September - December | January - April | May - August |
| --- | --- | --- | --- |
| Year 1 | Apply for major scholarships for your 2nd year. | If not taken during MSc: Colloquium (April)If you feel ready, you may already take the Comprehensive Exam. |  |
| Year 2 | 1st committee meeting (September-October)Apply for major scholarships for your 3rd year. | Comprehensive Exam |  |
| Year 3 | 2nd committee meeting (September-October)Apply for major scholarships for your 4th year. |  |  |
| Year 4 | 3rd committee meeting (September-October) |  | Departmental SeminarSubmit PhD thesis to SGSDefence |
| Year 5 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 6 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 7 | OUT OF TIME!! - You can only continue with special permission. |

***PhD after Transfer from MSc***

*(your clock starts with the term in which your transfer took effect)*

| **Winter Entry** | January - April | May - August | September - December |
| --- | --- | --- | --- |
| Year 1 | If not taken during MSc: Colloquium (April)If you feel ready, you may already take the Comprehensive Exam. |  | 1st committee meeting (September-October)Apply for major scholarships for your 2nd/3rd year. |
| Year 2 | Comprehensive Exam |  | 2nd committee meeting (September-October)Apply for major scholarships for your 3rd/4th year. |
| Year 3 |  |  | 3rd committee meeting (September-October) |
| Year 4 |  |  | 4th committee meeting (September-October)Departmental SeminarSubmit PhD thesis to SGSDefence |
| Year 5 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 6 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 7 | OUT OF TIME!! - You can only continue with special permission. |

***PhD after Transfer from MSc***

*(your clock starts with the term in which your transfer took effect)*

| **Spring Entry** | May - August | September - December | January - April |
| --- | --- | --- | --- |
| Year 1 |  | 1st committee meeting (September-October)Apply for major scholarships for your 2nd year. | If not taken during MSc: Colloquium (April)If you feel ready, you may already take the Comprehensive Exam. |
| Year 2 |  | 2nd committee meeting (September-October)Apply for major scholarships for your 3rd year. | Comprehensive Exam |
| Year 3 |  | 3rd committee meeting (September-October)Apply for major scholarships for your 4th year. |  |
| Year 4 |  | 4th committee meeting (September-October) | Departmental SeminarSubmit PhD thesis to SGSDefence |
| Year 5 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 6 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 7 | OUT OF TIME!! - You can only continue with special permission. |

***PhD (Direct Entry)***

|  |  |  |  |
| --- | --- | --- | --- |
| **Fall Entry** | September - December | January - April | May - August |
| Year 1 | Take SGS-101+SGS-201Take Chem 700Apply for major scholarships for your 2nd year. |  |  |
| Year 2 | 1st committee meeting (September-October)Apply for major scholarships for your 3rd year. | Comprehensive ExamColloquium (April) |  |
| Year 3 | 2nd committee meeting (September-October)Apply for major scholarships for your 4th year. |  |  |
| Year 4 | 3rd committee meeting (September-October) |  | Departmental SeminarSubmit PhD thesis to SGSDefence |
| Year 5 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 6 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 7 | OUT OF TIME!! - You can only continue with special permission. |

***PhD (Direct Entry)***

| **Winter Entry** | January - April | May - August | September - December |
| --- | --- | --- | --- |
| Year 1 | Take SGS-101+SGS-201 |  | Take Chem 7001st committee meeting (September-October)Apply for major scholarships for your 2nd/3rd year. |
| Year 2 | Comprehensive ExamColloquium (April) |  | 2nd committee meeting (September-October)Apply for major scholarships for your 3rd/4th year. |
| Year 3 |  |  | 3rd committee meeting (September-October) |
| Year 4 |  |  | 4th committee meeting (September-October)Departmental SeminarSubmit PhD thesis to SGSDefence |
| Year 5 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 6 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 7 | OUT OF TIME!! - You can only continue with special permission. |

***PhD (Direct Entry)***

| **Spring Entry** | May - August | September - December | January - April |
| --- | --- | --- | --- |
| Year 1 | Take SGS-101+SGS-201 | Take Chem 7001st committee meeting (September-October)Apply for major scholarships for your 2nd year. |  |
| Year 2 |  | 2nd committee meeting (September-October)Apply for major scholarships for your 3rd year. | Comprehensive ExamColloquium (April) |
| Year 3 |  | 3rd committee meeting (September-October)Apply for major scholarships for your 4th year. |  |
| Year 4 |  | 4th committee meeting (September-October) | Departmental SeminarSubmit PhD thesis to SGSDefence |
| Year 5 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 6 | OVERTIME!! - You can no longer TA. You cannot hold scholarships. Pay by your supervisor is optional. [exceptions apply for COVID-19] |
| Year 7 | OUT OF TIME!! - You can only continue with special permission. |

1. Double-spaced, 12 point font, 2.5 cm margins. Figures, tables, references, and appendices do not count in the page limit. The report should be submitted to committee members one week in advance of the meeting. Any presentations or publications arising from the student's research should be included in an appendix. [↑](#footnote-ref-1)
2. It is highly preferred that the travel refund request related to this award is submitted when the travel awardee is still a graduate student. [↑](#footnote-ref-2)