



Chemical Engineering & Applied Chemistry  
UNIVERSITY OF TORONTO

FACULTY  
OF APPLIED  
SCIENCE &  
ENGINEERING

# Graduate Handbook

**For Current MSc and PhD Students**

Version 4.0  
July 2011

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# 1. General Information

## 1.1. Departmental Contacts

<http://www.chem-eng.utoronto.ca>

Department of Chemical Engineering & Applied Chemistry  
University of Toronto  
200 College Street  
Toronto, ON M5S 3E5  
Fax: 416-978-8605

Incoming faxes and messages will be kept in WB 217 for one day then will be placed in the graduate student's mailbox in the Graduate Student Lounge (WB 247).

What	Who	Where	Email
Building Keys/ Photocopy Cards/ Fax Messages	Ms. Gorette Silva Departmental Assistant	WB 217	<a href="mailto:gorette.silva@utoronto.ca">gorette.silva@utoronto.ca</a> 416-978-3063
Student Mailboxes		WB 247	(Graduate Student Lounge)
Safety Training	Ms. Leticia Gutierrez General Office Supervisor	WB 217	<a href="mailto:leticia.gutierrez@utoronto.ca">leticia.gutierrez@utoronto.ca</a> 416-978-1779
Shipping & Receiving/Purchasing	Mr. Phil Milczarek Purchasing/Stores Coordinator	WB 16	<a href="mailto:phil.milczarek@utoronto.ca">phil.milczarek@utoronto.ca</a> 416-978-5504
Activate TCard for access to the Graduate Common Room and WB242	Mr. Dan Tomchyshyn Network Administrator	WB 260	<a href="mailto:daniel.tomchyshyn@utoronto.ca">daniel.tomchyshyn@utoronto.ca</a> 416-978-1144
Expense Reimbursement	Ms. Arlene Smith Business Officer	WB 217	<a href="mailto:arlene.smith@utoronto.ca">arlene.smith@utoronto.ca</a> 416-978-6204
Chair	Professor G. Allan	WB 220	<a href="mailto:chair.chemeng@utoronto.ca">chair.chemeng@utoronto.ca</a> 416-978-2543
Payroll / Teaching Assistant Administrator	Ms. Julie Mendonça	WB 201C	<a href="mailto:julie.mendonca@utoronto.ca">julie.mendonca@utoronto.ca</a>
Graduate Coordinator – graduate academic matters	Professor V.G. Papangelakis	WB 213	<a href="mailto:vladimiro.papangelakis@utoronto.ca">vladimiro.papangelakis@utoronto.ca</a> 416-978-1093
Graduate Office – graduate student and administrative matters	Ms. Pauline Martini Graduate Administrator  Ms. Joan Chen Graduate Assistant	WB 212	<a href="mailto:grad.chemeng@utoronto.ca">grad.chemeng@utoronto.ca</a> 416-978-7137  <a href="mailto:gradassist.chemeng@utoronto.ca">gradassist.chemeng@utoronto.ca</a> 416-946-3987

## **1.2. 2011-2012 Dates & Deadlines**

This information is taken from the SGS websites:

[http://www.sgs.utoronto.ca/adminsupport/memos/2010-11\\_Decanal\\_Memos/008.htm](http://www.sgs.utoronto.ca/adminsupport/memos/2010-11_Decanal_Memos/008.htm)

<http://www.sgs.utoronto.ca/calendar/>

## SGS Sessional Dates 2011-2012

### Fall Session 2011

M	August	1	Civic Holiday
M	August	8	Registration for Fall session begins
	August		Undergraduate course enrolment begins <sup>(1)</sup>
F	August	26	Last date for payment of tuition fees to meet registration deadline
M	September	5	Labour Day
M	September	12	Most formal graduate courses and seminars begin in the week of September 12th <sup>(2)</sup>
Th	September	15	Final date to submit final doctoral theses to SGS to avoid fee charges for 2011-12 <sup>(3)</sup>
F	September	16	Coursework must be completed and grades submitted for summer session courses and extended courses <sup>(4)</sup>
F	September	16	Registration for Fall session ends; after this date, a late registration fee will be assessed
W	September	21	Summer Session grades available for viewing by students on the Student Web Service
M	September	26	Final date to add full-year and Fall session courses
F	September	30	Final date for receipt of degree recommendations and submission of any required theses for master's degrees for Fall Convocation without fees being charged for the Fall session <sup>(5)</sup>
F	September	30	Final date to submit final doctoral thesis for Fall Convocation
M	October	10	Thanksgiving Day
M	October	31	Final date to drop Fall session full or half courses without academic penalty
	November		Fall Convocation Information and Dates are posted at: <a href="http://www.convocation.utoronto.ca">www.convocation.utoronto.ca</a> , choose Fall
W	December	21	Winter break begins (for last day of classes before Winter break, consult graduate units concerned)

### Winter Session 2012

M	January	9	Most formal graduate courses and seminars begin in the week of January 9th <sup>(2)</sup>
F	January	13	Final date for registration of students beginning program in Winter session; after this date, a late registration fee will be assessed
F	January	13	Coursework must be completed and grades submitted for Fall session courses <sup>(4)</sup>
M	January	16	Final date to submit doctoral theses without fee payment for Winter session
W	January	18	Fall Session grades available for viewing by students on the Student Web Service
M	January	23	Final date to add Winter session courses <sup>(4)</sup>
F	January	27	Final date for receipt of degree recommendations and submission of any required theses for March or June graduation for master's students without fees being charged for the Winter session <sup>(5)</sup>
F	January	27	Final date for all students to request that their degrees be conferred <i>in absentia</i> in March
F	January	27	Fall dual registrants must be recommended for the master's degree by this date to maintain their Ph.D. registration <sup>(5)</sup>
M	February	20	Family Day
M	February	27	Final date to drop full-year and Winter session courses without academic penalty <sup>(6)</sup>
	March		March Graduation <i>In absentia</i> Information is posted at: <a href="http://www.convocation.utoronto.ca">www.convocation.utoronto.ca</a> , choose March <i>in absentia</i>
	April		For last day of winter classes, consult unit concerned

### Summer Session 2012

F	April	6	Good Friday
F	April	20	For students obtaining degrees at June Convocation, course work must be completed and grades submitted for full-year and Winter session courses
F	April	20	Final date for receipt of degree recommendations and submission of any required theses for master's degrees for June Convocation <sup>(5)</sup>
F	April	20	Final date for submission of final doctoral thesis for students whose degrees are to be conferred at the June Convocation <sup>(3)</sup>
F	April	20	Final date for degree recommendations of Winter dual registrants for the master's degree to maintain their Ph.D. registration <sup>(5)</sup>
	May		For first day of summer classes, consult graduate unit concerned.
F	May	4	Final date for registration for May session
F	May	11	Final date to enrol in May-June or May-August session courses
F	May	11	Course work must be completed and grades submitted for full-year and Winter session courses (except for extended courses) <sup>(4)</sup>
W	May	16	Winter Session grades available for viewing by students on the Student Web Service
M	May	21	Victoria Day
	June		Spring Convocation Information and Dates are posted at: <a href="http://www.convocation.utoronto.ca">www.convocation.utoronto.ca</a> , choose Spring
F	June	1	Final date to drop May/June F section courses without academic penalty <sup>(6)</sup>
F	June	22	Final date to enrol in July-August courses <sup>(6)</sup>
F	June	22	Final date to drop May-August session Y section courses without academic penalty <sup>(6)</sup>
M	July	2	Canada Day Holiday
F	July	20	Final date to drop July-August S section courses without academic penalty <sup>(6)</sup>

F	July	20	Coursework must be completed and grades submitted for May/June F Section Courses <sup>(4)</sup>
W	July	25	Grades for May/June F Section Courses available for viewing by students on the Student Web Service

- (1) Graduate students may only enrol in undergraduate courses with the approval of their supervisor or graduate unit. Students are responsible for meeting the deadlines and requirements of the undergraduate course as presented in class and in the undergraduate division's calendar. Graduate students will be graded under the graduate grading scale. Students should consult the undergraduate Arts and Science Calendar for enrolment and dates.
- (2) The precise dates of commencement of courses are determined by the graduate units; students are urged to contact the relevant graduate units for information. The University policy states that the first day of classes in the Fall session in all teaching divisions should not be scheduled on the first and second days of Rosh Hashanah (from 1 1/2 hours before sunset on Wednesday, September 28 to about 1 1/2 hours after sunset on Friday, September 30) or on Yom Kippur (from about 1 1/2 hours before sunset on Friday, October 7 to about 1 1/2 hours after sunset on Saturday, October 8).
- (3) A final thesis is the corrected, approved version of thesis which is submitted to SGS following the Final Oral Examination.
- (4) Graduate units may establish earlier deadlines for completion of course work and may prescribe penalties for late completion of work and for failure to complete work, provided that these penalties are announced at the time the instructor makes known to the class the methods by which student performance shall be evaluated.
- (5) For final dates for completing degree requirements, students should consult their own graduate unit.
- (6) Graduate units may establish earlier deadlines to add/drop courses. Please note that the last date to cancel a course or registration with no academic penalty is not the same as the last date to be eligible for a refund.
- (7) Students starting their program in the summer and OISE students are required to register by this date by paying the minimum tuition amount stated in their invoice.

## **2. Registration and Official Student Status**

A student is considered to be registered once they either pay or defer their fees. Having a registered status means that you are officially part of the university and can access university and departmental services and areas.

### **2.1. Fees**

The fees website: <http://www.fees.utoronto.ca/> is your primary source for general fee information; fee amounts, payment instructions and deadlines, etc. may be accessed from the site.

#### **2.1.1. Invoices and Interest**

Fee invoices are viewable and printable from the student information system (ROSI: <http://www.rosi.utoronto.ca>); they are no longer sent by mail to students. The invoice will indicate the fees for each session, and will also include the minimum fee payment required in order to register.

#### **2.1.2. Paying Fees**

Fees can either be paid at a bank using a printout of your invoice from ROSI, or through online banking directly from your bank account. Please note that interest will be charged for any fees showing in your account beyond a certain date. Interest is assessed and charged on the 15th day of every month.

#### **2.1.3. Request for Fees Arrangement**

Students in the MSc or PhD program receiving major scholarships (OGS/NSERC) or RA stipends may complete a "Request to Register Without payment" form from the School of Graduate Studies website (<http://www.sgs.utoronto.ca>) which will allow students to pay their fees up until the end of April, without being charged interest.

Even with a fee arrangement in place, you will continue to receive email reminders from the university about your outstanding fees until they are paid in full.

### **2.2. Repository of Student Information (ROSI)**

ROSI: <http://www.rosi.utoronto.ca> is the university-wide student information system that contains information such as current contact information, course enrolment, fees, and scholarship information. Students are responsible for ensuring the accuracy of their information in ROSI including contact information, course enrolment and final grades.

ROSI can be accessed as soon as your acceptance of the admission offer is processed by the department, so feel free to access it early and check it out! There are instructions for first-time users that can be accessed from the main page of the ROSI site.

### ***2.3. Student Card (TCard) and Accessing University Services***

As of June 6<sup>th</sup> students who accepted an offer for admission can pick up their TCard; for more information on what identification you need, the hours of operation for the TCard Office locations, etc., please visit: <http://www.utoronto.ca/tcard/>.

After getting your TCard, you can set up your UTORid; this ID is what will allow you to set up your utoronto email address, and access online services such as online library journals, and the new University Portal. To set up your UTORid, please visit: <https://www.utorid.utoronto.ca/>.

### ***2.4. Official Communications***

The university uses the web and email to communicate important and official messages. It is now a policy that all University of Toronto students set up and use a “utoronto” email account, and that this email address be entered in ROSI. Students are ultimately responsible for maintaining current contact information in ROSI.

Students are also responsible for ensuring that they are receiving departmental email. You are expected to use your “utoronto” email address for all UofT and departmental communication. Other domain addresses such as gmail, hotmail, yahoo, etc. will not be accepted for communication with the department.

### ***2.5. The University Portal***

Many Professors set up course websites using the Blackboard facility. Students who are enrolled in the course and have a utoronto email address listed in ROSI will automatically see a link to the course after entering portal using their UTORid. The portal can be accessed directly from the main University of Toronto webpage: <http://www.utoronto.ca>.

## 3. Courses

### 3.1. Course Enrolment

There are 2 steps in the course enrolment process:

- Enrolling in the courses through ROSI
- Departmental approval of your Program Plan to take specific courses.

#### 3.1.1. Enrolling

Access ROSI at <http://www.rosi.utoronto.ca>

You can enroll in courses through ROSI before you receive approval to take the courses as part of your degree, however only courses that have been approved through the Program Plan will be counted towards your degree so make sure you regularly check your course information in ROSI.

When enrolling in a course, be sure to enter:

Course number: e.g., CHE1310H

Section Code: usually F, S or Y. This indicates whether the course is offered in the September (Fall) session (F), the January (Winter) session (S) or continues through both the fall and winter sessions (Y). Summer courses may be May-June (F), July-August (S), or June-August (Y).

Teaching Method: All graduate courses have a teaching method of LEC (lecture).

Teaching Section: Unless otherwise stated, the teaching section for a graduate course is (0101). Although there may be only one teaching section the information must still be entered on the system.

Not all graduate units allow students to enroll in courses via ROSI, or there may be additional steps to enrolling in the course. In this case, contact the respective Graduate Unit or the Graduate Assistant. Below is a list of course statuses that may appear in ROSI:

REQ: Course requested. Must be resolved/approved by the last date to add a course.

INT: Course requested pending instructor approval in addition to coordinators'/advisor's approval.

APP: Request approved. Student is enrolled in course.

REF: Request denied. Student is not enrolled and may not make another request for this course via ROSI during this session.

CAN: Course cancelled (student withdrew from course before deadline)

WAIT: No Room in the meeting section. Student has been placed on a waiting list based on category and will be enrolled automatically if space comes available.

DWAIT: Student has cancelled place on the waiting list or been removed.

If you encounter problems adding a course in ROSI and the error message you receive is not clear, take note of it and contact the Graduate Assistant.

### **3.1.2. Approval**

Students complete the Program Plan form for their specific program; MASc and PhD students must have their Supervisor sign the form before handing it in to the Graduate Assistant. Consequently, students should discuss course selection with their supervisor.

### **3.1.3. Why bother completing the form?**

Prior to graduation, the department reviews your Program Plan and recommends you for graduation only if you have completed the courses that have been approved. Without the appropriate forms, graduation may be delayed until formal approvals are received from the Supervisor and the Graduate Coordinator, or some of the courses may not be credited towards your degree and you will be asked to take additional courses in order to meet your degree requirements.

## **3.2. Courses “Extra” to Degree**

If you want to take a course and gain credit but do not want it to count towards your degree, you can take the course as “EXTra to degree”. Please include the course on the Program Plan and alert the Graduate Office by the course enrolment deadline that the course is to be extra to degree.

## **3.3. Auditing a Course**

If you want to attend a course but not complete the assignments or receive a grade, ask the instructor teaching the course if you can “sit in” on it. There is no enrolment form, and no documentation provided that would confirm your attendance in the course. Please note that sitting in on a course is at the discretion of the course instructor.

## **3.4. Dropping a Course**

Students are responsible for dropping (withdrawing) from courses in ROSI by the appropriate deadline.

Students should also complete a Program Change Form and submit it to the Graduate Office before the deadline so we have documentation that you have dropped the course in ROSI and therefore will not see it on your academic record in ROSI. The Program Change Form is located on the SGS website. For MASc and PhD students: the supervisor should sign this form before it is handed in to the Graduate Assistant.

### **3.5. Missed a course enrolment or withdrawal deadline?**

Contact the Graduate Assistant. There is no guarantee that the problem can be resolved, however if there is a solution it will take anywhere from 4 to 10 weeks to complete the paperwork, forward the request to the appropriate offices, and receive confirmation that the change has been made. Avoid the issue by checking ROSI often, especially as important deadlines approach!

### **3.6. Grading and Evaluation**

#### **3.6.1. Letter Grades**

Graduate grades are reported in Letter Grade format, as indicated in the chart below:

Grade Meanings	Letter Grade Scale	Numerical Mark Scale
Excellent	A+	90-100%
	A	85-89%
	A-	80-84%
Good	B+	77-79%
	B	73-76%
	B-	70-72%
Inadequate	FZ	0-69%

Seminar courses such as CHE300x and CHE2011 are typically assigned a final grade of “CR/NCR”, where “CR” means you have successfully completed the course, and “NCR” means you have not successfully completed the course.

Graduate students taking 500-level courses are graded using the scale above, and not the scale used for undergraduate courses.

#### **3.6.2. Other grade reports that may appear in ROSI**

**INC** Incomplete: Assigned as a final report by a graduate unit review committee, or SGS Associate Dean on the basis of incomplete course work in special circumstances (e.g. medical reasons or when there are no grounds for assigning a failing grade). INC carries no credit for the course and is not considered for averaging purposes.

**IPR** In Progress: Assigned by the instructor as the report for a course since it continues in a subsequent session or program. The final grade for the course will appear only once and only for the last enrollment period. IPR carries no credit for the course and

is not considered for averaging purposes.

- SDF Standing Deferred: Assigned by a graduate unit review committee to a student who has been granted an extension for the completion of course work beyond the SGS deadline for completion of course work, pending receipt from the instructor of a final course report. A final course report is due no later than the SGS deadline for completion of course work and grade submission following the original one for the course. If, by that date, a final grade is not available and the student has not submitted the outstanding course work, then the report of 'SDF' will be replaced by a final report of 'INC'. SDF carries no credit for the course and is not considered for averaging purposes.
- TRF Program Transfer: Assigned by the School of Graduate Studies to a continuing research/seminar course begun but not completed in the first program and will not be required in the new program to which the student has been officially transferred.
- WDR Withdrawal without academic penalty: Assigned by the graduate unit review committee, when there are extenuating circumstances, upon approval of the student's request for late withdrawal from a course. It carries no credit for the course and is not considered for averaging purposes.
- XMP Exemption: Granted on the basis of credit for work done elsewhere. It carries credit for the course, but is not considered for averaging purposes.

Please consult the 2011-2012 SGS Sessional Dates and Deadlines for the dates that official course grades will be viewable in ROSI. If a grade does not appear in ROSI on or slightly after the deadline, contact the course instructor or the Graduate Assistant for more information.

### **3.7. Transcripts**

The easiest way to order an Official transcript is through ROSI. You can also order transcripts through the University of Toronto Transcript Centre:

<http://www.artsci.utoronto.ca/current/undergraduate/transcripts/transcriptform> Please note that if we ask for an official transcript, it means one that has been prepared, sealed in an envelope, and signed over the back flap by a Transcript Centre official. If we ask for a "ROSI printout" it means a printout of your academic history from ROSI. Ensure that you chose the print option that includes your name.

### **3.8. University Policies**

There are many policies that affect your status as a graduate student and responsible member of the university community. They are to be found in the School of Graduate Studies Calendar, which was given to you at Orientation, or online at:

<http://www.sgs.utoronto.ca/governance/policies.htm>.

It is the student's responsibility to remain familiar with these policies, such as Intellectual Property, Inventions, Course Work Extensions, Academic Appeals, Code of Student Conduct, Leaves of Absence, etc.

## 4. Services and Programs Available to Students

Below are some of the key resources that may be of interest to Graduate Students. Feel free to explore the services and student organizations available to you.

### 4.1. Departmental Services

#### **Graduate Office, WB 212**

[gradassist.chemeng@utoronto.ca](mailto:gradassist.chemeng@utoronto.ca)

The Graduate Office administers the graduate program and their personnel are available as a resource to graduate students for mainly academic but also for non-academic issues. Feel free to drop by in person, or contact us by email if you would like to set up a time to meet. The Graduate Office is open daily from 9:30am to 1:00pm and 2:30pm to 4:00pm. Arrangements to meet outside of these hours can be requested.

#### **Chemical Engineering Graduate Student Association (CEGSA)**

<http://cegsa.chem-eng.utoronto.ca/>

#### **Leaders of Tomorrow – Graduate (LOT-G), WB240**

<http://www.chem-eng.utoronto.ca>

#### **Prospective Professors in Training (PPIT)**

[http://www.engineering.utoronto.ca/Our\\_Community/Current\\_Graduate\\_Students/Prospective\\_Professors\\_in\\_Training.htm](http://www.engineering.utoronto.ca/Our_Community/Current_Graduate_Students/Prospective_Professors_in_Training.htm)

#### **The Graduate Common Room (Graduate Student Lounge), WB247**

The Graduate Common Room is for the use of all graduate students. You will find daily newspapers, magazines, comfortable furniture, your mail box, announcements, vending machines, a coffee machine, a television, microwave ovens, and many other graduate students. Access is granted through your TCard.

#### **Photocopiers, WB16**

A cash copy card may be purchased in WB 16 or obtained from your supervisor.

#### **Laptop and Projector, WB 217**

Need to borrow a laptop and projector for an upcoming presentation or meeting? These are available on a first-come, first-serve basis from the Departmental Assistant in the Main Office (WB217).

### **Theses and Projects, WB 217**

Contact the General Office Supervisor in the main office (WB217) for access to view previous MASc and PhD theses. Safety Training offered twice a year (beginning of September and beginning of May) is mandatory. If you start at any other time contact the General Office Supervisor in the main office (WB217) for access to the online safety course.

### **Wireless Internet Access**

There is wireless access to the UofT network (UTORwin) throughout the Wallberg building.

## **4.2. University Services**

### **Libraries**

<http://www.utoronto.ca>

There are numerous libraries on campus. The two main libraries for engineering references are the Engineering Library, located on the second floor of the Sanford Fleming Building, and the Science and Medicine Library in the Sigmund Samuel Library. Tours of the latter are organized regularly. There are also many on-line academic resources such as journals, etc. that can be accessed by clicking the “libraries” link on the main university website.

### **Student Life Services**

<http://www.studentlife.utoronto.ca/>

The division of Student Life Programs & Services provides the support, opportunities and infrastructure you need to reach your full potential, including:

- Accessibility Services
- Career Centre
- Counseling and Learning Skills
- First Nations House
- International Student Centre
- Multi-Faith Centre
- Psychiatric Service
- Student Housing Service

### **Hart House**

<http://www.harthouse.ca/>

Hart House is a place for all university students to participate in clubs, social events, and use the athletic facilities. As a graduate student, part of your fees go towards a gym membership, and access is granted using your TCard. Find out more by visiting the Hart House website.

### **Graduate Professional Skills (GPS) Program**

<http://www.sgs.utoronto.ca/informationfor/students/profdev/gps.htm>

The Graduate Professional Skills program (GPS) is an initiative from the School of Graduate Studies that consists of a variety of offerings providing doctoral stream students with a range of optional opportunities for skills development.

## **5. Funding**

Graduate students are expected to apply for scholarships. Students are invited to contact the Graduate Coordinator for advice regarding their financial arrangements.

### **5.1. MASC – PhD Support**

There is a minimum financial support for students in the MASC program for up to 2 years. The minimum financial support for students in the PhD program extends for the first 4 years. Subject to satisfactory performance, further support is possible for the PhD students at the discretion of the supervisor. This support may be drawn from a combination of scholarships, fellowships and research stipend. Additional details on graduate student funding may be found on the departmental website.

### **5.2. Sources of Funding**

Funding for MASC and PhD students usually comes from the following sources:

- Major government scholarships such as NSERC PGS, Ontario Government Scholarships (OGS, OGSST), etc.
- Departmental Fellowships
- Research Stipends
- Teaching Assistantship (TAship)

#### **5.2.1. Major Scholarships**

NSERC and OGS award competitions normally occur in September and October of each year, and OGSST competitions usually take place in May or June. The Department informs students of information/ help sessions to assist students produce high quality award applications. Connaught Scholarship holders are required to apply for OGS awards in order to have their Connaught award renewed. Visa students may apply for OGS awards, but NSERC and OGSST awards are restricted to students with Canadian citizenship or permanent resident status only. Major scholarships are managed by the Graduate Administrator.

## **OGS/OGSST**

For students who receive an OGS or OGSST award, the funding amounts are topped up to:

MASc Program: \$21,600/year for the year they receive the OGS/OGSST scholarship

PhD Program: \$22,800/year for the year they receive the OGS/OGSST scholarship

## **NSERC**

For MASc and PhD students who receive an NSERC PGS-M, CGS-M or PGS-D award, the funding amount is topped up by the tuition amount for that academic year. TAship is also available for NSERC scholarship recipients, and is complementary to the NSERC and top-up funding. Topup is not provided to the high-level CGS-D or Vanier scholarship holders.

### **5.2.2. Departmental Fellowships**

All currently enrolled graduate students who have maintained a B+ average in course work and have obtained credit for seminar courses are considered for Departmental fellowships. This form of funding is managed by the Graduate Office and the professors. There is no application for this funding. Students will be contacted by email if they will be receiving this award as part of their funding package.

Students enrolled beyond the second year of an MASc program or beyond the fourth year of a PhD program are not eligible to receive a Departmental Fellowship. Fellowships are managed by the Graduate Administrator.

### **5.2.3. Research Stipends**

Professors in the Department receive grants to support their research programs, and a large proportion of these funds are spent on research stipends. Ultimately, graduate students are responsible for checking that their total yearly compensation meets the minimum funding package levels. Research stipends are managed by the Payroll / Teaching Assistant Administrator.

### **5.2.4. Teaching Assistantships**

A Teaching Assistantship (TA) position of approximately 40 hours is set-aside for the first year of study. Teaching assistantship positions will be limited, within the Department, to two years for MASc students and four years for students in the PhD program.

The pay rate is set through a Collective Agreement between the university and CUPE Local 3902, the union representing Teaching Assistants at UofT. To view the collective agreement, please visit: <http://www.hrandequity.utoronto.ca/pca/ca.htm>.

Income from TA will be complementary to minimum support.

Teaching Assistantship application forms and guidelines can be found on the Department's web-site: <http://www.chem-eng.utoronto.ca>. Please read the Department

Guidelines for Teaching Assistants before applying for a Teaching Assistant position. Forms should be submitted to the Payroll/Teaching Assistant Administrator, WB 201C, by the deadline specified.

Students are required to take the Safety Workshop (CHE 2222H) and pass the associated examination to be eligible for Teaching Assistantships.

### **5.2.5. Additional Sources of Funding**

Beyond the financial package a student receives, there are additional forms of funding available.

#### **International students**

All international students are provided with a Differential Fee Supplement (DFS) that covers 50% of the difference between international and domestic fees. In certain cases 100% coverage is provided through the Differential Fee Waiver (DFW). The DFW and DFS are applied directly to your fees in 2 installments through ROSI.

#### **Departmental, Faculty, and University Scholarships**

We encourage all graduate students to apply for scholarships they qualify for. Students will receive email notices of Departmental and Faculty scholarships as they periodically become available, but are also encouraged to check the SGS website for any other University scholarships: <http://www.sgs.utoronto.ca/informationfor/students/money/support>

### **5.3. Social Insurance Number**

All students require a Social Insurance Number (SIN) in order to receive financial support such as research stipend or teaching assistantships from the University. In addition, a SIN is required for all applications for Ontario Graduate Scholarships and NSERC scholarships. SIN application forms can be found at: <http://www.servicecanada.gc.ca/en/sc/sin/index.shtml>. Please contact the Payroll/Teaching Assistant Administrator prior to applying for your SIN to be provided with the employment letter required in the SIN card application process.

## 6. Degree Programs

### 6.1. Collaborative Programs

The Department participates in the collaborative programs listed below:

- Biomedical Engineering (MAsc, PhD),  
<http://www.ibbme.utoronto.ca/>
- Environmental Engineering (MAsc, MEng, PhD),  
<http://www.energy.engineering.utoronto.ca/>
- Environmental Studies (MAsc, MEng, PhD),  
<http://www.environment.utoronto.ca/>
- Genome Biology and Bioinformatics (PhD),  
<http://www.biochemistry.utoronto.ca/>
- Dynamics of Global Change (PhD),  
<http://www.utoronto.ca/mcis/dgc/>

#### 6.1.1. Admission to a Collaborative Program

Typically, applicants will select the collaborative program through their application for admission; however it is sometimes possible to register in the collaborative program after being admitted into the Chem Eng program. Please review the online information for the collaborative program to determine how to apply.

#### 6.1.2. Degree Requirements

Students must fulfill the requirements for the collaborative program and the home unit (Chemical Engineering and Applied Chemistry). Please visit the sites above to find out more information on the requirements for the collaborative program.

On successful completion of requirements for the collaborative program, a notation is added to the student's transcript.

### 6.2. MAsc Program Information

#### 6.2.1. Program Outline

The M.A.Sc degree program is intended primarily for those who wish to pursue advanced studies at the Master's level with a strong research (usually experimental) focus. It is also intended for those who wish to prepare for a career in research and/or plan to continue their graduate studies through the PhD degree.

#### 6.2.2. Duration

The minimum program length is 2 sessions (8 months), and the maximum length is 9 sessions (36 months). Further extension is allowed on a yearly basis, at 50 % of the tuition fee, and after permission from the Department and SGS up to a maximum of 6 years.

However our average time for degree completion is 2 years whereas the Department encourages completion after 1.5 years in the program. Consequently, after 6 consecutive sessions (24 months), a student progress will normally be reviewed by the Graduate Coordinator. With a normal first session course load of 2 courses and the seminar a supervisor will assume that their research student has spent 50% of his or her time on research.

### 6.2.3. Residence

MASc students are to be in full-time attendance (residence) for a minimum of 2 sessions (8 months). Students should be in full-time attendance until the MASc departmental oral examination has taken place.

### 6.2.4. Degree Requirements

Students in the program complete 3 half-credit (H) courses, a variety of Seminar courses, plus a thesis. Course and thesis requirements are explained below.

#### (a) Course Requirements

- Normally, an MASc student takes 2 academic courses in their first session of study and completes all academic courses within the first year of study; this is at the discretion of your supervisor and also depends on course availability
- Courses are normally taken from Engineering or Physical Science departments – check the courses section of the Chem Eng website for course suggestions
- Students in a collaborative program must satisfy the requirements of that program in addition to this Department's requirements
- A maximum of 1 half-credit (H) 500-level course may be taken as part of your degree
- All courses taken for credit, whether as part of the degree or extra to degree, require approval by the supervisor and the Graduate Coordinator.

<b>Minimum of 3 Academic Courses</b>	<i>Minimum of 1 Fundamental course</i>
	<i>Minimum of 1 Academic course outside research area</i>
<b>Seminar Courses</b>	
Attending Seminar: <i>Seminars in Chemical Engineering</i>	Successful completion of <i>CHE300X</i> in the Fall and Winter sessions up to 4 sessions (or until oral defense);
Presenting Seminar: <i>Graduate Student Seminar</i>  The Seminar will depend on the degree program you are registered in:	<u>CHE 2011H</u> : students not in a collaborative program - Once in Winter (S) session of year 1. Students who do not perform well will be asked to take a Scientific Writing course in the following fall term <u>BME 1010H</u> : students in the Biomedical Collaborative Program (IBBME) - Once a year, <i>either</i> Fall (F) <i>or</i> Winter (S) session <u>EDE3000H</u> : students in the Environmental Engineering Collaborative Program (CEEP)
<b>Additional Required Courses</b>	
<i>Safety Training Workshop</i>	Successful completion of CHE2222H before embarking on grad research, or teaching in the undergraduate laboratories.

<i>How to Become an Outstanding Graduate Student</i>	Compulsory for all grad students in their first year; no separate ROSI enrolment required; attendance will be factored in CHE300X. Timetable posted on Chem Eng website.
<i>Ethics in Research</i>	Successful completion of JDE 1000H, normally in the first year of study; enroll in either the F or S section of the course. Exact date is announced by the Faculty of Applied Science and Engineering (FASE)

## **(b) Thesis**

The thesis should give evidence of mastery of the topic, originality and creativity, and be written and defended in an acceptable manner. It is desirable that the work reported in the thesis be of such a nature and calibre that it can be published.

Students may, upon agreement with their supervisor(s), submit a collection of publishable papers as their thesis. This collection must at minimum have a coherent topic with an introduction presenting the general theme of the research and a conclusion summarizing and integrating the major findings. The minimum requirement is one paper submitted to a good quality, peer-reviewed journal, where the student is the principal contributor.

Information about the SGS requirements for theses can be found at:

<http://www.sgs.utoronto.ca/informationfor/students/finup/producingthesis/formatting.htm>

Theses which do not conform to these guidelines will NOT be accepted by SGS. The SGS website <http://www.sgs.utoronto.ca/informationfor/students/finup/producingthesis.htm> includes additional information on submission procedures, information on:

- Submission process
- Copyright
- Forms to accompany the completed thesis

Where someone other than the candidate is a co-author of any portion of the thesis, this fact should be clearly indicated in the introduction, which should also state the actual contribution of the candidate to the work. The examination committee must be satisfied that the candidate's personal contribution to the thesis is sufficient to fulfill the requirements of the MASC degree. A candidate who intends to submit jointly authored work must be prepared to satisfy the committee on this issue. A statement from the co-author as to the candidate's contribution may be helpful.

The thesis should contain sufficient information so that others can replicate the experiments conducted.

## **(c) Length of Thesis**

The thesis should be no longer than 70 pages plus relevant appendices. If the student believes the thesis must be significantly longer, then he or she should consult his or her supervisor and the Graduate Coordinator.

Copies of previously completed theses for inspection are available electronically through T-space (<https://tspace.library.utoronto.ca/>). The Main Office has hard copies of Theses submitted prior to 2008 that can be borrowed.

### **6.2.5. MASC Departmental Oral Examination**

The thesis must be presented and defended before a committee of three in a Departmental Oral Examination.

#### **(a) Examination Committee Members**

The Examination Committee is comprised of:

- the supervisor(s), and
- two other faculty members, one of whom must have primary appointment in this Department.

The supervisor and student select the members of the examining committee and arrange a date and time convenient for all members.

#### **(b) Distributing Thesis Document**

Copies of the thesis should be distributed to the members of the examining committee at least two weeks in advance of the date of the Oral Exam. Committee members may refuse to participate in an Oral Examination if less time is given for the appraisal of the thesis.

#### **(c) Formal Request for the MASC Departmental Oral Exam**

Once the committee membership has been determined, an MASC Oral Examination Request Form is to be completed and submitted to the Graduate Assistant. The form can be found on the “Forms and Handbooks” page under the “Graduate Studies” section of the Chemical Engineering website: <http://www.chem-eng.utoronto.ca>.

In order to hold the Examination, the form is to be submitted to the Graduate Assistant (WB 212) a minimum of one week (5 business days) prior to the examination. Please ensure that a ROSI printout of your transcript (with your printed name) is attached to the form. The meeting room and laptop/projector can be booked through the Departmental Assistant in the main office (GB 217).

#### **(d) Conduct of MASC Oral Examination**

##### ***(i) Pre Oral Review***

At the start of the examination the candidate will be asked to leave the room while the following procedures are carried out:

- The Examination Chair will review the Departmental Policies related to the MASC program
- The Committee will review the length of time the candidate has been registered in the MASC program
- The Committee will review the student's course performance.

### ***(ii) Oral Examination***

The candidate and any graduate student observers will then be asked to enter the room, and the candidate will make a 20 minute presentation on his/her research.

The committee members will then question the student on his/her research. Student observers may also ask questions.

At the end of the question period, the candidate and any observers will be requested to leave the room.

### ***(iii) Post Oral Review***

On the basis of the thesis and the oral defense, the committee may recommend that:

- The thesis may be accepted as is and the candidate be awarded the M.A.Sc degree
- The candidate be awarded the degree subject to minor modifications of the thesis
- The candidate be given an opportunity to address shortcomings in his/her thesis or defense with the objective of a reconvened oral being held at a later date
- The candidate withdraw from the program

The qualifications of the candidate for a PhD program are reviewed at the meeting. The committee reviews qualifications based on the following factors:

- A student wishing to proceed to the PhD program is normally expected to complete the MASc program in four consecutive sessions (16 months).
- The student must obtain a B+ average in the 3 approved courses. Students failing an approved course would not normally be eligible for proceeding to a PhD program
- Although no official grade is given to the thesis and its defense, the overall B+ average required by SGS at the master's level for procedure to a PhD program will be taken into account

### **6.2.6. Thesis Submission**

Once any modification/corrections have been made and the supervisor has approved the thesis, the corrected thesis may be submitted according to the requirements below:

- 1 electronic copy to School of Graduate Studies submitted online. For step-by-step instructions visit:  
<http://www.sgs.utoronto.ca/informationfor/students/finup/producingthesis/t-space.htm>
- 1 bound copy to the Main Office (see the General Office Supervisor, WB 217)
- 1 bound copy to each supervisor

Please check Appendix A for information on the policy regarding thesis preparation costs.

### **6.2.7. Graduation**

The Department must make a degree recommendation to SGS before a student's degree may be considered complete. In order for the Department to make this recommendation, the following items must be completed:

- The supervisor informs the Graduate Administrator via email that any required thesis

- corrections/modifications have been made
- The Graduate Administrator reviews the students file to ensure that degree requirements have been met
- The student completes and hands in the Materials Sign-Off form to the Graduate Administrator (form can be found on the Chem Eng website: <http://www.chem-eng.utoronto.ca>)

The Dates and Deadlines at the beginning of this handbook indicate all the relevant deadlines for degree completion (consistency check with SGS posted dates is advised). Please ensure you meet the deadline set by SGS in order to avoid additional tuition charges.

### **6.2.8. Entering the PhD Program directly after completing the MASc**

For students who complete an MASc in the Department of Chemical Engineering and wish to begin a PhD in the department immediately after finishing the MASc, a complete online SGS admission application must be submitted. For more information on the admission requirements and procedures for Chemical Engineering and Applied Chemistry, please visit “Prospective Graduate Student” link under the “Graduate Studies” section of the departmental website: <http://www.chem-eng.utoronto.ca>.

### **6.2.9. Transfer to the PhD Program (MASc By-Pass)**

Strong MASc candidates may apply to by-pass the MASc program and transfer directly to the PhD program. Transfer into the PhD program requires successful completion of the MASc By-Pass Oral Examination. The MASc by-pass should occur within the first 13 months into the MASc program. In some cases permission may be granted by the Graduate Coordinator for a bypass up until the 16<sup>th</sup> month in the program, but not beyond this.

A student who wishes to bypass the MASc degree and proceed to a PhD program must successfully complete and obtain an average of A- in at least two courses taken in the MASc, and have completed the relevant seminar courses (including CHE2011) prior to bypassing to the PhD program. Full credit for all courses is given (except for CHE2011 that needs to be retaken in the third PhD year). The by-pass exam becomes equivalent to the qualifying exam in the PhD program.

#### **(a) Examination Committee Members**

The four-member Examination Committee is comprised of:

- the supervisor(s)
- two other faculty members, one of whom must be from this Department (determined by the supervisor(s) and candidate), and
- a Chair, who is appointed by the Graduate Coordinator

#### **(b) Distributing Research Report**

A summary (20-30 pages is typical) of completed work and proposed research should be distributed to the members of the examining committee at least two weeks in advance of

the date of the examination. Committee members may refuse to participate in the examination if less time is given to review the document. Hard copies are acceptable only (no email submissions are allowed).

### **(c) Assigning a Chair**

The candidate must email the following items to the Graduate Coordinator, who will appoint the Chair or the by-pass examination:

- a copy of their Abstract
- the research cluster they are studying in
- the name of each Committee member

Once the Graduate Coordinator has provided the candidate with the name of the Chair, the candidate should then fix the date and time with all committee members and submit a formal request to hold the MASc By-Pass examination to the Graduate Assistant.

### **(d) Formal Request for the MASc By-Pass Oral Examination**

An MASc Oral Examination Request Form is to be completed and submitted to the Graduate Assistant (WB 212) a minimum of one week (5 business days) prior to the examination. Please ensure that a ROSI printout of your transcript is attached to the form that includes your printed name.

The form can be found on the “Forms and Handbooks” page under the “Graduate Studies” section of the Chemical Engineering website: <http://www.chem-eng.utoronto.ca>.

The meeting room can be booked by contacting the Departmental Assistant in the main office (GB 217).

### **(e) Conduct of the MASc By-Pass Oral Examination**

#### ***(i) Pre Oral Review***

At the start of the Oral Examination the candidate will be asked to leave the room while the following procedures are carried out:

- The Examination Chair will briefly review the relevant Departmental Policies related to the MASc by-pass
- The Committee will review the length of time the candidate has been registered in the MASc program and examine the eligibility for by-pass
- The Committee will review the student's course performance.

#### ***(ii) Oral Examination***

The candidate will then be asked to enter the room, and the candidate will make a 20 minute presentation on his/her research.

The committee members will then question the student on his/her research. Student observers may also ask questions. This exam also serves as a PhD qualifying exam.

Questions can be on the fundamentals of Chemical engineering and outside the immediate field of the candidate.

At the end of the question period, the candidate and any observers will be requested to leave the room.

### ***(iii) Post Oral Review***

On the basis of the research summary, presentation, and academic standing, the committee may recommend that:

- the student transfer to the PhD program
- the student remain in the MASc program
- there is no option to reconvene the exam

### ***(iv) Transfer Process***

Upon successful completion of the bypass oral, students should fill out a Transfer Request form which is available on the School of Graduate Studies website, [www.sgs.utoronto.ca](http://www.sgs.utoronto.ca). This is necessary for the official transfer into the PhD program.

Students who successfully by-pass into the PhD program are not required to hold a PhD Qualifying Examination during their PhD studies, as the MASc by-pass exam fulfills this requirement.

## **6.2.10. Unsatisfactory Progress**

After each semester, the Departmental Graduate Studies Committee will consider the cases of those students who fail one graduate course. Students who at any time accumulate two failing grades will be required to withdraw unless extenuating circumstances exist. Students with one failure who are allowed to proceed will have their cases reviewed at a later date.

Students whose research work is unsatisfactory in the opinion of their supervisor, and/or who have not completed the degree requirements after 6 sessions (24 months) may have their progress to date assessed by a three-person committee made up of the supervisor and two faculty knowledgeable in the research area. The committee has complete authority to recommend the termination of a student's degree program if adequate progress is not demonstrated.

## **6.3. PhD Program Information**

### **6.3.1. Program Outline**

The PhD degree program is intended primarily for those who wish to be trained for an advanced career in research and/or academia.

### 6.3.2. Duration

The minimum program length is 3 sessions (1 calendar year), and all degree requirements must be completed within 18 sessions (6 calendar years). For direct entry students, the degree completion time is 21 sessions (7 years). Further extension is allowed on a yearly basis at 50% of the tuition fee and after permission from the Department and SGS for up to a maximum of 10 years. However our average time for completion is 5.5 years and the Department encourages completion after 4 years in the program.

Students who by-pass from the MASc program and enter 2<sup>nd</sup> year PhD, have 15 additional sessions (5 calendar years) to complete the PhD requirements.

### 6.3.3. Residence

The candidate is expected to remain in continuous residence until the Departmental recommendation for the Final Oral Examination has been made.

If academic matters prevent a student from maintaining residency (such as conducting research at a location away from the university) the supervisor must request and receive approval from the Graduate Coordinator for the accommodation. Additional approvals or documentation may be required; contact the Graduate Administrator for more information.

### 6.3.4. Degree Requirements

The PhD Program is comprised of course requirements, regular review of research and program progress and a thesis requirement. Each requirement is described in detail below.

#### (a) Course Requirements

- Normally, a PhD student completes all academic courses within the first year of study; this depends on course availability and is at the discretion of your supervisor
- Courses are normally taken from Engineering or Physical Science departments; check the courses section of the Chem Eng website for course suggestions
- No 500-level courses may be used towards your PhD degree requirements
- Students in a collaborative program must satisfy the requirements of that program in addition to this Department's requirements
- All courses taken for credit, whether as part of the degree or extra to degree, require approval by the supervisor and Graduate Coordinator.

<b>Academic Courses</b>	
If you have:	You need to take:
Previously completed an MASc degree	At least 4 half-credit (H) courses
Started in the MASc program, by-passed to the PhD after having completed 2 courses	At least 4 additional half-credit (H) courses
Started in the MASc program, by-passed to the PhD after having completed 2 courses and already have a Master's degree from a non-North American university	At least 2 additional half-credit (H) courses

Entered the PhD program directly after completing a Bachelor's degree	At least 6 half-credit (H) courses
<b>Seminar Courses</b>	
Attending Seminars: <i>Seminars in Chemical Engineering</i>	Successful completion of <i>CHE300X</i> in the Fall and Winter sessions up to 8 sessions (or until oral defense);
Presenting Seminars: <i>Graduate Student Seminar</i>  The Seminar will depend on the degree program you are registered in:	<i>CHE 2011H</i> : students not in a collaborative program - Once in Winter (S) session of year 3. Students who do not perform well will be asked to take a Scientific Writing course in the following fall term <i>BME 1011H</i> : students in the Biomedical Collaborative Program (IBBME) - Once a year, <i>either</i> Fall (F) <i>or</i> Winter (S) session <i>EDE3000H</i> : students in the Environmental Engineering Collaborative Program (CEEP) - As per CEEP requirements
<b>Additional Required Courses:</b> The courses below are to be taken once in your graduate studies at the University of Toronto; if you have taken the course in your MASc, you do not need to take the course in your PhD.	
<i>Safety Training Workshop</i>	Successful completion of <i>CHE2222H</i> before embarking on grad research, or teaching in the undergraduate laboratories.
<i>How to become an Outstanding Graduate Student</i>	Compulsory for all students in their first year; no separate ROSI enrolment required; attendance will be factored in <i>CHE300X</i> . Timetable posted on Chem Eng website.
<i>Ethics in Research</i>	Successful completion of <i>JDE 1000H</i> , normally in the first year of study; enroll in either the F or S section of the course. Exact date is announced by the Faculty of Applied Science and Engineering (FASE)

## (b) PhD Qualifying Examination

The examination is to be held within the first 9 to 13 months of registration in the PhD program.

Students who successfully by-pass from the MASc to the PhD program are not required to hold a PhD Qualifying Exam.

### (i) Examination Committee Members

The Examination Committee is comprised of:

- the supervisor(s)
- two other faculty members, one of whom must be from this Department (determined by the supervisor(s) and candidate), and
- a Chair, who is appointed by the Graduate Coordinator

### (ii) Distributing Research Proposal

Copies of the research proposal (up to 30 pages double-spaced, introduction to conclusions) should be distributed to the members of the examining committee at least two weeks in advance of the date of the examination. Committee members may refuse to

participate in an oral examination if less time is given to review the document. Hard copies are acceptable only (no email submissions)

### ***(iii) Assigning a Chair***

The candidate must email the following items to the Graduate Coordinator, who will appoint the Chair of the Qualifying Examination:

- a copy of their Abstract
- the research cluster they are studying in
- the name of each Committee member

Once the Graduate Coordinator has provided the candidate with the name of the Chair, the candidate should fix the date and time with all committee members and submit a formal request to hold the PhD Qualifying examination to the Graduate Assistant.

### ***(iv) Formal Request for the PhD Qualifying Examination***

A PhD Qualifying Examination Request Form is to be completed and submitted to the Graduate Assistant (WB 212) a minimum of one week (5 business days) prior to the examination. Please ensure that a ROSI printout of your transcript is attached to the form that includes your printed name.

The form can be found on the “Forms and Handbooks” page under the “Graduate Studies” section of the Chemical Engineering website: <http://www.chem-eng.utoronto.ca>.

The meeting room can be booked by contacting the Departmental Assistant in the main office (GB 217).

### ***(v) Conduct of the PhD Qualifying Examination***

#### **Pre Oral Review**

At the start of the oral the candidate will be asked to leave the room while the following procedures are carried out:

- The Chair will briefly review the relevant Departmental Policies related to the PhD program
- The Committee will review the length of time the candidate has been registered in the PhD program
- The Committee will review the student's course performance.

#### **Oral Examination**

The candidate will then be asked to enter the room, and the candidate will make a 20 minute presentation on his/her research.

The committee members will then question the student on his/her research. Questions may extend to fundamentals in chemical engineering beyond the main research area of the student.

At the end of the question period, the candidate and any observers will be requested to leave the room.

#### **Post-Oral Review**

On the basis of the research proposal, presentation and academic standing, the committee may recommend that:

- the student continue in the PhD program
- the examination is adjourned and reconvened within 4 months
- the student's registration in the program be terminated

#### **(c) PhD Reading Committee**

Each candidate, in consultation with his or her research supervisor, is to arrange for the establishment of a Reading Committee at the beginning of his or her program.

Following the PhD Qualifying Examination, the committee normally meets every 9 months to review the progress of the research program. Should there be extenuating circumstances preventing a Reading Committee meeting at the scheduled time, the student should notify the Graduate Coordinator, in writing, of the circumstances and request permission to delay the meeting.

The committee has complete authority to recommend the termination of a student's degree program if adequate progress is not demonstrated. PhD students should note that they are now required to give the date of their last Reading Committee Meeting on their Program Plan forms.

In addition to the regular consultation between candidate and supervisor, the candidate should seek advice and consultation informally with other members of the Reading Committee throughout his or her program.

Planning of the format and length of the thesis should be carried out in close consultation with the supervisor and Reading Committee.

The committee will also meet with the candidate to offer advice on the written thesis before the Departmental Final Oral Examination. At this final Reading Committee meeting, the members decide on three possible candidates for external examiner/ appraiser for the SGS PhD Final Oral Examination.

#### **(i) PhD Reading Committee Members**

The supervisor and candidate work together at the beginning of the program to select the PhD Reading Committee, which is comprised of:

- the supervisor(s)

- two other faculty members, one of whom must hold their primary appointment in this Department

### ***(ii) Formal Request for a Reading Committee Meeting***

A Request Form is to be completed and submitted to the Graduate Assistant (WB 212) a minimum of one week (5 business days) prior to the examination. Please ensure that a ROSI printout of your transcript is attached to the form that includes your printed name.

The form can be found on the “Forms and Handbooks” page under the “Graduate Studies” section of the Chemical Engineering website: <http://www.chem-eng.utoronto.ca>.

The meeting room can be booked by contacting the Departmental Assistant in the main office (GB 217).

### ***(iii) Conduct of PhD Reading Committee Meetings***

For each meeting, the student should prepare a brief progress report and make an oral presentation on the work to date and future plans to complete his/her degree.

On the basis of the progress report, the oral presentation and the student's answers to questions, the committee will evaluate the student's performance to date and make recommendations regarding modifications to the research plan or emphasis of the work.

The student must sign the evaluation form. The student may request a copy of it from the Graduate Assistant (WB 212).

### ***(d) Candidacy***

A PhD student in good standing who has achieved all program requirements including course requirements, qualifying departmental examinations, approved thesis topic and regular reading committee meetings, except the thesis defense is eligible for candidacy. Candidacy is normally achieved by the end of the third year.

Note: A PhD student may be denied further registration in their program and will have their eligibility terminated at the end of the third year of registration if by that time candidacy is not achieved.

A request for extension to achieve candidacy may be submitted to SGS in order to grant additional time to meet candidacy requirements. This requires approval from the supervisor and the Graduate Coordinator.

### ***(e) Thesis***

The thesis must involve an original contribution to knowledge, and be written and defended in an acceptable manner.

Students may, upon agreement between the student, supervisor(s) and the Graduate Coordinator, submit a collection of publishable papers as their thesis. This collection must at minimum have a coherent topic with an introduction presenting the general theme of the research and a conclusion summarizing and integrating the major findings. The minimum requirement is 3 papers (can be 2 published and 1 submitted) to a good quality, peer-reviewed journal.

Information about the SGS requirements for theses can be found at:

<http://www.sgs.utoronto.ca/informationfor/students/finup/producingthesis/formatting.htm>

Theses which do not conform to these guidelines will NOT be accepted by SGS. The SGS website <http://www.sgs.utoronto.ca/informationfor/students/finup/producingthesis.htm> includes additional information on submission procedures, information on:

- Submission process
- Copyright
- Forms to accompany the completed thesis

Where someone other than the candidate is a co-author of any portion of the thesis, this fact should be clearly indicated in the introduction, which should also state the actual contribution of the candidate to the work. The examination committee must be satisfied that the candidate's personal contribution to the thesis is sufficient to fulfill the requirements of the PhD degree. A candidate who intends to submit jointly authored work must be prepared to satisfy the committee on this issue. A statement from the co-author as to the candidate's contribution may be helpful.

The thesis should contain sufficient information so that others can replicate the experiments conducted.

### ***Length of Thesis***

It is recommended that the thesis be no longer than 200 pages, double-spaced, plus relevant appendices. If the student believes that the thesis should be significantly longer than 200 pages, then he or she should consult his or her Reading Committee and the Graduate Coordinator.

Copies of previously completed theses for inspection are available electronically through T-space (<https://tspace.library.utoronto.ca/>). The Main Office has hard copies of PhD Theses submitted prior to 2008 that can be borrowed.

## **6.3.5. PhD Departmental Final Oral Examination**

### **(a) Examination Committee Members**

The Examination Committee is comprised of:

- members of the Reading Committee, and
- 1 to 2 additional Faculty Members, preferably from this Department

The supervisor and student select the members of the examining committee and arrange a date and time convenient for all members.

The Graduate Office will appoint a Chair from the list of Committee members, exclusive of the candidate's primary supervisor.

### **(b) Distributing the Thesis**

Copies of the thesis should be distributed to the members of the examining committee at least two weeks in advance of the date of the oral. Committee members may refuse to participate in the examination if less time is given for the appraisal of the thesis.

### **(c) Formal Request for the PhD Departmental Final Oral Examination**

Once the committee membership has been determined, a PhD Departmental Final Oral Examination Request Form is to be completed and submitted to the Graduate Assistant. The form can be found on the "Forms and Handbooks" page under the "Graduate Studies" section of the Chemical Engineering website: <http://www.chem-eng.utoronto.ca>.

The form is to be submitted to the Graduate Assistant (WB 212) a minimum of one week (5 business days) prior to the examination. Please ensure that a ROSI printout of your transcript that includes your name is attached to the form.

The meeting room and laptop/projector can be booked through the Departmental Assistant in the main office (GB 217).

### **(d) Conduct of the PhD Departmental Final Oral Examination**

#### ***(i) Pre Oral Review***

At the start of the oral the candidate will be asked to leave the room while the following procedures are carried out:

- The Examination Chair will briefly review the relevant Departmental Policies related to the PhD program
- The Committee will review the length of time the candidate has been registered in the PhD program
- The Committee will review the student's course performance.

#### ***(ii) Oral Examination***

The candidate and any graduate student observers will then be asked to enter the room, and the candidate will make a 20 minute presentation on his/her research.

The committee members will then question the student on his/her research. Student observers may also ask questions.

At the end of the question period, the candidate and any observers will be requested to leave the room.

### ***(iii) Post Oral Review***

On the basis of the thesis and the oral defense, the committee may recommend that:

- the candidate proceed to the SGS PhD Final Oral Examination with the thesis as it stands
- the candidate proceed to the SGS PhD Final Oral Examination with minor corrections to the thesis
- the candidate proceed to the SGS PhD Final Oral Examination with minor modifications to the thesis
- the examination be adjourned, to be reconvened at a date decided upon at the examination

### **6.3.6. SGS PhD Final Oral Examination**

The regulations governing this examination are determined by the School of Graduate Studies and are outlined in detail in the SGS calendar.

Students are advised that at least 8 weeks notice is required by the Graduate Administrator to set up the examination.

#### **(a) Examination Committee Members**

This committee is comprised of 5 to 6 voting members, as follows:

- a maximum of 3 three members of the Reading Committee;
- 1 to 3 additional members of the graduate Faculty at the University who have not been closely associated with the candidate's research
- an External Appraiser who has not been closely associated with the research of either the candidate or the candidate's supervisor(s). The Appraiser must be at the rank of Associate Professor or Professor.

#### **(b) Formal Request for the SGS PhD Final Oral Examination**

##### ***(i) Completion of the SGS PhD Final Oral Exam Request Form***

Once the committee membership has been determined, an SGS PhD Final Oral Examination Request Form is to be completed and submitted to the Graduate Administrator. The form can be found on the "Forms and Handbooks" page under the "Graduate Studies" section of the Chemical Engineering website: <http://www.chem-eng.utoronto.ca>.

When completing the form, ensure that:

- the form lists, in order of preference, the names of three potential External Appraisers agreed upon by the Reading Committee
- a brief justification for each nominee is included
- An electronic copy of the C.V. for each potential Appraiser is sent to the Graduate Administrator. The C.V. may be the web page content from a website if it contains the following information:
  - affiliation
  - up-to-date publication list (including the last 5 years)

- employment history

To avoid any prejudicing of the examination, the candidate must not contact the potential Appraisers, so any communications with the Appraiser regarding the C.V. or examination arrangements must be made by the supervisor or other committee member.

### ***(ii) Selecting the External Appraiser***

Once the form is reviewed and the potential External Appraiser is approved by the Graduate Coordinator and by SGS. After SGS approval is obtained, the supervisor contacts that individual and obtains:

- his or her agreement to serve as external examiner or appraiser and
- possible dates and times for the oral examination.

In order to maintain an “arm’s length” relationship, the supervisor must limit contact with the external appraiser to getting his/her agreement and determining possible dates and times for the examination.

### ***(iii) Examination Arrangements***

The examination date must be a minimum of 7 weeks from the date that the supervisor notifies the Graduate Administrator of the examination date.

Once the date and time are selected, the Graduate Administrator works with SGS to book a meeting location and locate a Chair for the examination.

### ***(iv) Distribution of the Thesis***

The student is to distribute a copy of their thesis to all committee members exclusive of the External Appraiser. This should be done a minimum of 6 weeks prior to the examination

Candidates are to submit a paper copy of the thesis to the Graduate Administrator, who will forward it to the External Appraiser. Please note that the Graduate Administrator must receive the thesis at least 7 weeks in advance of the date of the oral to provide sufficient time for the Appraiser to receive, review, and appraise the thesis

### ***(v) External Appraisal***

The appraisal is received by the Graduate Administrator, and forwarded to the student at least 2 weeks prior to the examination. The Graduate Administrator will send a copy of the appraisal to SGS and the examining committee.

Should the appraisal not be received by the student at least 2 weeks prior to the examination, the candidate may:

- agree to continue with the examination on the scheduled date, despite having less than 2 weeks prior to the examination to review the appraisal, or
- postpone the examination to a later date

If the examination is postponed, no changes to the Examination Committee membership may be made.

### **(vi) The Examination**

The examination procedures are located on the School of Graduate Studies website at: <http://www.sgs.utoronto.ca/informationfor/students/finup/oralex.htm>. The procedures are very similar to those of the Departmental PhD Final Oral Examination.

### **(vii) Post Examination**

Immediately after the oral examination, the candidate must return to the SGS PhD Orals Office (SGS building, 63 St. George Street, 3<sup>rd</sup> floor) where several documents have to be signed.

### **(viii) Graduation**

Following the oral examination, the student makes all corrections to the thesis as required by the examining committee. Once the supervisor has approved the corrected thesis and informed the Graduate Administrator via email that the corrections have been made, the student submits copies as follows:

- 1 electronic copy to School of Graduate Studies submitted online. For step-by-step instructions visit: <http://www.sgs.utoronto.ca/informationfor/students/finup/producingthesis/t-space.htm>
- 1 bound copy to the Main Office (see the General Office Supervisor, WB 217)
- 1 bound copy to each supervisor

Bound copies of the thesis and the completion form should be returned to the Department before graduation.

The candidate must also complete and hand in the Materials Sign-Off form to the Graduate Administrator; the form can be found on the departmental website: <http://www.chem-eng.utoronto.ca>.

Please check Appendix A for information on thesis preparation costs.

In the final year of PhD study, tuition fees are calculated on a monthly basis, and charged on the 15th day of each month.

The Dates and Deadlines section at the beginning of this handbook includes deadlines that affect the convocation (graduation) date of your degree.

## **Appendix A: MASc-PhD Thesis Binding Reimbursement**

The Department will cover the photocopying and binding costs associated with one final copy of the MASc/PhD Thesis to a maximum per copy of 70/200 pages respectively, plus appendices. The Supervisor will pay for charges for pages in excess of the above limits.

The Department will provide up to \$40 for MASc and \$75 for PhD for Thesis binding costs incurred by the student, provided the degree has been earned on a “full-time” basis and receipts are provided.

No monies will be paid until an authorization slip and the required bound copy is received by the General Office Supervisor, or the Business Officer in the Main Office (WB 217).

All original receipts for costs must be presented before you can be reimbursed. These receipts are to be attached to a completed Expense Reimbursement Form and then should be given to the General Office Supervisor, or the Business Officer in WB 217. Please keep in mind that a “transaction record” of a credit card or debit card purchase is not a receipt.