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This handbook contains practical information about graduate studies in the School of Computational Science & Engineering at McMaster University. This information is a brief summary of information that should be helpful for new and returning graduate students.

In the case of discrepancy between this guide and other University policy, students are advised to consult the Graduate Calendar published by the School of Graduate Studies.

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GRADUATE STUDY AT MCMASTER UNIVERSITY

When McMaster moved to its current graduate organization, the aims of graduate work were described as

“The highest development of the powers of reasoning, judgment and evaluation in intellectual concerns; specialized training in professional skills; initiation into research or scholarly work and development of a capacity for its successful and independent pursuit; the fruitful pursuit of research and scholarly work”

This description remains as valid today as it was then. Research is central to graduate work, and McMaster’s strong research orientation has a pronounced effect on the character of its graduate programs. The numerous research achievements of McMaster faculty members have been recognized by grants, prizes, medals, and fellowships in academic societies. Such distinctions attest to the qualifications and dedication of faculty members in developing and disseminating knowledge. The education that McMaster’s faculty provides is valuable not only for the graduate student’s career but also for the student’s development as a person.

1 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 within two weeks, 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 Director.

Students who undertake to write Master’s 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 endeavour, and to recommend or not recommend the completed thesis for defence.

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. Any absence of one week or longer from campus, which is not part of the student's vacation entitlement requires the supervisor’s approval. Students who absence themselves from campus for more than two weeks require approval from the Department Director. An absence of more than 4 weeks requires additional permission from the appropriate Associate Dean of Graduate Studies. 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 be deemed to have withdrawn voluntarily from graduate study and will have to petition for readmission. No guarantee of readmission or of renewal of financial arrangements can be made.

1.1 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 student cannot expect to be given supervision 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. 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.

1.2 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 provided that the student's supervisor and the department support the request.

Form for pregnancy or parental leave:
http://graduate.mcmaster.ca/images/files/graduate/forms/student_forms/pregnant.pdf
Form for other leaves of absence:
http://graduate.mcmaster.ca/images/files/graduate/forms/student_forms/petition.pdf

2 SAFETY & SECURITY

2.1 Mandatory Health and Safety Training
Graduate students must complete the mandatory health and safety training courses.

1) Asbestos Awareness
2) Ergonomics
3) Fire Safety
4) Office Whimis
5) Slips, Trips and Falls

Training can be completed on-line at the link below or students can attend in-class courses. Once completed students must bring a copy of the completed course to Natalie Illingworth, ETB 405.

http://cll.mcmaster.ca/eohss/

2.2 Emergency
In case of emergency on campus dial 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.

2.3 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. During the summer term, Campus Security will escort you to your car or residence and they can be reached at ext. 27500.

3 GRADUATE STUDIES AT MCMASTER

3.1 Registration
All students are required to register for the academic year on-line using SOLAR (http://registrar.mcmaster.ca/getreg/about-mugsi.html). Registration information is available on:

Registration: http://graduate.mcmaster.ca/current-students/registration
Tuition and Fees: http://www.mcmaster.ca/bms/student/SAC_fees.htm

Initially you will require both your student number and your bar code shown on your admission letter or student card to set a PIN number. Any student who fails to register on time will be charged a $50 late fee.

In addition to completing 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 method of payment. All students, please refer to the Graduate Studies website for instructions on payment of academic fees:

Funding Options: http://www.mcmaster.ca/bms/student/pdf/SAC_funding_options.pdf
3.2 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 (Gilmour Hall, Room 212)

3.3 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 with an e-mail address. You are required to "self-register" for your e-mail address via the MUGSI (McMaster University Information System).

http://registrar.mcmaster.ca/getreg/about-mugsi.html

During the self-registration process you will be given a password, it is important to keep a note of this original password, it will be required again for library and computer access. If you have any major problems you can call the UTS helpline ext. 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 email on a regular basis. Not reading email messages will not be treated as a valid reason for not adhering to regulations, procedures or deadlines.

3.4 Bus Pass
All full time graduate students are eligible for a Hamilton bus pass. Attach the sticker received with your registration to your student card. Whenever you get on the bus, just show it to the driver.

4 FINANCIAL SUPPORT

4.1 Payment of Departmental Scholarship & Teaching Assistantship
The payroll for the graduate students is handled by the School of Graduate Studies. Payday is the last Thursday of each month except December when the deposit will be made mid-month. The monthly payment to graduate students will be made by direct bank deposit. This method of payment is mandatory. Obtain the application for direct deposit form at http://graduate.mcmaster.ca/current-students/forms/student-forms. Please arrange to do this immediately as failure to do so will result in considerable delay in obtaining your pay. A Statement of Earnings will be mailed each month to the student’s home department (ETB 405). Should you have any questions concerning monthly payments, please contact your Administrator.

Please note that M.A.Sc. students will receive funding for a maximum of 24 months. Course and project and course based students will receive funding for a maximum of 16 months. Ph.D. students will receive funding for a maximum of 48 months.

4.2 Calculations of Monthly Payments
The payroll system will equalize your payments over the year unless you are or will be overtime.

Incidental Fees ($818.77 for September 2011) will be deducted in full from your first payment.

VACATION PAY IS INCLUDED IN THE TEACHING ASSISTANTSHIP WAGES (Please refer to Article 19.01 in the CUPE Collective Agreement).

I. 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.

Taxes – The University is required by law to deduct Employment Insurance and Canada
Pension premiums on ALL employment income. 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 webpage under
"Forms Initiated by a Student":

http://graduate.mcmaster.ca/current-students/forms/570-student-forms

CUPE - If you are receiving a Teaching Assistantship (TA) or a Research Assistantship (RA) 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.

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). Information on the Dental Plan is available at:

http://www.cupe3906.org/wordpress/benefits-forms/unit-1-benefits/dental

4.3 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 as 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 full time fees for the program. Once a 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 at the University other than as a TA, the School of Graduate
Studies should be informed in writing of the nature of the employment and the approval of the
supervisor and Director is required. The approval of Graduate Studies is required if the student is
to be hired for University Teaching.

4.4 Discounted Fees - * New Policy Effective September 2010*
Only full-time Ph.D. students (term 13 or greater) will be charged tuition at a discounted rate. The
discounted tuition rate is normally equal to ½ of the domestic tuition rate

5 SCHOLARSHIPS & AWARDS
Recipients of graduate scholarships and awards are made on the basis of academic merit or other
achieved merit. General information on scholarships is available in the Graduate Calendar (Section
8) and online:

http://graduate.mcmaster.ca/graduate-scholarships

6 UNIVERSITY ADMINISTRATIVE INFORMATION

6.1 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/forms/trans_request.pdf

6.2 Housing
In an effort to assist students in their search for housing, the University operates an Off-Campus Resource Centre. The office is located in MUSC B112. For additional information, please visit:

http://macoffcampus.mcmaster.ca/

6.3 Parking & Transit Services
Security & Parking Services strive to provide our University Community and visitors, with safe and well maintained parking and transiting infrastructure. The University is dedicated to courteous and helpful customer service through information resources, polite and knowledgeable staff, and convenient parking facilities. If you require parking for an extended period, please contact the Parking & Transit Service Office.

http://parking.mcmaster.ca/

6.4 Centre for Student Development
The Centre for Student Development is a resource for all McMaster students. It offers services in several main areas: personal counseling, academic skills, services for students with disabilities and Leadership Training. Located in MUSC B107.

http://csd.mcmaster.ca/

6.5 Student Health Services
The Campus Health Centre is located in the McMaster University Student Centre B101 ext. 27700. Health care is available throughout the year. Whether you have a health emergency, a concern about nutrition, or a bad case of the flu, you can expect care, dispensed by health professionals who are friendly, concerned and accessible.

http://www.mcmaster.ca/health/index.html

6.6 Financial Aid & Scholarships
The Student Financial Aid & Scholarships office provides service to students in all areas of financial support: loans (i.e. OSAP, BCSAP), bursaries, work programs and scholarships.

http://sfas.mcmaster.ca/

6.7 International Student Services
The aim of McMaster University's International Students Services (ISS) is to make your stay as comfortable and beneficial as possible.

http://oisa.mcmaster.ca/

6.8 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/
7 INTERNATIONAL STUDENTS

7.1 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.

7.2 Department of Immigration
For information on renewing your student visa or other immigration information, please visit the Citizenship and Immigration Canada site:

http://www.cic.gc.ca/

7.3 Social Insurance Number (SIN)
If you have a Teaching Assistantship or Research Assistant position as part of your offer of admission, you will need to apply for a SIN. The Service Canada Office is located at 1550 Upper James Street and is open Monday to Friday from 8:30 am to 4:00 pm. The SIN application can be found on the Service Canada site:

http://www.servicecanada.gc.ca/eng/sin/apply/how.shtml

You will require the following documents when applying for your SIN:

- A job offer. Please contact the department to obtain this letter
- Your passport and study permit
- Social Insurance Number application form

7.4 University Health Insurance Plan (UHIP)
Your UHIP coverage will begin once you arrive on campus, enrollment is done automatically once you are fully registered in the program. All students with dependents living in Ontario must submit an application form to enroll their dependents and pay the appropriate additional fees. To complete an application form, please visit the International Student Services (ISS) office in Gilmour Hall room 104. For the 2011/2012 academic year, the cost of single coverage for 12 months is $684.00. This amount is pro-rated for students who begin in January or May.


8 GRADUATE STUDIES IN COMPUTATIONAL SCIENCE AND ENGINEERING

8.1 Course Registration
The complete list of graduate courses in the School of Computational Science and Engineering is listed in the School of Graduate Studies Calendar.

http://digitalcommons.mcmaster.ca/sgs_cal/18/

Current courses being offered can be found at the following link:

http://computational.mcmaster.ca/courses.htm
You will need to register for graduate courses using SOLAR, please indicate the category (M) Masters, (D) Ph.D., or (EC) Extra Credit on this form.

M (Count towards the Master degree requirements)
This category identifies the course as satisfying the Master’s degree requirement. The minimum passing grade for an M course is B-.

D (Count towards the Doctoral degree requirements)
This category identifies the course as satisfying the Doctoral degree requirement, including any additional graduate requirements or undergraduate courses specified by the Supervisor or Director of the School. The minimum passing grade for a D course is B-.

EC (Extra Course)
This category identifies courses that the student is taking with the approval of their supervisor but that are not required for the degree. If a failing grade (less than B- for a graduate course or less than D- for an undergraduate course) is received in a course taken as Extra, the course and grade will not appear on the student’s transcript unless there is a case of academic dishonesty.

Courses that are required by the Supervisor or Director of the School as additional requirements in excess of the stated minimum for the program must be designated as M or D.

Graduate students should make their course selection after consulting with their research supervisor.

**8.2 Required Course for All Graduate Students**
All graduate students must complete and pass SGS #101 – Academic Research Integrity and Ethics within the first 12 months after their admission. The purpose of this course is to ensure that the standards and expectations of academic integrity and research ethics are communicated and understood by students. Registration for this course is completed on SOLAR. If you have taken SGS #101 but have not fulfilled the requirements, you will be required to take it until completion.

All graduate students are also required to complete and pass SGS #201 – Accessibility for Ontarians with Disabilities Act (AODA), which can be completed online (www.mcmaster.ca/accessibility).

Students may not graduate or register in subsequent academic year without having successfully completed these courses.

**8.3 Completion of 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

**8.4 SGS Policy: Course Registration & Withdrawal Dates**
There is a deadline date for both registration and changes (drop and add) for courses. The drop and add dates are posted in the SGS Graduate Calendar. It is the student’s responsibility to drop and add courses from their academic record.


In certain circumstances, it is possible to change course selection after the deadline date. Please note that students will require approval from their supervisor, Director of the School and the
School of Graduate Studies. To request the change, the student must complete a Petition for Special Consideration:

http://graduate.mcmaster.ca/images/files/graduate/forms/student_forms/petition.pdf

8.5 Computational Science and Engineering Student Symposium Day

The School of Computational Science and Engineering sponsors a student symposium day during which students currently registered in the Masters and Ph.D. programs give presentations about their work. Attendance of all registered Masters and Ph.D. students in the Computational Science and Engineering program is required. Students are also required to present one seminar on the research they have carried out while enrolled in the program.

8.6 Master's Program

The Master's programs emphasize industry relevant academic research and development. The degree may be earned either with a thesis option (M.A.Sc. when the supervisor is from the Faculty of Engineering and M.Sc. when the supervisor is from the Faculty of Science) or by a course-project option (M.Eng. when the supervisor is from the Faculty of Engineering and M.Sc. when the supervisor is from the Faculty of Science), or by a coursework only option, to be decided jointly by the candidate, the supervisor and approved by the Director of the School.

The maximum time for completion of the degree is three (3) years from initial registration, 5 years for part-time students.

8.6.1 M.A.Sc. & M.Sc. Thesis

A candidate for a Master's degree with thesis is required to successfully complete a minimum of four half courses with an average of at least B- and successfully defend a thesis. Two of the four half courses have to be chosen from the three core courses offered by the School. The remaining two half courses are normally chosen from the list of the courses approved by the School. One of the courses may be at the 600-level where appropriate. Additional courses beyond the minimum four may be required by the Director, in consultation with the supervisor. The thesis topic is to be chosen in consultation with the supervisor. The School arranges a series of seminars; candidates are required to attend and participate, and may be required to present their research results as part of this series. Normally, the thesis-based program is completed within 20 months of full time study. It is expected that many students will choose this route towards a Ph.D. degree.

8.6.2 Master's Thesis

The administration of the Master's thesis defence is the responsibility of the School. The School recommends that the thesis follow the format described by Graduate Studies in their booklet “Guide for the Preparation of Theses”. The student is responsible for ensuring that the format satisfies the University requirements. The sequence of events is as follows:

• The student’s supervisor provides permission to prepare a 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 submitted.

• The student’s supervisor(s) and two other faculty members, one from Engineering and one from Science, sit as an examining committee for the candidate. One of the three committee members will act as Chair for the examination committee.

• The committee will be approved by the Director. The Administrator will prepare the appropriate forms and provide them to the Chair of the examination committee.

The student is required to submit the following forms with the completed thesis to Graduate Studies:
8.6.3 M.Eng. & M.Sc. with Coursework and Project
A candidate for a Master's degree with project is required to successfully complete a minimum of six half courses with an average of at least B- plus a research project. The project is to be decided jointly by the candidate and the supervisor, and approved by the Director. Of the six half courses, three must be the core courses (CSE 700, CSE 701, CSE 702), whereas the remaining three course may be chosen from those listed by the School, in consultation with the project supervisor. Up to two of the half courses may be at the 600-level. The School arranges a series of seminars; candidates are required to attend and participate, and may be required to present their research results as part of this series. Normally, this option will require 16 months residence. This option is not a preferred qualification for entrance to a Ph.D. program.

Students in the coursework-and-project M.Eng. and M.Sc, program will need to prepare a report on the research topic formulated by the Supervisor. It is expected that most of the reports will be at least 40 pages long (in the McMaster standard thesis format) and will provide an overview of the theoretical background for the problem (including a survey of the state-of-the-art literature) and describe the computational solution of the problem supported with suitable results. The report will be reviewed by the student's Supervisor and one more CES faculty member from a department different than the Supervisor. After completion of the review, a copy of the project together with the reviews will be forwarded to the Administrator for Departmental files.

8.6.4 M.Eng. & M.Sc. with Coursework
A candidate for a Master's degree by coursework is required to successfully complete a minimum of eight half courses with an average of at least B-. Of these, four must be the three core courses and the course Parallel and High Performance Computing (CSE*745), whereas the remaining courses may be chosen from any of those listed by the School, in consultation with the Director. Up to two of the half courses may be at the 600-level. The School arranges a series of seminars; candidates are required to attend and participate. Normally, this option will require 12-16 months residency. This option is not a preferred qualification for entrance to a Ph.D. program.

8.7 Transfer from M.A.Sc. or M.Sc. to Ph.D. without completion of Master's Thesis
Students enrolled in the M.A.Sc. and M.Sc. program may be transferred to the Ph.D. program prior to the completion of the Master's degree. Transfer to the Ph.D. without completion of the Masters is intended to expedite the student's progress towards the Ph.D. by not requiring the preparation of the formal Master's thesis and allowing the research carried out during enrollment in the Master's program to be used in the Ph.D. thesis. The expectation for transfer to Ph.D. is that the research progress at the Masters level should be exemplary. The candidate will be expected to have completed a minimum of two (2) half courses 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 Master's program and then the following procedure should be followed:

- After a minimum of 2 complete terms in the Master’s program at McMaster students may request in writing to the Director to be transferred to the Ph.D. program.
- The Director will then appoint an Examining Committee comprising of two (2) faculty members, in addition to the student's research supervisor(s).
• The student will provide four (4) copies of a formal written transfer report, which summarizes the student’s research work to date, to the School office no later than ten (10) days before the scheduled examination date.

The transfer report is not a thesis and need not follow the Master’s thesis preparation requirements since the report will not be kept for archival purposes. The maximum length is 25 single-spaced pages. The transfer report must address the following:

• Definition of the research problem.
• Brief critical review of the relevant literature.
• Summary of the completed work including: experimental equipment built, experimental techniques developed, experimental data gathered and analyzed. The summary must clearly show the Examining Committee some contribution to biomedical research.
• 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.
• The examination will consist of an oral presentation, 20-30 minutes in duration, summarizing the research progress to date. The candidate will then have a session of questioning by the Examining Committee members only.
• 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.

The outcome of the examination is that the School 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 Master’s degree
2. admission to Ph.D. studies without completion of a Master’s program
3. admission to Ph.D. studies but with concurrent completion of all requirements for an Master’s degree within one calendar year from the date of reclassification
4. refusal of admission to Ph.D. studies

8.8 Ph.D. Program
The general regulations for the Degree Doctor of Philosophy appear earlier in the Calendar. Students with a Master's degree equivalent to the Master's degree with thesis option at the School of Computational Science and Engineering are required to take two 700 level half courses. Students who previously earned a Master's degree at a relevant program are required to take a total of four courses, of which at least three must be at the 700 level. Students entering into the Ph.D. program directly from a bachelor's degree, or transferring into the Ph.D. program without completing the Master's degree are required to take a total of six courses, of which at least four must be at the 700 level.

During their course of study, doctoral candidates will have to pass a Comprehensive Examination of the School. The purpose of this examination is to ensure that the candidate possesses sufficient knowledge and maturity in computational Science and Engineering. The Comprehensive Examination will be given in two parts.

The maximum time for completion of the degree is seven (7) years from initial registration, 8 years for part-time students.

8.8.1 Supervisory Committee
In accordance with the regulations of the School of Graduate Studies (Sections 1.2.4, 2.6 and 4.5 of the Graduate Calendar), all Ph.D. students will have a Supervisory Committee which should
meet at least once every year and provide the student with feedback regarding his/her coursework and research. A report from the meeting must be submitted to the Administrator before August 31 (the form can be found at http://graduate.mcmaster.ca/current-students/forms/department-forms). In keeping with the interdisciplinary character of the CES program, it is expected that at least one member of the Supervisory Committee will be from a different Faculty than the student’s Supervisor. If this is not feasible, then this member should be chosen from a different department within the same Faculty. The Director can provide advice on the composition of the Supervisory Committee.

8.8.2 Composition of the Examination Committee
The examination committee consists of the student’s supervisory committee plus one additional member whose area is relevant to the examination topic. Suggestions for the additional member will be provided by the supervisory committee and approved by the Director. During its initial meeting the examination committee will also determine its Chair.

8.8.3 Comprehensive Examinations for Ph.D. Students
In agreement with Section 4.3 of the Graduate Calendar, during their course of study doctoral candidates will have to pass a Comprehensive Examination. The purpose of this examination is to ensure that the candidate possesses sufficient knowledge and maturity in computational Science and Engineering. This examination normally takes place between 12 and 20 months, but no later than 24 months, after the start of the program, and is scheduled by the supervisory committee at a mutually convenient time.

The Comprehensive Examination will be in two parts.
Part I will be an oral examination which is designed to test the student’s breadth of knowledge, her/his understanding of computational sciences and computational engineering, and to test the student’s ability in critical thinking, and her/his ability to synthesize and integrate ideas from within and peripheral to the candidate’s research area.
The examination committee will meet to determine the topic related to, but peripheral to the candidate’s intended research topic. The choice of topic may be made in consultation with the Director.
Once the candidate receives the topic, he/she will have four weeks to review the state of art on the specified areas, write a maximum 20 page report surveying these areas and identify between 1 and 3 interesting open problems without the aid of any other individual. An official letter is sent to the candidate outlining the proposal topic, examination procedures and guidelines. The oral examination will take place two weeks after submission of the report. The examination will include an oral presentation, not more than 20 minutes in length. This is followed by a question period from the examination committee. The total examination will normally be 2 hours in length, but no more than 3 hours. At the end of Part I an interim form should be returned to the School. This form can be obtained from the Administrator.
Part II will take the form of a written research proposal and an oral examination designed to examine the student’s understanding of, and approach to, her/his proposed dissertation research topic. Formulation of the dissertation topic shall be done in consultation with the Supervisor. Both parts of the examination may be repeated once.
The examination committee consists of the student’s supervisory committee plus one additional member whose area is relevant to the examination topic. Suggestions for the additional member will be provided by the supervisory committee and approved by the Director. During its initial meeting the examination committee will also determine its Chair.
After completion of both parts of the exam, the Comprehensive Examination Results form is to be completed by the Chair and submitted together with the student’s report to the Director for approval in accordance with regulations of the School of Graduate Studies. This form can be found at http://graduate.mcmaster.ca/current-students/forms/department-forms. The completed form and report are then submitted to the Administrator who will forward both to Graduate Studies and update the candidate’s departmental file.
8.8.4 Ph.D. Thesis
Students close to submitting their Ph.D. thesis (approximately 2 months) should complete the on-line Thesis Defence System (TDS) found at:

http://graduate.mcmaster.ca/current-students/completing-your-degree/step2-defend#Planning/scheduling%20PhD%20defence

This will begin the thesis defence schedule. Candidates will be asked for a thesis title and estimated date to submit the thesis. Under separate cover, the supervisor will be asked to submit the name of an external examiner which must be approved by the supervisory committee and School. A final date and time of the defence will be scheduled and approved by the student, supervisory committee and external examiner.

Doctoral students and their supervisors should note that theses of extraordinary length are to be discouraged. 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 supervisor(s) 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.

8.8.5 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 electronically and complete degree requirements for Autumn or Spring Convocation. For 2011-2012, the dates are September 28, 2011 and April 4, 2012.

8.8.6 Costs of Preparing Thesis
Arrangements for typing the thesis and expenses involved therein are the responsibility of the student.

9 DEPARTMENTAL & UNIVERSITY THESIS PROCEDURE
The School of Graduate Studies (SGS) has forms, regulations and information regarding thesis preparation, these are available from the SGS website:

http://graduate.mcmaster.ca/current-students/completing-your-degree

Final Thesis Submission Form:
http://graduate.mcmaster.ca/images/files/graduate/forms/thesis_forms/thesubphd.pdf

Licence to McMaster University Form:
http://graduate.mcmaster.ca/images/files/graduate/forms/thesis_forms/licence.pdf

Thesis control Sheet
http://graduate.mcmaster.ca/images/files/graduate/forms/thesis_forms/thescon.pdf

UMI Classification: http://graduate.mcmaster.ca/images/files/graduate/forms/thesis_forms/umi.pdf
I confirm that I have received the Computational Science and Engineering Graduate Student Handbook, 2014-15

In the case of discrepancy between this guide and other University policy, students are advised to consult the Graduate Calendar published by the School of Graduate Studies.

________________________________________  _________________________________________
Name                                      Date