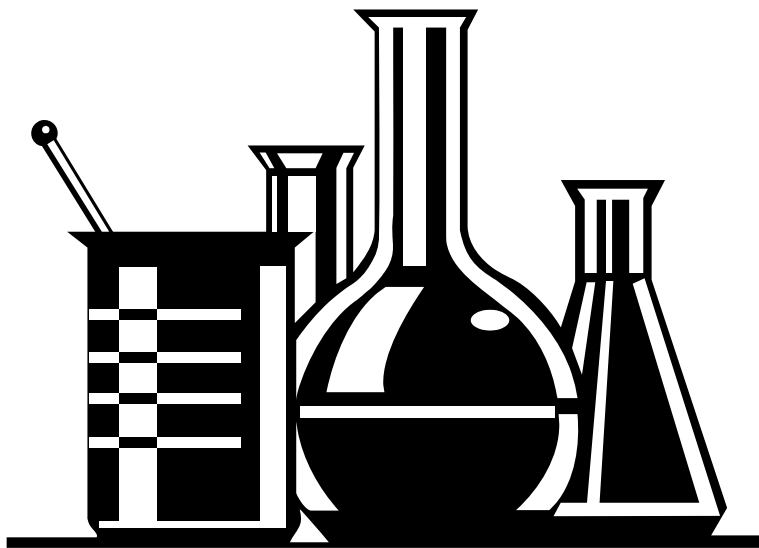


**DEPARTMENT OF
CHEMICAL ENGINEERING**



Graduate Student Handbook

2011 - 2012

INDEX

ADDRESS CHANGE	8
BUS PASSES	8
CHEMICAL ENGINEERING CLUB (Graduate)	27
COMPREHENSIVE EXAMINATION FOR Ph.D. STUDENTS	23
COURSE REQUIREMENTS FOR GRADUATE STUDENTS	20
DEPARTMENTAL CHECK OUT REQUIREMENTS	29
DEPARTMENTAL STAFF	1
DOCTORAL THESES	26
E-MAIL	8
EMPLOYMENT REGULATIONS	10
ENTRY OF Ph.D. PROGRAM WITHOUT COMPLETION OF MASTERS REQUIREMENTS ...	21
ESCORT SERVICE – SWHAT	5
FINANCIAL SUPPORT	9
GRADUATE COURSES	17
GRADUATE STUDENT HOLIDAYS	12
GRADUATE TRANSCRIPTS	9
INTERNATIONAL STUDENTS	15
LEAVES OF ABSENCE	2
McMASTER UNIVERSITY CHEMICAL ENGINEERING CONFERENCE	26
OHIP (Ontario Health Insurance Plan)	16
OTHER UNIVERSITY ADMINISTRATIVE INFORMATION	12
RATE OF PROGRESS	20
RATE OF PROGRESS IN DOCTOR OF PHILOSOPHY PROGRAM (Ph.D.)	21
RATE OF PROGRESS IN RESEARCH MASTER’S PROGRAM (M.A.Sc.)	20
REGISTRATION	6
REQUEST FOR SPECIAL LETTERS	8

RESEARCH AND PROJECT SELECTION AND RESEARCH PROPOSALS 20

RESEARCH PROPOSAL TO THE SUPERVISORY COMMITTEE 25

RESPONSILIBILITIES OF GRADUATE STUDENTS TO THE UNIVERSITY 2

SAFETY & SECURITY 3

SAFETY SEMINAR 4

SCHOLARSHIPS AND AWARDS 11

SEMINARS IN THE DEPARTMENT 26

SOCIAL INSURANCE NUMBER (SIN) 16

SUPERVISORY COMMITTEES – DOCTORAL STUDENTS 22

THESES 24

UHIP (University Health Insurance Plan) 16

UNIVERSITY NETWORK ACCESS CONNECTION FOR COMPUTERS 6

WASTE CHEMICAL DISPOSAL 4

This Graduate Student Handbook has been prepared to bring together in one place instructions and information, which should be helpful for new and continuing graduate students in the Department of Chemical Engineering at McMaster University.

The information in this Handbook is specific to the Department of Chemical Engineering.

Graduate students are responsible for reading the Calendar of the School of Graduate Studies and taking the necessary action regarding registration, submission of theses and so on that are specified therein. Particular regulations for graduate study, for example, those pertaining to Comprehensive Examinations, which have been created within the Department of Chemical Engineering, are specified in this Handbook. As changes in the School of Graduate Studies or Departmental regulations occur, the Department of Chemical Engineering will attempt to keep the graduate students informed. Questions arising from a study of the calendar should be directed to the attention of the student's research supervisor, or to the Chair of the Department.

Graduate students finding errors or ambiguities in this Handbook, or having any suggestions for additional material, are urged to make their comments known, in writing, to the Administrator, Kathy Goodram.

DEPARTMENTAL STAFF

Administrative

- **Kathy Goodram, Administrator, ext. 24762, email-goodram**
See Kathy for key permission, payroll, TA inquiries.
- **Lynn Falkiner, Undergraduate Assistant, ext. 24957, email-falkiner**
See Lynn for assistance with copy account, key card access, and room bookings.
- **Melissa Vasil, Graduate Assistant, ext. 24292, email-vasilm**
See Melissa for thesis submission, scholarships, supervisory meetings, comprehensive exams, seminars.

Technical

- **Doug Keller, Laboratory Manager, ext. 24014, email-kellerdm**
See Doug for Health & Safety policies, laboratory infrastructure issues.
- **Justyna Derkach, Undergraduate Lab/Research Assistant, ext. 24958, email-derkach**
See Justyna for department safety issues, safety reports, WHMIS, gas cylinders.
- **Paul Gatt, Mechanical Technician, ext. 24880, email-gattp**
See Paul for design and fabrication of devices, and machine shop issues.
- **Dan Wright, Instrumentation Technician, ext. 24959, email-chemtec**
See Dan for instrumentation/electrical/computer issues

RESPONSIBILITIES OF GRADUATE STUDENTS TO THE UNIVERSITY

Just as the University has responsibilities to graduate students, they have responsibilities to the University. The student's responsibilities include, but are not limited to: registering annually until graduation, withdrawal, or withdrawal in good standing due to time limit; paying fees as required; complying with the regulations of the School of Graduate Studies as set out in the School of Graduate Studies Calendar. Where applicable, students are responsible for complying with such conditions as may be laid out in an accepted letter of offer. Students are also responsible for complying with the regulations of the Ontario Council of Graduate Studies, and McMaster University with respect to full-time and part-time status and, in particular, for informing the School of Graduate Studies of any change in employment status. Students are further responsible for informing the School of Graduate Studies, which acts as the official keeper of student records, of any change in personal information such as address, name, telephone number, etc. Students are also responsible for reporting through the department any change in student status, course registration, or withdrawal. With regard to research and study, students are responsible for maintaining contact and meeting regularly with the faculty advisor, thesis/project supervisor or supervisory committee, for observing departmental guidelines, and for meeting the deadlines of the department and the School of Graduate Studies.

If there is a problem with supervision, it is the student's responsibility to contact the Department Chair.

Students who undertake to write Master or Doctoral theses assume responsibility both for creating drafts of the thesis and for responding to direction from the Supervisory Committee. The student shall have the responsibility to write and ultimately to defend the thesis and the Supervisory Committee has the responsibility to offer guidance in the course of the endeavor, and to recommend or not recommend the completed thesis for defense.

In order to receive a degree, the student must fulfill all departmental or program requirements and all University regulations, including those of the School of Graduate Studies. Students who have outstanding financial accounts at the end of the academic year will not receive their academic results, diplomas, or transcripts.

Since registration permits access to libraries and certain other academic facilities, it also implies a commitment on the part of each graduate student to use such facilities in accordance with applicable rules.

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.

Leaves of Absence

Leaves of absence are normally granted on a term-by-term basis and, whenever possible, should commence at the beginning of a term (i.e., January 1 May 1 or September 1). During the period of a Leave the students cannot expect to be given guidance on the thesis or be entitled to use the University's facilities. During a Leave of Absence no tuition will be charged, nor will the student be eligible for any scholarship support. The length of time for completing the degree and for eligibility for scholarship support will be extended by the duration of the Leave on the resumption of studies. A student should resume studies at the beginning of a term. Leaves of Absence affecting Teaching Assistantship duties are covered by the Collective Agreement with Local 3906 (Unit 1) of the Canadian Union of Public employees.

Students should be aware that in the event of Leaves of Absence continuation of the same research project and/or supervisor cannot be guaranteed.

Reasons for Leaves of Absence

A Leave of Absence for up to one year is permitted for reasons of illness or for reasons related to family responsibilities such as pregnancy and child rearing.

Students who have successfully completed at least one full year in a graduate program may apply for a Leave of Absence for up to one year for other personal circumstances, including severe financial problems, provided that the student's supervisor and the department support the request.

SAFETY & SECURITY

WHMIS Training Sessions

The acronym WHMIS refers to Workplace Hazardous Materials Information System, which is legislation that came into effect on October 31, 1988. This legislation gives everyone the right to know about any hazardous materials with which they may work.

The WHMIS legislation makes it **mandatory** that all employees attend a short course (approximately three hours in duration), which will provide basic information.

In addition to WHMIS training, all graduate students are required to take:

- Ergonomics
- Fire Safety
- Slips, Trips and Falls
- Asbestos Awareness

All of the above courses are available through the on-line training portal of Environmental & Occupational Health Support Services (EOHSS). Please go their website at:

<http://ell.mcmaster.ca/eohss/> to register. A listing of the sessions offered is also posted.

You must complete WHMIS training before you will be issued keys to lab.

Safety Seminar

There is also a **mandatory** departmental safety seminar on:

THURSDAY, SEPTEMBER 8, 10:30 a.m. in JHE-326H

All graduate students are required to attend.

Safety Reports

Before the start of an experimental program, all graduate students, PDF's plus all other researchers are required to submit a safety report to the Departmental Safety Committee. No-one can commence their experimental work until their report is submitted and approved. The report must be updated regularly or when a significant change in the experimental work occurs. Safety Report forms and instructions can be downloaded from the Chemical Engineering website <http://www.chemeng.mcmaster.ca/research/default.htm>.

If you are carrying out computational type of work, you are still required to submit a safety report.

Eye Safety Regulations

All people entering an active laboratory must wear eye protection. The specific type of protection will be determined by the actual hazards present. Graduate students should discuss this with their Faculty Supervisor.

Nearby Assistance

If the experimental work is potentially hazardous you must not work alone. It is necessary to have a "qualified" person nearby who understands safety procedures.

No Smoking, Eating Or Drinking In The Labs

Do not smoke, eat or drink, or store food in the laboratory areas. This is obvious for health, safety and legal reasons.

Reporting Of A Safety Incident

Any incident, which could have resulted in injury, must be reported to the Department immediately. The Department contacts are:

- **Justyna Derkach**, Undergraduate Lab/Research Assistant, ext. 24958
- **Doug Keller**, Laboratory Manager, ext. 24014 Cell # 905 518 6610
- Your faculty supervisor

The university is required by law to report such incidents to the Workplace Safety and Insurance Board (WSIB).

Fire Safety Procedure

In the case of fire, or the sounding of an alarm "**Get Out And Stay Out**". You should be at least 50 feet away from the building and not return until the "All Clear" is given.

Waste Chemical Disposal - Safety

- Hazardous chemical waste will be picked up from your laboratory every Tuesday between 9:00-11:00 a.m. You must wait for the waste management company to arrive at your laboratory for the pick up.

- By Friday afternoon, prior to the pick-up on Tuesday you are required to provide EOHS with a copy of the chemical waste disposal record either by fax at (905) 540-9085 or by e-mail at waste@mcmaster.ca.
- All waste must be identified and properly labeled. Unlabelled waste will not be accepted.
- Do not pour hazardous chemicals down the drains.
- Do not throw hazardous chemical waste into the garbage bins.

Graduate students and other researchers in Chemical Engineering who are not certain how to dispose of waste should contact Justyna Derkach or Doug Keller for details.

Security

McMaster's location can sometimes make you forget that the world is not always a nice place. Theft, particularly of bicycles and computers can be a problem. You are encouraged to ID your bicycle, computers and other valuables. Be aware of your surroundings. There have been thefts of personal belongings and research equipment from laboratories and offices. Please lock your door each time you leave your room/laboratory - even for 5 minutes. If you are using the library or other common areas, do not ever leave valuables (wallets, purses, etc.) where they can be taken.

McMaster Security Officers act under the authority of the Ontario Police Act to enforce federal and provincial regulations. They are here to protect, not to harass you. Students who violate these statutes and bylaws are subject to arrest, prosecution and/or disciplinary action under McMaster's Student Code of Conduct.

Emergency

In case of emergency call 88. The McMaster Security office is located in E. T. Clarke 201 and can be contacted at ext. 24281. This office is responsible for overall security on campus. In addition they operate a Lost and Found service (ext. 23366). Any lost items will be held by them for 60 days.

Escort Service - SWHAT

During the months of September through April, students operate an escort service, "Students Walk Home Attendant Team" (SWHAT). After dark, if you telephone ext. 27500, you can arrange to be escorted to your car or residence by a male and a female student. This service is provided for your protection and should, therefore, be utilized. During the months, May to August, the Campus Security will look after escorting you to your car or residence. The extension is the same – 27500.

UNIVERSITY NETWORK ACCESS CONNECTION FOR COMPUTERS

This policy applies to both University owned computers and personally owned computers.

Users must adhere to all University requirements and policies. Examples of these policies include, but are not limited to, the following documents: “Computer Access Accounts” and “Code Conduct” (http://www.mcmaster.ca/uts/policy/comp_networks.htm)

Any computer connected to the University network and assigned an IP address must have registered operating system (OS) which has current security patches and updates applied. If the OS is not registered then it will not be connected to the University network and no IP address will issued. If the supervisor of the computer owner requests a reason for the network access refusal the reason is that the computer is not in compliance with McMaster requirements for hardware/software licensing.

All computers within the Department that are connected to University network must have operational anti-virus (AV) software running. The AV software must have current updates and virus definitions applied.

The lack of current AV software or the lack of current OS updates may cause University Technology Services (UTS) to block the machine’s IP address. The most common reasons for blocked IP addresses are: Virus/Worm Infection; Comprised or Vulnerable Host; Unusually High Traffic Volume; Using Unauthorized IP address.

GRADUATE STUDENT DAY (FORMERLY TA DAY)

Graduate Student Day is Wednesday, September 7 and is **mandatory** for all graduate students who hold teaching assistantships.

Date: Wednesday, September 7, 2011
Time: Registration starting at 8:00 a.m. ****On-line Registration only****
Location: BSB, Main Entrance
Information: <http://cll.mcmaster.ca/>

The Centre for Leadership in Learning (CLL) has developed an orientation program to help develop your teaching skills. The program has a variety of activities that will allow you to meet and talk with experienced graduate students, TA's and professors. Some of the topics include:

- Desire2Learn
- Labs and Tutorials in Science and Engineering
- Making and Delivering Effective Presentations
- Marking Labs and Assigned Problems
- Stimulating Discussions
- The First Tutorial
- Sentenceworks and Elluminate

2:30 Departmental Orientation in JHE-342
3:00 Departmental Picture
3:30 Chemical Engineering TA Panel, JHE-342

The day concludes with a party at the Phoenix (the Grad Pub). Over dinner and refreshments, you can meet TA's and professors from every department on campus.

GRADUATE STUDIES AT MCMASTER

Registration

All students have to register for the forthcoming academic year on-line using the SOLAR. The registration information is available on

http://graduate.mcmaster.ca/images/files/Admin_Schol_Materials/Registration_SGS.pdf. Initially you will need both your student number and your bar code (shown on your admission letter or student card) to set a PIN number, then you will be able to access the university's on-line registration system. For Fall 2011, the system will be available to all students, both new and returning, between July 14 – August 5, 2011. Any student who fails to register by that date will be charged a \$50 late fee. Late registration will be available from August 6 – September 12, 2011.

January 2012 Registration

On-time Registration: Thursday, December 1 – Thursday, December 22, 2011

*Late Registration: Friday, December 23, 2010 – Monday, January 9, 2012

In addition to completing academic registration, students are also required to complete a payment agreement using SOLAR. Graduate Students with full support for the entire academic year will be able to select Payroll deduction as their payment method. Other students should refer to the Graduate Studies website

http://www.mcmaster.ca/bms/student/SAC_students_pa.htm for instructions on payment of fees. Please note that due dates for payments are clearly outlined on the on-line payment agreement. Otherwise interest charges will apply.

Any changes to your personal information cannot be made on SOLAR, such as name change, social insurance number and immigration status. You will need to provide the proper paper documentation and take it directly to the Graduate Studies office (GH-212).

New VISA Students

Visa Students must register on-line, but will receive the message “Study Permit Required”. Registration will not be complete until a copy of the study permit has been presented to the Graduate Studies office.

E-mail

The School of Graduate Studies and the Department will use electronic mail to communicate directly with graduate students at various times during the year. The University Technology Services (UTS) provides each student with an e-mail address. You are required to “self-register” for your e-mail address via the MUGSI system McMaster University Student Information System http://www.mcmaster.ca/uts/mugsi_reg.htm. During the self-registration process you will be given a password, it is important to keep a note of this original password, as it will be required again for library and JHE computer access. If you have any major problems you can call the UTS help line on 24357.

All students are required to register for services on MUGSI on an annual basis. Student accounts not renewed by October 15 are disabled and are subject to deletion. Students are expected to read their e-mail on a regular basis. Not reading email messages will not be treated as a valid reason for not adhering to regulations, procedures or deadlines.

Address changes

Students are responsible for keeping their personal contacts, such as addresses and phone numbers up to date, you can update these details on MUGSI at <https://adweb.cis.mcmaster.ca/cis/ud4000>.

Bus passes

All full time Graduate Students are eligible for a Hamilton Street Railway (HSR) bus pass. After registering for the current academic year and obtaining your valid registration sticker for the academic year you will be able to obtain your bus pass

from the Graduate Students Association (GSA) (<http://www.mcmaster.ca/gsa/>) office located in Wentworth House.

FINANCIAL SUPPORT

Payment of Departmental Scholarship & Teaching Assistantship

The payroll for the graduate students is handled by the School of Graduate Studies as long as the student is not considered overtime. Payday is the last Thursday of each month, except December. The monthly payment to the graduate students will be made by direct bank deposit. A Statement of Earnings will be mailed each month to the students usually the last Thursday of each month. Should you have any questions concerning your monthly payment, please contact Kathy. At this time, the Department is obliged to inform you that its policy is to not extend the Departmental Scholarship support beyond the first **20 months** of a M.A.Sc.'s program. No departmental scholarships are available for the M.Eng. Course Master's; however candidates may negotiate some support with their research supervisor(s). Ph.D. students are expected to complete their program within 4 years of entering (from M.A.Sc. graduation, or from direct entry or from transferring from M.A.Sc. without a thesis). The financial support ends at the end of the **4-year** period, unless other arrangements are made with the research supervisor.

Graduate transcripts

If you wish to obtain a McMaster graduate transcript, you must place your order with the receptionist in the Office of the Registrar (Room 108, Gilmour Hall). The form is available on-line at <http://registrar.mcmaster.ca/registered/forms.html> It normally takes 2-3 days for the transcript/s to be available. In course students who require copies of their record from other institutions, can obtain copies from the School of Graduate Studies.

Request for special letters

From time to time, special letters are needed for reasons of work authorization, visas, travel, etc. When requesting such letters, please be specific and let us know if you will require financial details. Please allow at least **one week** for preparation and signature. A maximum of **3** letters will be done per year. If more are needed, there will be a cost.

Calculations of Monthly Payments

The payroll system will equalize your payments over the year unless you are or will be overtime.

Incidental Fees (Admin Services, Student services, GSA Fee, GSA Insurance, Sports complex fee and HSR = \$537.82 for September 2011) will ALL be deducted in September 2011.

VACATION PAY IS INCLUDED IN THE TEACHING ASSISTANTSHIP WAGES. (Please refer to Article 19.01 in the collective agreement.) You will NOT receive a lump sum payment at the end of the year.

OTHER DEDUCTIONS - Please keep the following in mind

- 1. Tuition** – Graduate Students with full support who select payroll deduction as their payment method (within the on-line payment agreement) will have fees cleared automatically throughout the year.

NOTE: If you are in your final year of funding and overtime, the annual tuition owed will be deducted based on the information that has been accepted and confirmed on the Payment Agreement Form you completed at the time of registration.

- 1. Taxes** – The University is required by law to deduct Employment Insurance and Canada Pension premiums on ALL employment income. Income tax will be assessed on ALL income (including scholarships and bursaries). You should complete the Personal Tax Credit Return forms (TD1 and TD1ON) which may lower the rate at which you are taxed. These forms are available on line on the School of Graduate Studies web page under forms, initiated by student. Please return your completed forms to the Graduate Studies Office (GH-

212).

2. **CUPE** - If you are receiving a Teaching Assistantship or a Research Assistantship in lieu of TA, you are a member of the Canadian Union of Public Employees, Local 3906. Union dues are deducted in each month in which you receive TA/RA monies.
3. **Dental Plan** – All full-time graduate students who are receiving a TA and/or a RA in lieu of a TA of 130 hours or greater will have Dental Plan premiums deducted each month for the full year (September to August). Provisions for opting-out of the Dental Plan or for obtaining family coverage are covered in a separate document, CUPE Dental Plan. Dental claim forms and opt out forms are available in PDF-format at <http://www.cupe3906.org/wordpress/benefits-forms/unit-1-benefits/dental>

DIRECT DEPOSIT - Is mandatory

As a graduate student, your monthly payments will be deposited directly into your bank account. **This method of payment is mandatory.** A “Statement of Earnings”, showing details of your payment, will be mailed to you at the Chem. Eng. office. You should obtain an application for direct deposit from <http://graduate.mcmaster.ca/current-students/forms/570-student-forms>. **Please arrange this immediately as failure to do so will result in considerable delay in obtaining your pay.**

Employment Regulations

There are 3 terms in the School of Graduate Studies: Fall (September to December), Winter (January through April), and Summer (May through August). Students who begin as full-time students are expected to remain full-time until the degree requirements are completed, or until they take up employment of more than 10 hours/week. In the latter case, they are no longer full-time students (but continue to pay the fee schedule set out for the regular program). Once the student has ceased full-time status, it cannot be regained unless approved by both the Department and the School of Graduate Studies.

If a student is to be employed other than as a TA, the School of Graduate Studies should be informed in writing as to the nature of the employment, and the approval of the supervisor and the Chair is required. The approval of the School of Graduate Studies is required if the student is to be hired for University teaching.

Discounted Fees

Only PhD students are eligible for discounted fees – MASc students are no longer eligible. All full-time PhD students who are entering into term 13 will be **automatically eligible** – forms are no longer required.

SCHOLARSHIPS AND AWARDS

Recipients of graduate scholarships, prizes and fellowships are made on the basis of academic merit or other achieved merit. Below are some of the scholarships available to students. Details and application deadlines will be forwarded to students by e-mail.

Natural Sciences and Engineering Research Council of Canada (NSERC)

NSERC Postgraduate Scholarships are awarded through a national competition, adjudicated by scholarship committees selected by NSERC from faculty at universities across the country. Before your application gets to NSERC, however, it goes through two stages of review within a university. First, each department is required to rank all the applications that it will be forwarding. Next, a University scholarships committee ranks all of the applications within the university. Then, the applications are forwarded to NSERC along with these rankings. The NSERC committee meshes the rankings from all of the universities. You can see why the process takes some time, and why you need to have your application submitted to your department much sooner than the NSERC deadline.

Natural Sciences and Engineering Research Council of Canada Postgraduate Scholarships are tenable at McMaster University. Please refer to the NSERC Web site at <http://www.nserc.gc.ca/> for down loadable application (Form 200), Scholarships and fellowships Guide for Students.

Canada Graduate Scholarships (CGS)

Master's for one-year have a current value of \$17,500 and Doctoral for \$35,000 a year for up to 3 years.

Ontario Graduate Scholarships (OGS)

Ontario Graduate Scholarships are awarded through a provincial competition, adjudicated by panels selected by the Ministry of Training, Colleges and Universities from faculty at universities across the province. Before your application reaches the Ministry, it goes through a single review within the University. Each department is required to rank all the applications submitted by its students. The applications and rankings are then sent to OGS by the University.

The Province of Ontario offers scholarships (in conjunction with McMaster University) currently valued at \$5,000 per term to students in or entering graduate programs. Please refer to the OSAP website at <http://osap.gov.on.ca> or http://eng/not_secure/OGS.html

Ontario Graduate Scholarships in Science and Technology (OGSST)

The Ontario Government, in partnership with the private sector, rewards excellence in graduate studies in science and technology through the Ontario Graduate Scholarships in Science and Technology. Most are currently valued at \$15,000 per annum.

A full listing of awards is given in the School of Graduate Studies Calendar in section 8 (Fellowships, Scholarships, Bursaries and Other Awards).

GRADUATE STUDENT HOLIDAYS

Graduate students should discuss any vacation request with their supervisor/s. Vacation must be approved in advance by the student's supervisor/s. Vacation should not be taken during the academic terms when you are registered for courses and especially if you are assisting with TA duties. Students are asked to inform the Departmental Office when they are going to be away.

The University will be closed for Holidays on the following days for 2011/2012.

Monday September 5	Labour Day Holiday
Monday October 10	Thanksgiving Day
Monday December 26	In lieu of Christmas Day
Tuesday December 27	In lieu of Boxing Day
Wednesday December 28	Floating Holiday
Thursday, December 29	Floating Holiday
Friday December 30	In lieu of New Year's Day 2011
Monday February 20	Family Day
Friday April 6	Good Friday
Monday May 21	Victoria Day
Monday July 2	Canada Day
Monday August 6	Civic Holiday

OTHER UNIVERSITY ADMINISTRATIVE INFORMATION

Graduate Studies

If you have administrative questions, and the Department cannot help you, the following Graduate Studies Staff can help you in the following areas by email:

- Scholarship Competitions:
(905) 525-9140, ext. 24234, Lorraine Koutalos, koutalo@mcmaster.ca
- Payroll and Employment Regulations:
Dina LoPresti, (905) 525-9140, ext. 23686, loprest@mcmaster.ca
Lorna Thomas (905) 525 9140 ext. 24258, lthomas@mcmaster.ca
- Thesis Preparation and Ph.D. Defences:
Christina Bryce, Thesis Co-ordinator (905) 525-9140, ext. 23680
Mailing Address: School of Graduate Studies, Gilmour Hall, Room 212, McMaster University,
Hamilton, ON, L8S 4M2 gthesis@mcmaster.ca
- General Inquiries, ext. 23679. Fax: (905) 521-0689

Housing

In order to help students get started in their search for housing, the University operates an Off-Campus Housing Office. The office is located in University Centre, Room UB112.

- General Inquiries: (905) 525-9140, ext. 24086
- Email: ocho@mcmaster.ca
- Website: <http://housing.mcmaster.ca>

Parking and Transit Services

There are a limited number of parking facilities on campus. Travel to and from the University on foot, by bicycle, by public transportation and by car pools, is encouraged.

If you do require parking for an extended period, please contact the Parking Office in the E.T. Clarke Centre, Room 102, where you will have to present a current University Identification Card, vehicle registration and payment of the parking fee. Special arrangements can be made for disabled parking privileges.

- ***Chaplaincy Centre***
The McMaster University Chaplaincy Centre has an open door policy and offers responsive pastoral support to the whole community with personal counselling, bereavement support groups, public memorial services, and participation in McMaster University networks and programs. It is located in the McMaster Student Centre in room MUSC-231. <http://www.mcmaster.ca/chaplain/>
- ***Titles Bookstore***
It is located in the GH-B101. <http://titles.mcmaster.ca/>
- ***Student Wellness Centre***
You can access health services on campus in the Campus Health Centre, which is located in the McMaster Student Centre B101 ext. 27700. They provide medical care similar to a family physician and health care is available throughout the year for all students. There is also a pharmacy located in the McMaster Student Centre. For more information on health care and wellness services and office hours, please visit. <http://wellness.mcmaster.ca/>
- ***Student Success Centre***
Career Services is located in GH-110 and is designed to help students in all programs and faculties in establishing a more focused view of their academic and career options. They provide a full range of career and employment related services, including career counselling, job postings, On-Campus Recruitment (OCR), career information, resume workshops and coaching, interview skills and job search workshops, personality and interest testing, educational planning, as well as mentoring and experiential education opportunities. <http://studentsuccess.mcmaster.ca/>
- ***Financial Aid & Scholarships***
Helping students address the financial obligations associated with University study. Providing service to students in all areas of financial support: *loans (i.e. OSAP, BCSAP), bursaries, work programs and scholarships*. Office location is GH-120. <http://sfas.mcmaster.ca/>
- ***International Student Services***
ISS is a vibrant and essential part of Student Affairs, and as a student service, aims to provide core services and programmes for international students, visiting scholars, post-doctoral fellows and faculty at McMaster University, and their families. ISS also provides information to students at McMaster on a range of options from independent study and externally sponsored programmes, to summer session and McMaster's formal student exchange programmes as well as opportunities to work and student abroad. ISS is also responsible for the administration of the University Health Insurance Plan (UHIP) for all international students. Office location is GH-104. <http://oisa.mcmaster.ca/>
- ***Housing & Conference Services***
Conference Services, Living On Campus, Off-Campus Housing. Located in Commons Building, (CB-104)

- ***Off-Campus Resource Centre***
Assistance in finding suitable housing off-campus and contacting potential housemates, office location is in the MUSC-B109 <http://www.mcmaster.ca/socs/>
- ***Hospitality Services***
Dining On Campus Visit <http://mealcard.mcmaster.ca> for Meal Plans, Meal Card Info., Account Status & History, Meal Card Deactivation, office location CB-104 <http://hospitality.mcmaster.ca/>
- ***Human Rights & Equity Services***
The services offered by HRES are available to the entire McMaster community – students, staff and faculty. The overall goal is to create an environment where everyone can learn, work, teach or live in an atmosphere free from all forms of violence, harassment and discrimination. For more information, visit <http://www.mcmaster.ca/hres/> office location CB-104
- ***Ombuds Office***
The Ombuds Office provides impartial, independent, and informal dispute-resolution advice and assistance to all members of the University community. The Ombuds Office is located in MUSC- 210 <http://www.mcmaster.ca/ombuds/>
- ***Athletics & Recreation***
To enhance the student experience and the McMaster community through engagement in programs and services, built on a foundation of physical activity, health, wellness and sport, located at the Ivor Wynne Centre <http://www-athrec.mcmaster.ca/>
- ***University Plans, Policies, Procedures & Guidelines***
University Plans, Policies, Procedures & Guidelines pertaining to Graduate Studies <http://www.mcmaster.ca/policy/> Office location, Wentworth House 109A.
- ***Graduate Students Association (GSA)***
The mandate of the GSA is to promote the welfare and interests of the members through the provision of facilities and opportunities for social, athletic and intellectual activities; to represent the members before the duly elected and appointed authorities of McMaster University, and to promote communication and participation in all matters of common interest between the members of other student organizations, both at McMaster and in other educational institutions <http://www.mcmaster.ca/gsa/> Wentworth House 109A
- ***CUPE***
Representing Teaching Assistants Sessional Lectures at McMaster <http://www.cupe3906.org/> The union office is located in Wentworth House B108

INTERNATIONAL STUDENTS

As a newcomer to Canada, you are probably undergoing a double culture shock, not only are you stepping into the “culture” of the School, but you are also experiencing the larger disorientation that comes from being a newcomer to Canada.

Financial Realities

Be aware that if you are living on a Departmental Scholarship and teaching assistantship this will not allow you to afford a lifestyle of the rich and famous. The cost of food and accommodation and other living expenses will account for most of this income, so be prepared to live modestly. Make allowances for this by bringing as much money as you can to cover setting yourself up in accommodations, buying books and school items and to provide you with a little more of a social lifestyle.

Getting the Help You Need

Feel free to approach people in the Department with questions or concerns. Get into the spirit of the Department and participate in as many activities as you can. People are quite friendly. However, the transitional phase of senior students turning over and new students arriving means that there are a lot of new faces for everyone. Take advantage of this situation by getting to know as many people as possible.

You should make full use of the International Students’ Office (Gilmour Hall 104) <http://oisa.mcmaster.ca>. They are very helpful, especially in matters concerning health care, tax problems, and visas. In early September the office organizes a week of activities to help you get to know Hamilton and features of the McMaster Campus. Take them up on this; it is really fun and useful.

If you can, arrive about a month before classes start. This gives you a chance to set up a place to live and get to know Hamilton before your hectic life as a student begins.

Tips on Learning English

This section aims at providing international students whose mother tongues are not English with advice and tips, which may help overcome the language barrier that you may face upon arriving in the Department. A key to getting the most out of your graduate study period is to deal with language barriers at the outset. However, getting past these barriers is not an easy matter. Bear in mind that you may need to put a great deal of effort into improving your language skills. Below are some tips, which might be helpful in improving your language skills:

- Right from the beginning, try to make friends and interact with a variety of Canadians. Using English in both social and academic settings will improve your language skills substantially. If you do not get a chance to mix with people other than those from your own culture, you will likely limit your opportunities to practice speaking English.
- Don’t be afraid to speak out because you may be unsure of how to express yourself. Although at first your spoken English might be fairly broken and hard to understand, people in the Department are pretty friendly and are willing to help you improve your communication problems.
- To learn more about speaking English, try to watch news and talk shows (don’t take them too seriously) on TV whenever you get the chance. As it is not easy to understand conversations on TV at first, you could consider buying a TV with a caption decoder, which has the ability to show written English words on the screen.

Remember that other students in the Department have gone through the same experience as you now face, so don’t hesitate to use them as resources or for peer support.

Student Visa, Employment Authorization

Visa students are required to provide photocopies of their study permit and/or employment authorization to the School of Graduate Studies at Graduate Registration and each time such authorizations are renewed. Failure to do so will result in the withholding of their pay. Please leave a copy of your forms with Melissa.

The Department of Immigration

Their office is located at 55 Bay Street North, Hamilton, telephone 1 888 242 2100 <http://www.cic.gc.ca/>. When renewing your visa, please call this number as they are now handling these renewals by telephone.

Social Insurance Number (SIN)

It is essential that the School of Graduate Studies have your Social Insurance Number on file. If you do not have a SIN number, please apply at Human Resources and Development Canada at 1550 Upper James Street, Hamilton (see below).

International students need a Canadian Social Insurance Number to work in Canada if you hold a TA you will need to take the following documents with you when you apply:

- A job offer (a letter or contract). Please contact the department to obtain this letter.
- Your passport and study permit.
- A Social Insurance Number Application Form. Forms are available in the Office (GH 104). You could also download forms from the Human Resources and Development Canada (HRDC) web page at:

<http://www.servicecanada.gc.ca/en/sc/sin/index.shtml>

It will take 3 or 4 weeks to receive your card in the mail. Your new SIN card will have the same expiry date as your study permit. Please inform the department your number once you have received this document. Also remember to renew both documents at the same time and give copies to the department.

OHIP (Ontario Health Insurance Plan)

Permanent residents who require health coverage under OHIP may obtain application kits from Student Health Services in McMaster Student Centre, Room B101 (on campus). You may also download the application form from the web at http://www.health.gov.on.ca/english/public/program/ohip/ohip_mn.html. Completed applications should be delivered as soon as possible to the Ministry of Health Office at 119 King Street West (the 10th floor of the Convention Centre) in Hamilton. The telephone number is (905) 521-7100. You will be required to produce two pieces of identification (e.g. birth certificate, driver's licence).

UHIP (University Health Insurance Plan)

Your UHIP coverage will begin September 1, 2011 for the 2011/12 session and this year, enrollment is done automatically once you are FULLY REGISTERED. All students with dependents living in Ontario must submit an application form to enroll their dependents and pay the appropriate additional fees at Student Account & Cashiers. To complete an application form, please go to the International Student Services (ISS) in GH-104. Cards will be ready for pick-up at the beginning of September. You will be charged \$756.00 single coverage (one person, 12 months of coverage) & this will be reflected on your Payment Agreement.

GRADUATE STUDIES IN CHEMICAL ENGINEERING

GRADUATE COURSES AND SELECTION

The complete list of graduate courses in Chemical Engineering is listed in the School of Graduate Studies Calendar. The courses, which are being offered during 2011-2012 are shown below. You will need to register for graduate courses using SOLAR, please indicate the category, i.e. M (Masters), D (PHD) or Extra Course (EC) on this form. There must be at least three students registered in a course before it will be given.

<u>Course No.</u>	<u>Course Name</u>	<u>Course Instructor</u>
<u>TERM 1</u>		
ChE 6B03	Polymer Reaction Engineering	S. Zhu
ChE 6E03	Digital Computer Process Control	J. Yu
ChE 6X03	Polymer Processing	M.R. Thompson
ChE 702*	Special Topics: Nanotechnology X (Sept. to Oct.)	T. Hoare
ChE 706	Advanced Heat Transfer (same as Mech. Eng. 706)	R. Judd
ChE 752	Optimization of Chemical Processes	C.L. Swartz
ChE 754	Process Design and Integration for Minimal Environmental Impact (same as SEP 754)	M. Sorin
ChE 765	Multivariate Statistical Methods for Process Analysis and Monitoring	K. Dunn
ChE 773	Advanced Concepts of Polymer Extrusion	M.R. Thompson
ChE 781	Biomedical Engineering (Core – same as Biomedical Engineering 701)	Various
<u>TERM 2</u>		
ChE 6C03	Statistics for Engineers	K. Dunn
ChE 6T03	Applications of Chemical Engineering in Medicine	T. Hoare
ChE 6Z03	Interfacial Engineering	R.H. Pelton
ChE 761	Multivariate, Stochastic and Adaptive Control of Chemical Processes	P. Mhaskar
ChE 782	Biopharmaceuticals	R. Ghosh
ChE 784	Gene Therapy for Bioengineers (Same as Biomedical Engineering 704)	G. Hortelano
ChE 790	Selected Topics in Colloid and Surface Science	R.H. Pelton

The graduate student makes his /her selection, with the advice of the research supervisor. If you would like to learn more about the individual members of faculty and their research interests please refer to the department's research brochure, which is available on-line at <http://www.chemeng.mcmaster.ca/research/default.htm>.

SGS / 101 Academic Research Integrity and Ethics

Required Course for All Graduate Students All graduate students, including part-time students, must complete the course *SGS #101- Academic Research Integrity and Ethics* within the first twelve months after their admission to

graduate studies at McMaster. The purpose of this course is to ensure that the standards and expectations of academic integrity and research ethics are communicated early and are understood by incoming students. A graduate student may not obtain a graduate degree at McMaster without having passed this course. In the event that a student fails this course, they must retake it at the earliest opportunity. To access the course material, students should visit “Avenue to Learn” at: <http://avenue.mcmaster.ca/> and click on the “McMaster e-Learning” button. The student’s MacID and Password are required to access “Avenue to Learn”. Under “My Courses”, the student will have an entry for “2011 Fall (T1)” with a link entitled: “SGS 101: ACAD RESRCH INTEGRTY & ETHICS”. The course material consists of 5 sections accessed from the main page by clicking the content icon. All 5 of the sections under content must be viewed before the final quiz is released which is accessed by clicking the quizzes icon under the main page.

SGS / 201 Accessibility for Ontarians with Disabilities Act (AODA) Training

Required Course for All Graduate Students All graduate students, including part-time students, must complete the course *SGS #201- Accessibility for Ontarians with Disabilities* to graduate studies at McMaster. This can be completed on-line at <http://www.mcmaster.ca/accessibility>. Having an understanding of how we can identify and reduce attitudinal, structural, information, technological and systemic barriers to persons with disabilities is core to McMaster University’s commitment to supporting an inclusive community in which all persons are treated with dignity and equality, and completion of OADA training is critical as McMaster’s graduates move forward in their varied, chosen professions.

Courses outside the Department

In addition to considering Chemical Engineering courses, a graduate student is encouraged to take courses outside the Department or Faculty. Courses chosen will usually be related to the research or graduate project of the student and should be discussed with his/her Research Supervisor/s. Courses from the Departments of Civil Engineering, Mechanical Engineering, Electrical and Computer Engineering, Materials Science and Engineering, Engineering Physics, Chemistry, Medical Sciences and Math and Statistics, are also available to graduate students in Chemical Engineering. At least (2) graduate half courses, at the MASc level & PhD levels, must be Department of Chemical Engineering graduate courses.

Students may also register for Graduate Courses at the University of Toronto and the University of Waterloo. You must complete an Ontario Visiting Graduate Student Application which is available on the School of Graduate Studies website. Please allow **6 weeks** for processing BEFORE the term begins you wish to take the course. This must be approved by both McMaster University and the other University.

600 Level Courses

The Ontario Council of Graduate Studies requires that **only one (1)** graduate half course, at either the MASc or PhD levels, can be at the **600-level**.

All full time and part time graduate students in Chemical Engineering will be required to register on-line using SOLAR (McMaster’s self registration system). ***Students will need to register for the current academic year even if they have finished all their course requirements.***

Students who are taking courses

Before registering you will need to discuss your course selection with your supervisor. The School of Graduate Studies has five categories for its courses:

M (Count towards the Master’s degree requirements)

This category identifies the courses that are to count towards the Master’s degree requirements. The passing grades for an M course are A+, A, A-, B+, B, and B-. Courses that are required by the supervisory committee or the Department Chair as additional requirements in excess of the stated minimum for the program must be designated as M.

D (Count towards the Doctoral degree requirements)

This category identifies the courses that are to count towards the Doctoral degree requirements (including any additional graduate requirements or undergraduate courses specified by the supervisory committee or Department

Chair). The passing grades for a D course are A+, A, A-, B+, B, and B-. Courses that are required by the supervisory committee or the Department Chair as additional requirements in excess of the stated minimum for the program must be designated as D.

EC (Extra Course)

This category identifies courses that the student is taking with the approval of their supervisor but that are not necessary to the student's current degree program. If a failing grade (i.e. less than B- in a graduate course or less than D- in an undergraduate course) is received in a course taken as Extra, the courses (and grade) will not appear on the student's transcript unless there is case of academic dishonesty. Courses designated as EC may subsequently be counted towards doctoral graduate degree requirements and the course designation changed to M or D, if approved by the Faculty Admissions and Study Committee.

CER (CERTIFICATE)

This category is available only to students taking one or two courses registered as a post degree student.

Students who have completed all their course requirements

Graduate students who have finished all courses must still use the course selection screen to select non coursework activities Research, Project or Thesis to indicate their current study status. For Graduate students selecting non course work activities the following rules apply:

- Project and thesis are mutually exclusive and cannot be selected at the same time.
- Students with discounted fees may only select thesis.

Graduate Studies policies regarding registration and withdrawal dates

There is a deadline date for both registration and changes (drop and add) for courses. It is the **student's responsibility** to "Drop and Add" courses from their academic record.

LAST DAY TO ADD COURSES FOR:

Term 1 (September to December)	Friday, September 30
Term 3 (September to April)	Friday, September 30
Term 2 (January to April)	Friday, January 27

LAST DAY TO DROP COURSES without failure by default:

Term 1 (September – October)	Friday, October 14
Term 3 (September – April)	Friday, January 13
Term 2 (January – April)	Friday, February 10

Students wishing to change courses after deadlines

In certain circumstances, it is possible to change course selection after the deadline date; however this will need special approval from your supervisor, the department chair and the School of Graduate Studies. You would need to complete a Petition for Special Consideration <http://www.mcmaster.ca/graduate/deptforms.html> to request this change.

Students who have been awarded a failing grade

You will not be granted supplementary examination privileges. A student whose record indicates a failure will be required **to withdraw** unless the Committee on Graduate Admissions and Study has approved a recommendation from the department concerned. Those allowed to remain in the program must either repeat or replace the failed course. A failing grade in an M or D registered will remain on the transcript.

Under exceptional circumstances a course instructor may approve an extension for the student for the completion of work in a course and assign an Incomplete grade (INC). Normally this extension given is in the range of a few weeks. A student who receives this permission must complete the work as soon as possible, with a final completion date set by the instructor. If the INC grade is not cleared by the deadline, a failing grade will automatically be recorded.

RESEARCH AND PROJECT SELECTION AND RESEARCH PROPOSALS

On arrival, the new graduate student should meet with his/her supervisor who will prepare a brief statement of the scope and objectives of their research project, including estimated target dates for completion of various parts of the work. It is expected that a student should spend on research, as a minimum, the time and effort required for two graduate courses.

COURSE REQUIREMENTS FOR GRADUATE STUDENTS

Master's Program

- Research Program: (M.A.Sc.): A candidate is required to complete successfully at least four (4) one-term courses at least three of which should be at the 700-level. Students are required to present a thesis, which constitutes an original contribution to chemical engineering. The thesis must be defended in an oral examination.
- Project Program: (M.Eng.): A candidate is required to complete successfully at least six (6) one-term courses. A major study report must be presented which demonstrates his/her ability to carry out independent study in design, analysis or experimentation and to reach a satisfactory conclusion in a reasonable time. This report must be defended orally at the conclusion of the study. No financial support is available for students.
- Industrial Internship Program: (M.Eng. or M.A.Sc.): The normal course requirement for research project internship is six (6) one-term courses plus a research project carried out in industry, or at least four (4) term courses plus a thesis carried out in industry. The project or thesis must be defended in an oral examination. Financial support is available on an individual basis.

Rate of Progress in Course Master's Program (M.Eng.)

A maximum thirteen-month period has been set for our course-oriented M.Eng. program and therefore it becomes imperative that faculty and students realize the constraints necessitated by the final deadline. As a guideline for students and faculty the following deadlines are recommended (assuming entry in September):

- January 1st - Objectives of the research project fully defined.
- May 1st - Details of how the student proposes to satisfy the objectives of the program. For an experimental project, all major equipment should be ordered and any major machine shop work complete. Students should be ready to start assembly sometime in May.
- The writing of the Report should start no later than during the first week of September.

Rate of Progress in Research Master's Program (M.A.Sc.)

A twenty-month period with funding has been set for our research-oriented M.A.Sc. program, and therefore it is important that faculty and students realize the constraints necessitated by the final deadline.

The student should meet frequently with his/her supervisor to discuss progress in terms of the objectives and schedule. The maximum time for completion of the degree is three years (9 terms) from initial registration.

Rate of Progress in Doctor of Philosophy Program (Ph.D.)

The minimum course program for this degree will be seven (7) half (one semester) courses at least five of which should be at the 700-level, beyond the baccalaureate degree or three (3) half courses at least two of which should be at the 700-level beyond the master's degree.

A four year period with funding has been set for our Ph. D. program. Students must meet with their supervisory committee at least once a year to discuss progress and objectives. The maximum time for completion of the Ph.D. degree is limited to six years (18 terms) from initial registration in the regular doctoral program.

ENTRY TO Ph.D. PROGRAM WITHOUT COMPLETION OF MASTERS REQUIREMENTS

Students enrolled in an M.A.Sc. (Thesis or internship) program may be transferred to the Ph.D. program prior to the completion of the M.A.Sc. Degree. Transfer to the Ph.D., without completion of the M.A.Sc. is intended to expedite the student's progress towards the Ph.D. by not requiring the preparation of the formal M.A.Sc. thesis and allowing the research to be used in the Ph.D. thesis. The expectation for transfer to Ph.D. is that the research progress at the M.A.Sc. level should be exemplary. The candidate will be expected to have completed at least three (3) graduate level half - courses (one semester) with a grade average of B+ or better. The possibility of transfer to Ph.D. should be discussed by the student and the research supervisor early in the M.A.Sc. Program and then the following procedure should be followed:

- Not sooner than upon the completion of two terms after initial registration in the M.A.Sc. program at McMaster, and no later than November 1st of the fourth term of residency (or March 1st for students admitted in January), students may request in writing to the Chair to be reclassified as Ph.D. students.
- The Chair will then appoint an Examining Committee comprised of two (2) faculty members, in addition to the student's research supervisor(s). An examination date will be set for no later than January 15th (or May 15th for students admitted in January).
- The student will provide four (4) copies of a formal written transfer report, which summarizes the work to date, to the Department office no later than ten (10) days before the scheduled examination date.

The **transfer report is not a thesis** and need not follow the M.A.Sc. Thesis preparation requirements since the report will not be kept for archival research purposes. However, it is a formal document and due care should be given to its preparation to make sure that it is technically sound and well written. Figures should be drawn using drafting or drawing equipment or with a suitable computer-aided drawing/graphics package. References should follow the citation style of the *Canadian Journal of Chemical Engineering*. SI units should be used throughout the report with values in other unit systems provided in brackets, if necessary. Appendices with raw experimental data, computer programs, and detailed equipment lists should not be necessary for the purposes of the examination. The maximum report is 25 single-spaced pages. The transfer report must address the following points:

- Definition of the research problem.
- Brief critical review of the relevant literature.
- Summary of the completed work including, as appropriate: experimental equipment built, experimental techniques developed, experimental data gathered and analyzed, algorithms, or software. The summary must clearly show the Examining Committee some contribution to chemical engineering science/practice or substantial progress towards completion of a major requirement of the research (e.g. experimental equipment built, software written, and algorithm prototyped).
- Scope of the completed work as a basis for future Ph.D. studies. The emphasis is on research progress and completed work and not on the research plan for the Ph.D. studies which is the subject of the Ph.D. proposal.
- The examination will consist of an oral presentation, 20-30 minutes in duration, summarizing the research progress to date with a subsequent question period open to the all members of the Department. The candidate will then have a closed session of questioning, by the Examining Committee members only, on the transfer report and oral presentation.
- The Examining Committee will evaluate the student's course standings, transfer report, oral presentation of the research progress and the answers provided during the examination.
- At the first departmental faculty meeting to be held after the student's examination, the recommendation of the Examining Committee will be considered by the faculty.
- If the student is given Ph.D. candidate status, the student will be required to take the Ph.D. Comprehensive

Examination.

The outcome of the examining committee review will be that the Department recommends to the Committee on Graduate Admissions and Study one of the following:

1. admission to Ph.D. studies following completion of the requirements of the M.A.Sc. degree;
2. admission to Ph.D. studies without completion of an M.A.Sc. program;
3. admission to Ph.D. studies but with concurrent completion of all requirements for an M.A.Sc. degree within one calendar year from the date of reclassification;
4. refusal of admission to Ph.D. studies

Recommendation 2 would permit a student to re-register as a candidate for an M.A.Sc. degree provided that work to date has met the standards for the M.A.Sc. program. Students, who do not fulfill the conditions of recommendation 3, i.e. complete the requirements for the M.A.Sc. degree, within the year will lose their status as a Ph.D. candidate.

SUPERVISORY COMMITTEES - DOCTORAL STUDENTS

Doctoral students at McMaster University are each assigned a supervisory committee as soon as possible (in any case not later than 6 months following their initial registration). This consists usually of the research supervisor(s), one other professor in the department and a professor from outside the department. The Committee will be appointed by the Chair of the department upon the recommendation of the committee. Supervisory Committee meetings will be scheduled by Melissa.

THE COMMITTEE WILL MEET WITH THE CANDIDATE AT LEAST ONCE A YEAR. The School of Graduate Studies requires students to complete a progress report form, which becomes part of the overall Ph.D. Supervisory committee report. This page is initialed by the supervisory committee members.

Please submit this form **with your technical report** that is to be circulated to the supervisory committee, **one week in advance** of your supervisory meeting. The format of your technical report should be discussed with your supervisor. The report should be a maximum of 25 pages. Supplemental material such as thesis chapters or paper submissions should be sent separately electronically.

Melissa will keep the signed original for supervisory committee members' initials. The progress report form copies will be distributed, with the technical report, to the supervisory committee.

The duties of the Supervisory Committee will be as follows:

- to assist in planning and to approve the candidate's program of courses and research;
- to approve the thesis research proposal;
- to decide, within departmental regulations, on the timing of the Comprehensive Examination and, where applicable, of the language and other examinations;
- to act as members of the Comprehensive Examining Committee;
- to maintain knowledge of the candidate's research activities and progress;
- to give advice on research;
- to provide the student with regular appraisals of progress or lack thereof;
- to perform such other duties as may be required by the Department and report annually;
- to initiate appropriate action if the candidate's progress is unsatisfactory;
- to decide when the candidate is permitted to write the thesis, its form and provide advice as needed;
- to act as internal examiners for the thesis, and
- to act as members of the examination committee for the final oral defence when appointed.

Students should feel free to consult with any of their supervisory committee members at any time and to have a meeting of the committee called if necessary.

DEPARTMENTAL COMPREHENSIVE EXAMINATIONS FOR Ph.D. STUDENTS

Purpose

The comprehensive examination will test the breadth of knowledge and the ability to synthesize and integrate ideas from within and peripheral to the candidate's research area. Successful completion of the comprehensive examination is a requirement for the candidate to continue in the Ph.D. program. The candidate's level of achievement in this examination may determine academic background deficiencies that the candidate will have to address through course work or other means as determined by the committee.

Timing

The comprehensive examination will normally take place between 6 and 18 months after the candidate initially registers in the Ph.D. program. If an examination date has not been set within the 18 month period, then the Department Chair will set the date of the examination.

The comprehensive examination will normally be held during periods when graduate courses are not in session, though they may be scheduled at other times depending on the availability of examiners. It is the responsibility of the Supervisory Committee to recommend and notify the department and the candidate in writing, within a period of 4 to 16 months from initial registration in the Ph.D. program, that a candidate will take the examination. ***Upon receipt of the recommendation, the Department Chair will appoint a Chair for the Examining Committee who shall determine the examination date.***

The Examining Committee will determine the research proposal topic and the Committee Chair will communicate the examination date, research topic, examination instructions and scope of the general oral questioning, in writing, to the student within 28 days before the oral examination date. Five copies of the proposal must be submitted 7 days before the oral examination date.

Structure of the Examining Committee

The Chair of the Examining Committee for the candidate will be appointed by the Department Chair and, in no case, will be the research supervisor(s).

The Examining Committee will consist of the members of the Supervisory Committee and at least one additional faculty member, who is normally the Committee Chair. The Committee Chair, in consultation with the Supervisory Committee, may appoint an additional member of the Examining Committee from within the Department.

Format of the Examination

The Comprehensive Examination will consist of a written part and an oral part.

The candidate will be required to submit a proposal, up to 25 pages in length, on a research topic related to, but not the same as, the Ph.D. research topic. The candidate will be required to prepare this report, within 21 days of receiving the proposal topic, ***without aid from any other individual.***

The written report must include:

- 1) a critical survey of the directly related literature in the field,
- 2) an explanation of the relevant background in terms of chemical engineering principles, and
- 3) a research proposal related to the topic.

Five copies of the report must be submitted to the Department at least one week prior to the date of the oral examination. ***Late submissions without an explanation acceptable to the Examining Committee will be deemed to be a failure by default and the candidate will be asked to withdraw from the program.***

The oral examination will be conducted in two parts. In the first part, the candidate will be required to make a brief presentation of the report (no more than 15 minutes), followed by questions directly related to the report. The second part of the oral examination will probe the candidate's general comprehension of the research field and peripheral areas. The oral examination will normally require two hours to complete, but in no case will continue for more than three hours.

It is the responsibility of the Chair of the Examining Committee to call a meeting of the Committee at least five weeks in advance of the examination date to examine the candidate's records and background to determine an appropriate research topic and scope of background examination.

Comprehensive Examination Result

The candidate's performance will be judged as: Pass with Distinction, Pass, or Fail on the written and oral parts of the examination. The Examining Committee report may make recommendations with regards to remedial actions necessary to overcome deficiencies in the candidate's background. A candidate who fails the Comprehensive Examination will be given a second opportunity for a retake on the portions of the comprehensive examination deemed to have been failed. **There is no opportunity for a third attempt.**

The Chair of the Examining Committee will communicate the results of the examination, in writing, to the Department Chair who will communicate the result, in writing, to the candidate.

The Comprehensive Examination may be rescheduled due to documented medical or other emergencies that preclude the originally chosen date. The Examining Committee may recommend a retake of the examination only in unusual situations, which must be documented, and this recommendation communicated in writing to the Department Chair who will take appropriate actions.

Research Proposal to the Supervisory Committee

No later than six months after a successful completion of the Comprehensive Examination, the Ph.D. candidate is **required** to present a detailed research proposal to their supervisory committee. The proposal will document the research objectives, relevant background literature, required experimental, analytical or computational approaches, and projected timetable for completion of the steps necessary in the research. The candidate will be asked to make an oral presentation of the proposal for approximately 30 minutes, and the proposal will normally be about 25 pages in length. The candidate should identify potential problems and approaches that will be undertaken to resolve difficulties in the proposed research program. The Supervisory Committee must consider the research proposal to be satisfactory for the candidate to be permitted to continue in the Ph.D. program.

DEPARTMENTAL AND UNIVERSITY THESIS PROCEDURE

The School of Graduate Studies has forms, regulations and information regarding thesis preparation; these are available from the School of Graduate Studies website <http://graduate.mcmaster.ca/current-students/completing-your-degree/649-step1-write>.

Guidelines re Response Time for Ph.D. and Masters Theses

Supervisors should respond to the draft of a thesis within 2 months. Providing comments on individual chapters will take proportionately less time. Very long theses or chapters may take more time. There are busy periods within the academic year when the time taken to provide comments might be a bit longer than this norm. However, in no case should the response time exceed 3 months.

For Master's theses the corresponding times are 1 month and 2 months.

Inclusion of Separate Publications in Graduate Theses

If some of the research undertaken expressly for the degree has previously been published or prepared for publication by the author of the thesis as one or more journal articles, or parts of books, those items may be included within the thesis subject to specific Graduate Studies regulations and after obtaining permission from the supervisory committee. The School of Graduate Studies regulations concerning the inclusion of previously published/prepared material in theses together with the suggested form of the permission request are available from the Graduate Studies website.

Master's Thesis

The administration of the M.A.Sc. thesis defence and the M. Eng. project examinations is the responsibility of the Department. We recommend that the thesis follow the format described by Graduate Studies "Guide for the Preparation of Master's and Doctoral Theses" at

http://graduate.mcmaster.ca/images/files/Guide_for_the_Preparation_of_Theses_May2011.pdf

Please note that the project reports for the M.Eng. degree follows the M.A.Sc. thesis guidelines but are usually smaller in scope and length. Each thesis must include an abstract of not more than 300 words. The student is responsible for ensuring that the format satisfies the University requirements. The sequence of events is as follows:

- The student's supervisor gives him/her permission to prepare his/her thesis. The student is responsible for submitting a thesis, which is reasonably free of grammatical, typographical and technical errors. If the thesis is found to contain an excessive number of errors, it will be returned to the student and the oral examination postponed until a satisfactory thesis has been resubmitted.
- It is **strongly recommended** that a student submit a first draft of his/her thesis, acceptable to the supervisor, before taking up full time employment. Past experience has shown that students who do not follow this recommendation are seriously delayed in completing their thesis, and in some cases do not ever graduate.
- The student's advisor(s) and two other faculty members, one of whom may be from a department other than Chemical Engineering, sit as an examining committee for the candidate. The Chair with the advice of the research supervisor appoints the examining committee. After the seminar presentation the examining committee conducts an examination of the candidate on his/her thesis. The seminar presentation and this examination constitute the oral examination of the candidate.
- Upon successful completion of this examination, the candidate is requested to correct any misprints that may exist in the thesis, and to submit the thesis to the School of Graduate Studies.
- Upon completion of all degree requirements, the student is required to "sign out" from the Department. A checklist is available in the office.
- Financial assistance for preparation of the master's thesis may be available for additional copies if requested by the advisor.

Ph.D. Thesis

Students close to submitting their Ph.D. thesis (about 2 months) should complete on-line the Thesis Defence System (TDS). You will be asked for your thesis title and estimated date to submit your thesis. Under separate cover, your supervisor will be asked to submit the name of an external examiner which must be approved by your supervisory committee and department. A final date and time of the defence will be scheduled and approved by the student, supervisory committee and external examiner. The student will then submit three hard copies of the thesis to the School of Graduate Studies.

Length of Ph.D. Thesis

Doctoral students and their supervisors should keep in mind that theses of extraordinary length are to be discouraged. The preparation of a lengthy Ph.D. thesis almost certainly extends the time that the student takes to complete his or her degree. As a general rule, doctoral students are urged to limit theses to no greater length than three hundred (300) manuscript pages. In cases where students and their supervisors believe that responsible scholarly treatment of the thesis topic requires substantially greater length than that specified above, they are expected to receive written approval from the Associate Dean of Graduate Studies before the thesis is submitted for the defence.

Deadlines

A thesis may be submitted at any time. However there are two deadlines for the submission of the Ph.D. thesis to Graduate Studies for binding & complete degree requirements for Autumn or Spring Convocation. ***For 2011-2012, the dates are September 28, 2011 and April 28, 2012.*** If a thesis is submitted by the spring date, the candidate is promised graduation at the Spring Convocation. The same applies in the fall when the fall deadline is met.

A student would be unwise to make any plans to leave McMaster until he/she had actually handed in his/her thesis and confirmed the date of his/her final Oral defence.

THESES OF PAST GRADUATE STUDENTS

The Departmental office maintains copies of the doctorate and masters theses of graduate students who have completed their studies in Chemical Engineering at McMaster University. These must be signed out through the Department Office and must be returned promptly. When the thesis is signed out, ***it is the responsibility of the student. Loss of theses by the person borrowing will result in a fine being levied to cover the cost of replacement.***

It is important that once the borrower has finished with a thesis this should be returned promptly to the department office. Additional copies of these theses are available through the Thode Library, and usually the supervisor has copies of the theses of students whose work they directed.

Other Theses

Other theses from Canadian Universities may be obtained from either Inter-library loan on micro-card or printed copies and certain copies may be purchased through interlibrary loan from University Microfilms.

SEMINARS IN THE DEPARTMENT

The Department arranges a series of seminars each year at which outstanding scientists and engineers address the faculty and students. Graduate students are **REQUIRED** to attend and participate in these seminars. For those seminars in which mandatory attendance is required, it is indicated on the seminar notice. Most of these seminars will be scheduled on **Thursdays from 10:30 - 11:30 a.m.** and students are expected to keep this time available. Seminars will be advertised 7-10 days in advance by e-mail, as well as marked on the TV in the corridor beside room JHE 374.

In addition, research groups organize smaller, specialized seminars. These seminars are arranged by the students and faculty involved.

Graduate students should note that all other departments of Science and Engineering as well as neighbouring universities hold regular seminars in which they might be interested. Notices concerning these will also be posted on the bulletin board outside the Departmental Office.

Each M.A.Sc. and Ph.D. student must present a seminar lecture (in addition to their oral defence) on the results of his/her research or study project. We encourage all interested persons to attend these seminars.

This presentation is an important component of your studies at McMaster, both for yourself and also for the department. It is hoped that you receive valuable feedback on your presentation as well as informing the department on research being done.

Each Ph.D. student will present his or her seminar after completing nine terms of study. Students are strongly encouraged to present at the Graduate Seminar Day, which will also fulfill the seminar requirement for Ph.D. students.

McMaster University Chemical Engineering Conference (MUCEC)

Graduate students also organize a very successful Seminar/Research Day in which graduate students are expected to participate (<http://www.chemeng.mcmaster.ca/graduate/Seminar-Day/DEFAULT.HTM>). This day is set aside for the

graduate students plus research staff to give a brief seminar about their work. Everyone in the department is invited to attend. The format of the seminar is a brief thirty-minute talk about their research project, followed by five-minute question and answer period. This event is normally held in April. The A.E. Hamielec Award is presented annually at this event to the student giving the best presentation.

This year the seminar day again offered a poster session between the morning and afternoon sessions. This gave a greater number of students the opportunity to share their research with faculty and students in the department. Awards are also given for the best posters.

Outside Conferences

We encourage graduate students to report results of their research at Conferences held outside the university, which are attended by Chemical Engineering professors. The preparation involved with such presentations and financial assistance available should be discussed with your research supervisor.

CHEMICAL ENGINEERING CLUB (Graduate)

The executive members during 2011-2012 will be:

President: Daryl Sivakumaran
Vice-President: Rohan Pukadyil
Social Representative: Emilia Bakaic and Scott Campbell
Seminar Coordinators: Mathew Patenaude, Carla Abarca and Michelle Fernandes
WebMaster/Secretary: Sharleen Weatherley
Sports Representatives: Jacob Nease and SeungMi Yoo

The Department will work through the executive of the Chem. Eng. Club to obtain students' input on various departmental decisions and seeking representation on certain committees affecting the graduate students. The Club will also organize various social events throughout the year. These are usually transmitted by e-mail and posted on bulletin boards. The club has put together a large amount of useful information and links for all students, which can be accessed at <http://www.chemeng.mcmaster.ca/gradclub/home.htm>.

The Club operates a buddy system for new students, where we link you to the more senior students who can help out in your first few weeks of your student life at McMaster. Any students wishing to help out as a buddy should contact any member of the executive.

The tentative schedule of events for 2011-2012

TA Day and Dept. Picture:	Wed. September 7
Welcome Barbeque:	Wed. September 15 at 5:00 p.m. in Wentworth Lounge
Safety Seminar:	Thurs. September 9 at 10:30 a.m., JHE-326H
Christmas Party:	December
Graduate Seminar Day:	April
International Pot Luck:	April/May
Graduate Students Awards Reception:	Early May

DEPARTMENTAL CHECK OUT REQUIREMENTS

Upon completion of all degree requirements the student will be required to "sign out" from the department. A checklist has been compiled for this purpose. Keys must be returned and your lab and study areas be left tidy. Please leave a forwarding address with office. Mail will be forwarded for up to three months.