

School of Computer Science Carleton University

GRADUATE HANDBOOK 2010-2011

Questions on this document will be taken at the *SCS Graduate Orientation* tentatively scheduled for Friday, September 10th at 11:00 am in room 4351 Herzberg.

This orientation is compulsory for all NEW graduate students.

Document last updated July 5, 2010

I. STAFF AND FACULTY

Main Office Telephone: (613) 520-4333 Main Office Fax: (613) 520-4334

Web site: <http://www.scs.carleton.ca>

The Computer Science Graduate Society web site:

<http://www.scs.carleton.ca/~csgrads/>

A. ADMINISTRATIVE STAFF

<http://www.scs.carleton.ca/people/people.php?People=admin>

Howe, Doug	Director of the School	howe@scs.carleton.ca
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Antonipillai, Sharmila	Administrative Assistant	sharmi@scs.carleton.ca
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 <i>Graduate Program</i>		
Nussbaum, Doron	Graduate Director	nussbaum@scs.carleton.ca
Sandler, Edina	Graduate Administrator (Acting)	edina@scs.carleton.ca

B. TECHNICAL STAFF

<http://www.scs.carleton.ca/people/people.php?People=tech>

Choynowski, Peter	Manager, Technical Operations	pkc@scs.carleton.ca
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Gonzalez, Jorge	Network Administrator (Acting)	jorgel@scs.carleton.ca

Computer Science Help Desk and Support
Located in Rooms 5161, 5163, 5165

support@scs.carleton.ca

C. EMAIL COMMUNICATION

All email communication within Carleton must come from a Carleton email address, i.e. @connect.carleton.ca or @scs.carleton.ca. Please activate your Connect email account as soon as possible. See <https://portal.carleton.ca/> to activate your account.

D. FACULTY IN THE SCHOOL OF COMPUTER SCIENCE

The following is a list of faculty members in the School of Computer Science who are eligible to supervise a graduate thesis or project. ISS students must choose a supervisor from this list. Ph.D. and M.C.S. students must choose a supervisor from the list of faculty who are members of the Ottawa-Carleton Institute for Computer Science (OCICS) and whose home university is Carleton (see next subsection).

Faculty in the School of Computer Science eligible to supervise graduate students

M. Barbeau, B.C.S. (Sherbrooke), M.C.S., Ph.D. (Montreal)
L. Bertossi, B. Math., M.Sc., Ph.D. (P. Universidad Catolica de Chile)
R. Biddle, B.Math, M.Math. (Waterloo), Dip. Tchg. (Dunedin), Ph.D. (Canterbury)
P.K. Bose, B.Math, M.Math. (Waterloo), Ph.D. (McGill)
J.-P. Corriveau, B.Sc., M.C.S. (Ottawa), Ph.D. (Toronto)
F. Dehne, Dipl. Inform. Aachen, Ph.D. (Würzburg)
D. Deugo, B.C.S., M.C.S., Ph.D. (Carleton)
M. Dumontier, B.Sc. (Manitoba), Ph.D. (Toronto)
D. Howe, B.A. (Carleton), M.S., Ph.D. (Cornell)
E. Kranakis, B.Sc. (Athens), Ph.D. (Minnesota)
W.R. LaLonde, B.A.Sc., M.A.Sc. (Toronto), Ph.D. (Waterloo)
M. Lanthier, B.C.S., M.C.S., Ph.D. (Carleton)
M. Liu, B.Sc., M.Eng. (Wuhan), M.Sc., Ph.D. (Calgary)
A. Maheshwari, B.Eng., M.Sc. (Birla), Ph.D. (Bombay)
P. Morin, B.C.S., M.C.S., Ph.D. (Carleton)
D. Mould, B.Sc. (UBC), M.Sc. (Saskatchewan), Ph.D. (Toronto)
D. Nussbaum, B.Sc. (Tel Aviv), M.C.S., Ph.D. (Carleton)
J.B. Oommen, B.Tech. I.I.T., M.Eng. (Indian Inst. of Science), M.Sc., Ph.D. (Purdue)
F. Oppacher, M.C.S. (Concordia), Ph.D. (Vienna)
J.-R. Sack, Vordiplom, Diplom. (Bonn), Ph.D. (McGill)
N. Santoro, D.SC. (Pisa), Ph.D. (Waterloo)
M. Smid, M.Sc. (Eindhoven) Ph.D. (Amsterdam), Habilitation (Saarland)
A. Somayaji, B.Math (MIT), Ph.D. (New Mexico)
P.C. van Oorschot, B.Math., M.Math., Ph.D. (Waterloo)
A. White, B.A., M.A. (Cambridge), M.C.S., Ph.D. (Carleton)
A. Whitehead, B.C.S., M.C.S., Ph.D. (Carleton)

Adjunct Research Professors

Adjunct Professors may supervise graduate students only if there is a full-time faculty member as co-supervisor. For ISS students, this faculty co-supervisor must be from the School of Computer Science. M.C.S. and Ph.D. students may choose a co-supervisor from the list of OCICS members whose home department is at Carleton University.

L. Aleksandrov, B.Sc., M.Sc., Ph.D. (Sofia)
F. Bordeleau, B.Sc. (Montreal), B.Sc.A. (Quebec), M.C.S., Ph.D. (Carleton)
J. Czyzowicz, M.Sc., Ph.D. (Warsaw)
H. Djidjev, Ph.D. (Sofia)
D. Krizanc, B.Sc. (Toronto), Ph.D. (Harvard)
A. Patrick, Ph.D. (Western)
A. Pelc, M.Sc., Ph.D. (Warsaw)
G. Roth, B.Math (Waterloo), M.C.S. (Carleton), Ph.D. (McGill)
B. Selic, Dipl. Ing., Magister Ing. (Belgrade)
W. Shi
C. Shu, B.C.S.(Harbin), Ph.D. (London)
D.A. Thomas, B.Eng., M.Eng. (Carleton)
J.K. White

E. OTTAWA-CARLETON INSTITUTE FOR COMPUTER SCIENCE (OCICS)

Director of the Institute

Hasan Ural, School of Information Technology and Engineering, University of Ottawa

Associate Director of the Institute

Doron Nussbaum, School of Computer Science, Carleton University

Students who wish to pursue studies in computer science leading to an M.C.S. or a Ph.D. degree can do so in a joint program offered by the School of Information Technology and Engineering (SITE) at the University of Ottawa and the School of Computer Science (SCS) at Carleton University under the auspices of the Ottawa-Carleton Institute for Computer Science (OCICS). The Institute is responsible for supervising the program and for providing a framework for interaction between the two departments at the research level. In addition to the faculty members from the two Computer Science departments, the Institute also has members with computer science expertise from other departments.

The list of OCICS members is available under ‘MEMBERS’ at:

<https://ocics.site.uottawa.ca/members/index.php>

II. GRADUATE PROGRAMS IN THE SCHOOL

The School of Computer Science offers the following programs at the graduate level:

- A. A *Ph.D.* and *Master of Computer Science (M.C.S.)*, are offered by the School of Computer Science (SCS) at Carleton University and the School of Information Technology and Engineering (SITE) at the University of Ottawa, under the auspices of the *Ottawa-Carleton Institute for Computer Science (OCICS)*. The Institute is responsible for supervising the program and for providing a framework for interaction between the two departments at the research level. Please refer to the list of OCICS members and their research interests.
- B. **M.C.S. Co-op Stream** The course requirements are the same for those students under the thesis stream but after two terms of course work, applicants take two terms of Co-op work in industry.
- C. **M.C.S. specializing in Bioinformatics** The Institute of Computer Science is a participating unit in the collaborative program in bioinformatics at the master's level. This program has been established for the students wishing to include an interdisciplinary component in Bioinformatics as part of their degree in Computer Science. Participating in this program leads to an M.C.S. with Specialization in Bioinformatics degree.

Students should indicate in their initial application for admission that they wish to be accepted into the collaborative program. To be accepted, the thesis director must be a member of the collaborative program.

Students are normally informed about their acceptance into the collaborative program at the same time as being informed about their admission into the primary program. For further details, see the Bioinformatics program.

- D. A *Master of Science (M.Sc.) in Information and Systems Science (ISS)* is offered in cooperation with the Department of Systems and Computer Engineering and the School of Mathematics and Statistics at Carleton University. The purpose of the program is to provide training in the use and application of computers, to those who have not studied extensively in this field at the undergraduate level. The process of using the computer in problem solving is emphasized. The program is flexible, though individual concentrations are usually in one of three broad areas:

- *computer applications in a particular field (e.g., communications, energy systems)
- *algorithms and methodologies for solution of complex problems by computer (e.g., graph theory, operations research, optimization, simulation and modelling)
- *computer methods and technologies (e.g., databases, software engineering, computer languages).

Close links are maintained with the scientific, industrial, and technological communities, and an effort is made to direct students to project work of current practical significance.

- E. The Ottawa-Carleton Institute for Biomedical Engineering offers a multi-disciplinary *Master of Applied Science degree (M.A.Sc.)* in Biomedical Engineering (see <http://www.ocibme.ca>).
- F. Students interested in a more specific mix of technology and management should *Master's of Applied Science in Technology Innovation Management*. The thesis option of this program leads to an *M.A.Sc.*, the non-thesis option leads to an *M.Eng.*

III. PROGRAM REQUIREMENTS

A. Ph.D. IN COMPUTER SCIENCE

1. Requirements

The following list represents basic program requirements. As some students may have additional requirements or been granted advanced standing, each student should refer to his/her own "Statement of Standing on Admission" (pink form) for individual program requirements.

- a) a *minimum* of 1.5 credits at the graduate level in at least *three* of the following research areas: Theory of Computing (T), Software Engineering (E), Computer Applications (A), and Computer Systems (S)
- b) a written and an oral comprehensive examination (COMP 6907)
- c) a written thesis proposal defended at an oral examination (COMP 6908)
- d) a research thesis defended at an oral examination (COMP 6909)
- e) presentation of two seminars before thesis submission:
(1 in the graduate seminar series, 1 to be approved by the thesis supervisor)
- f) four terms of full-time study (residency requirement)

2. Timelines for Completion

<u>Estimated Timelines for a Full-Time Ph.D. Student</u>	
<u>Term</u>	<u>Completed</u>
1 st term	Thesis Supervisor form completed
3 rd term	Comprehensive Advisory Committee confirmed - reading list 3 months prior to examination
4 th term	Comprehensive Examination completed
First 4 terms	Course work completed
8 th term	Doctoral Proposal Committee confirmed
9 th term	Doctoral Proposal defended
12 th term	Thesis defended

The completion times listed above are estimates based on *full-time* study. Students should aim to adhere to these guidelines and will be warned if they do not through an audit process. The expected completion time for the Ph.D. program is twelve terms, depending on the type of thesis and the area of research. (See *Section VII. General Regulations* for information on time limits.)

3. Course Selection

- The student and his or her faculty adviser should select graduate courses related to research interests but taking into consideration the "*area*" requirements of the Ph.D. program [see requirements above] and the requirements on the "Statement of Standing on Admission".
- The three required course credits of a Ph.D. student must be taken from the schedule of OCICS courses. Students can register directly through Carleton Central for all OCICS courses from SCS and SITE. An exchange form (see Graduate Administrator) must be filled out in the exceptional case when a student is allowed to take a course from University of Ottawa but outside of SITE.
- A "*Permission for Credit*" form must be completed and approved by the Graduate Director to obtain degree credit for any course not on the OCICS schedule. Support from the faculty advisor/thesis supervisor is required for such requests.

first 4 terms

4. Thesis Supervisor Confirmation

- Ph.D. students are assigned a thesis supervisor upon admission. However, before the end of the first term of registration, students are asked to submit a signed "*Ph.D. Thesis Supervisor Information*" form to confirm the arrangement and determine a tentative completion date.

1st term

5. Ph.D. Comprehensive Advisory Committee and Examination (COMP 6907)

- *Ph.D. Comprehensive Advisory Committee*

A comprehensive advisory committee must be established by the thesis supervisor and approved by the Director and Associate Director of OCICS *before* the student is given permission to register for the Doctoral Comprehensive.

This committee is typically comprised of three faculty members and must include *at a minimum*: the thesis supervisor (or co-supervisors), one OCICS member from SITE and one additional OCICS member from SCS.

The committee must be established before the end of the **third** term. A "*Ph.D. Comprehensive Advisory Committee*" form should be submitted to the Graduate Administrator for approval by the Director and Associate Director of OCICS.

3rd term

- ***The Ph.D. Comprehensive Advisory Committee is responsible for:***

- 1) filling out the above mentioned form, which consists of 2 pages. In particular, the committee must establish the topics and readings assigned to the candidate for the comprehensive. Typically, the examination will address a major and two minor areas. The form must be submitted for approval at least *three months* prior to the comprehensive exam and well before the last date for registration for that term. Breadth and depth **MUST** be addressed by this exam. More precisely:
 - The major must address breadth and depth in some sufficiently ‘wide’ field.
 - No significant overlap must exist between the major and the two minors (e.g., in reading lists).
 - It is the role of the Ph.D. proposal, not the Ph.D comprehensive to have the student demonstrate in-depth knowledge of his/her specific area of research. It is suggested that the major of the comprehensive be used to verify basic comprehension in the proposed field of research.
 - For the major and minors, reading lists and exams are to test senior undergraduate level or junior graduate level knowledge.
- 2) upon approval of this form, the Graduate Director will allow the student to register in the Comprehensive course COMP 6907. *Once registered in the Comprehensive course, the student must maintain continuous registration in the course until completed.*
- 3) submitting questions pertaining to these readings to the Graduate Administrator (who will schedule both written and oral parts of the examination, typically at least one week apart). Questions must be submitted **at least** one week before the written part of this examination. The written component will be between five and nine hours in length, typically three hours for the major and two hours for each minor.

It is the responsibility of the thesis supervisor to provide the Graduate Administrator with the date and time of the written and oral comprehensive examination. A ***“Ph.D. Comprehensive Examination Specification”*** form should be submitted **at least** 4 weeks prior to the planned dates for the written and oral examinations.

The Graduate Administrator will then prepare a formal notice for the oral portion of the Comprehensive Examination.

- 4) reviewing the answers of the candidate before the oral examination and reporting by email to the Graduate Administrator whether the oral examination is to proceed or not. An oral examination occurs only if the written examination is passed.
- 5) conducting, in an oral, a thorough investigation of the knowledge and understanding of the candidate, both in terms of breadth and depth, with respect to the major and minor topics of the examination. At a minimum, familiarity with the designated material at the senior undergraduate level or junior graduate level will be expected. The ability of the candidate to articulate clear answers in English is also expected.

- ***Grading of the Comprehensive***

- 1) The comprehensive may be failed, passed conditionally (i.e., with extra course requirements) or passed unconditionally. If failed (due to a poor written or a poor oral), this course may be retaken, at the most, one time.
- 2) A student who does not pass the exam will be provided with a summary of deficiencies identified by the Comprehensive Advisory Committee together with a plan of action for rectifying these deficiencies; for example, courses, special projects, preparation of survey-type papers, reading requirements. In order to continue in the program, the student must demonstrate that he/she has rectified the identified deficiencies by a date set by the Comprehensive Advisory Committee. This remedial work must be completed within one year of the comprehensive exam. The method used to provide this demonstration is at the discretion of the Comprehensive Advisory Committee.
- 3) It is the responsibility of the Chair of the Comprehensive oral to document the results of the examination using the official grade sheets provided by the Graduate Administrator. The same forms are used to specify any deficiencies and deadlines, as well as how the candidate will demonstrate he/she has rectified identified deficiencies, if any.

Both written and oral exams must take place within the first 4 terms from initial registration. Please note that committee members must verify that their reading list has been captured correctly and sign the relevant form. Substitution of committee members or of reading lists is allowed only under truly exceptional circumstances and requires sufficient notice from the supervisor as well as i) a new set of signed forms and ii) the approval of the Director and Associate Director of OCICS.

The comprehensive exam questions and the student's original answer booklet(s) must be filed with the Graduate Administrator.

6. Ph.D. Doctoral Proposal Committee and Examination (COMP 6908)

- ***Ph.D. Doctoral Proposal Committee***

The thesis supervisor should establish a Ph.D. doctoral proposal committee comprised of three to five faculty members before the end of the seventh term of registration. This committee must include at a minimum: the thesis supervisor (or co-supervisors), one OCICS member from SITE and one additional OCICS member from SCS.

It is strongly recommended that a faculty member from another department at Carleton be included, as this will be a requirement for the thesis defence committee.

The committee is responsible for the thesis proposal examination, for guiding the student's research, and for the final examination of the student's dissertation. This

committee *may* be the same as the Comprehensive Advisory one. This is up to the discretion of the thesis supervisor.

This advisory committee must be approved by the Graduate Director.

- ***The thesis supervisor must:***

- 7th term** 1) submit a “***Doctoral Proposal Committee***” form at least three months prior to the thesis proposal examination and well before the last date for registration for that term. The form should indicate the thesis area and names of committee members.

Upon approval, the Graduate Director will allow the student to register in COMP 6908. *Once registered in the Doctoral Proposal course, the student must maintain continuous registration in the course until completed.*

- 8th term** 2) consult with the committee members in order to fix a date and time for the oral examination and then complete a “***Ph.D. Doctoral Proposal Scheduling***” form at least 4 weeks prior to the proposed date of this oral.

The Graduate Administrator will then prepare a formal notice of the examination.

It is the responsibility of the Chair of this examination to document the results of the examination using the official grade sheets provided by the Graduate Administrator.

- ***The Ph.D. student must:***

- 9th term** 1) submit a written thesis proposal to the examiners of the committee, typically 4 weeks before the oral examination.
- 2) successfully defend it in an oral examination *within the first 9 terms from initial registration.*

This proposal consists of a document generally i) defining the specific problem addressed, ii) relating it to the state-of-the-art literature, iii) reporting on the hypothesis, goals, and any initial results, and iv) outlining the proposed research methodology and validation procedure(s). In other words, the proposal summarizes what has been done so far, and what is expected to be completed in the final dissertation. The proposal must clearly identify what are the expected contributions of the final dissertation and how these contributions will be validated.

If the proposal is unacceptable, the Doctoral Proposal Committee will recommend appropriate action on the official grading form. Once approved, the research proposal is considered a contract and must be placed on file with the Graduate Administrator.

Modifications to the Doctoral Proposal committee are allowed only under truly exceptional circumstances and must be properly motivated (in order for the directors of OCICS to approve).

7. Thesis (COMP 6909)

Once registered in the thesis course, a student must maintain continuous registration in the thesis until completion.

A thesis must be submitted and successfully defended in an oral examination within the time limits of the program. The expected completion time for the Ph.D. program is approximately twelve terms depending on the type of thesis and the area of research. Full-time students have eighteen terms (24 terms part-time) to complete their program.

A thesis cannot be submitted until all other program requirements are satisfied (including the seminar requirement). Each student is responsible for ensuring that he/she has satisfied all requirements.

Please refer to *Section IV. Thesis Regulations*.

8. Seminar Requirement

Before the completion of the program, a Ph.D. student is expected to present at least two seminars. Minimally, the student must make one presentation for the joint OCICS graduate seminar series, as well as one presentation approved by the supervisor. Please refer to the *Section VI. Graduate Seminar Requirements* for further details.

9. Residency Requirement

Ph.D. students must fulfill a residence requirement of at least four terms of full-time study.

B. MASTER OF COMPUTER SCIENCE (M.C.S.)

THESIS OPTION

1. Requirements

The following list represents basic program requirements. As some students may have additional requirements or been granted advanced standing, each student should refer to his/her own "Statement of Standing on Admission" (pink form) for individual program requirements.

- a) a minimum of five one-half credit courses
- a) completion and defence of a thesis (COMP 5905)
- b) attendance at 10 seminars and presentation of one seminar within the OCICS Graduate Seminar Series (COMP 5904)

2. Timelines for Completion

- The completion times listed in the outside margin are estimates based on *full-time* study. Students should aim to adhere to these guidelines and will be warned if they do not.
- Students in the M.C.S. degree are expected to complete all degree requirements, including the thesis defence, within two years of full-time study or six years of part-time study. (See the *Section VII General Regulations* for information on time limits.)
- Course requirements should be completed as early in the program as possible.
- Each student is responsible for ensuring that he/she has satisfied all requirements.

3. Thesis (COMP 5905)

- Full-time students in the thesis option should select a thesis supervisor before the end of the second term of study and part-time students before the end of the fourth term of study. The thesis supervisor must be a faculty member from Carleton University who is a member of OCICS. An advisor may have been declared on the pink Statement of Standing on Admission but he is not the student's supervisor until an official form has been signed. Typically, a professor who provides a Research Assistantship will become the student's supervisor. He would also advise the student on course selection.
- An "*M.C.S. Thesis Supervisor Information*" form must be submitted for approval before the student will be permitted to register in the thesis.
- Once registered in the thesis, a student must maintain continuous registration in the thesis until completion. Usually, this includes the term in which the defence is held and the final, defended copies submitted (depending on deadline parameters). A

thesis cannot be submitted until all other program requirements are satisfied. Please also refer to *Section IV. Thesis Regulations*.

4. Course Selection

- Note*
- The student and his or her faculty supervisor should select graduate courses related to research interests but taking into consideration the "area" requirements of the M.C.S. program [see requirements below] and the requirements on the "Statement of Standing on Admission".
 - A "**Permission for Credit**" form must be completed and approved by the Graduate Director to obtain degree credit for any course not on the OCICS schedule or Statement of Standing on Admission. Support from the thesis supervisor is required for such requests.
 - At most, two Fourth Year undergraduate courses may be taken with the permission of the thesis supervisor and graduate director. Such permission is not common and must be strongly supported.
 - At least half of the course credits of an M.C.S. student must be taken from the schedule of the OCICS courses. Students can register directly through Carleton Central for all OCICS courses from SCS and SITE. An exchange form (see Graduate Administrator) must be filled out in the exceptional case when a student is allowed to take a course from University of Ottawa but outside of SITE.
 - A course cannot be taken to satisfy simultaneously two areas: 1 course counts for only 1 area.
 - OCICS courses are grouped into four areas – Theory of Computing (T), Software Engineering (E), Computer Applications (A), and Computer Systems (S).

To fulfill the course requirements, an M.C.S. student must take at least

- one course in area T
- one course in area E
- one course in either area A or area S

5. Seminar Requirement

Before completion of the program, a M.C.S. student is expected to attend 10 seminars and make one presentation in the OCICS Graduate Seminar Series. Each seminar consists of several presentations. Please refer to *Section VI. Graduate Seminar Requirements*.

NON-THESIS OPTION (PROJECT)

1. Requirements

The following list represents basic program requirements. As some students may have additional requirements or been granted advanced standing, each student should refer to his/her own "Statement of Standing on Admission" (pink form) for individual program requirements.

- a) eight one-half credit courses
- b) completion of an Intensive Graduate Project in Computer Science (COMP 5903)
- c) attendance at 10 seminars and presentation of one seminar within the OCICS Graduate Seminar Series (COMP 5904)

2. Timelines for Completion

- The completion times listed in the outside margin are estimates based on *full-time* study. Students should aim to adhere to these guidelines and will be warned if they do not.
- Students in the M.C.S. program are expected to complete all degree requirements, including the submission of the intensive graduate project, within two years of full-time study or six years of part-time study. (See the *Section VII General Regulations* for information on time limits.)
- Each student is responsible for ensuring that he/she has satisfied all requirements

6th term

3. Course Selection

- The student and his or her faculty supervisor should select graduate courses related to research interests but taking into consideration the "area" requirements of the M.C.S. program [see requirements below] and the requirements on the "Statement of Standing on Admission".
- A "*Permission for Credit*" form must be completed and approved by the Graduate Director to obtain degree credit for any course not on the OCICS schedule or Statement of Standing on Admission. Support from the thesis supervisor is required for such requests.
- At most, two Fourth Year undergraduate courses may be taken with the permission of the thesis supervisor and graduate director. Such permission is not common and must be strongly supported.
- At least half of the course credits of an M.C.S. student must be taken from the schedule of the OCICS courses. Students can register directly through Carleton Central for all OCICS courses from SCS and SITE. An exchange form (see Graduate Administrator) must be filled out in the exceptional case when a student is allowed to take a course from University of Ottawa but outside of SITE.
- OCICS courses are grouped into four areas – Theory of Computing (T), Software Engineering (E), Computer Applications (A), and Computer Systems (S).

Note

To fulfill the course requirements, an M.C.S. student must take at least

- one course in area T
- one course in area E
- one course in either area A or area S

4. Project (COMP 5903)

- **4th term** Students in the non-thesis option will normally complete their project in the last two terms of the program. Full-time students should select a project supervisor no later than the end of the fourth term of study. The project supervisor must be a faculty member from Carleton University who is a member of OCICS.
- An "***M.C.S. Project Supervisor Information***" form must be submitted to the project supervisor and the School's graduate director for approval before the student will be permitted to register. A detailed outline of the planned project, similar to a thesis proposal, must be attached.
- The project must represent a significant contribution to the state-of-the-art BUT does not involve the writing up of a dissertation. However, a project report detailing the work is to be submitted to the project supervisor for grading.
- Once registered in the M.C.S. project, a student must maintain continuous registration in the project course until completion. Usually this includes the term in which the project is submitted (within deadline parameters).

5. Seminar Requirement

- Before completion of the program, an M.C.S. student is expected to attend 10 seminars and make one presentation in the OCICS Graduate Seminar Series. Each seminar consists of several presentations. Please refer to *Section VI Graduate Seminar Requirements*.

C. M.SC. IN INFORMATION AND SYSTEMS SCIENCE (ISS)

1. Requirements

The following list represents basic program requirements. As some students may have additional requirements or been granted advanced standing, each student should refer to his/her own "Statement of Standing on Admission" (pink form) for individual program requirements

- **With thesis**
 - a) a minimum of eight one-half course credits
 - b) completion and defence of a thesis (COMP 5908)
- **Non-thesis or Project**
 - a) completion of ten half (.5) course credits and a project (COMP 5902)

2. Timelines for Completion

- The completion times listed in the outside margin are estimates based on *full-time* study. Students should aim to adhere to these guidelines and will be warned if they do not.
- Students in the ISS program are expected to complete all degree requirements, including the thesis defence or submission of the intensive project, within two years of full-time study or six years of part-time study. (See the *Section VII. General Regulations* for information on time limits.)
- Course requirements should be completed as early in the program as possible.
- Each student is responsible for ensuring that he/she has satisfied all requirements for graduation.

6th term

3. Thesis (COMP 5908)

- Full-time students should select a thesis supervisor before the end of the second term of study and part-time students before the end of the fourth term of study. ISS students must choose their thesis supervisor from the list of eligible faculty in the School of Computer Science. An advisor may have been declared on the pink Statement of Standing on Admission but he is not the student's supervisor until an official form has been signed. He would also advise the student on course selection.
- An "*ISS Thesis Supervisor Information*" form must be submitted for approval before the student will be permitted to register in the thesis.
- Once registered in the thesis, a student must maintain continuous registration in the thesis until completion. This usually includes the term in which the defence is held and the final, defended copies submitted (depending on deadline parameters). A thesis cannot be

2nd term

submitted until all other program requirements are satisfied. Please also refer to *Section IV. Thesis Regulations*.

4. Course Selection

- The student and his or her faculty supervisor should select graduate courses related to research interests but taking into consideration the requirements of the **ISS** program listed below and the requirements on the “Statement of Standing on Admission”.
- ISS students do not require permission from the School to take graduate level courses offered by the Schools of Computer Science (with prefix *COMP*), Mathematics and Statistics (with prefix *MATH* or *STAT*) and Systems and Computer Engineering (only those courses with prefix *SYSC*). Permission is also not required for any undergraduate courses named specifically on the “Statement of Standing on Admission” as a program requirement.
- For all other Carleton courses, a "**Permission for Credit**" form must be completed and approved by the Graduate Director to obtain degree credit. Support from the thesis supervisor is required for such requests. **Additionally, ISS students are required to fill out an exchange form when registering in courses offered by SITE. The process is detailed in point 4 at:**
<http://www.carleton.ca/iss/faq/>
- **All ISS students** in Computer Science must take at least 1.0 credit (two courses, not including thesis) from Computer Science and at least 0.5 credit (one course) from the Department of Mathematics and Statistics and 0.5 credit from Systems and Computer Engineering. Students must also take COMP 5802 "Information and Systems Science" and are precluded from taking COMP 4804 due to the overlap of course material with COMP 5802.
- At most, two Fourth Year undergraduate courses may be taken with, and only with, the permission of the thesis supervisor and graduate director. Such permission is not common and must be strongly supported.
- Students should refer to their “Statement of Standing on Admission” to confirm if they have any additional course requirements specified.

Please check http://www.scs.carleton.ca/grad_program/grad_faq.php for frequently asked questions.

IV. THESIS REGULATIONS

The Faculty of Graduate and Postdoctoral Affairs produces *The Guidelines, Policies and Procedures for Comprehensive and Thesis Examinations and the Preparation of Theses*. This document is available at: <http://www2.carleton.ca/graduate-studies/policies-and-guidelines/>

For *deadline dates* on thesis submission and application for graduation, please refer to the Thesis Submission and Graduation Deadlines below.

Please be aware that it is necessary to *apply for graduation*. The deadline dates are *September 1* for November graduation; *March 1* for June graduation and *December 1* for February graduation. Application is made online at Carleton Central.

A. THESIS SUBMISSION AND GRADUATION DEADLINES

check <http://www.gs.carleton.ca/calendars/current/university/schedule.html>

B. THESIS SUBMISSION PROCEDURES

Please note that there are two deadline dates to consider with respect to thesis submission.

1. Submission to Thesis Supervisor

- Once a thesis is deemed ready for defence by the thesis supervisor, Ph.D. and Master's students should submit two (2) hard copies of their thesis to the Graduate Administrator, as well as a soft copy. An additional copies is at the expense of the student. The thesis copies should be accompanied by a "*Thesis Supervisor's Approval Form*" signed by the thesis supervisor indicating that the thesis is ready for defence.
- Thesis copies must be submitted to the thesis supervisor within an agreed upon time frame and early enough to provide sufficient time to circulate the copies to all the committee members for reading and for the preparation of a formal notice of defence. The formal notice of defence must be prepared by the Graduate Administrator and submitted to Graduate Studies, along with a copy of the thesis, at least 4 weeks prior to the date of the defence for Ph.D. students and at least 3 weeks prior for Master's students.
- Please refer to the schedule of "Thesis Submission and Graduation Deadlines" (subsection A above) for deadline dates for submission to the thesis supervisor. Students should always consult with their thesis supervisor, as an earlier submission date may be required due to the availability of the defence committee members.

2. Submission of Defended Thesis Copies

- Once the thesis has been defended and any required revisions made, both Ph.D. and Master's students should submit 2 hard copies of the thesis to the Graduate Administrator. These two copies will be forwarded to the Faculty of Graduate and Postdoctoral Affairs and once bound, will be housed in Carleton's library. Any additional copies (for the student, their family etc.) is at the student's expense. A soft copy is also required and will be posted online on the School of Computer Science's Thesis Repository page. These copies must be in the format and on the quality of paper described in *The Guidelines, Policies and Procedures for Comprehensive and Thesis Examinations and the Preparation of Theses*. This document is available at: http://www.gs.carleton.ca/thesis/s7_guide.html
- **Thesis Deposit Forms** There are five forms available from the Graduate Administrator which must be completed and must accompany the submitted thesis copies. These copies will then be sent for binding.

Please note there are strict deadline dates for submission of final, defended copies of the thesis.

C. THESIS QUALITY

Standard of quality

- a) A Master's thesis must discuss at least one significant (but not necessarily original) contribution to the state-of-the-art in its research field.

The only difference between an ISS and M.C.S. thesis should be one of quantity of work accomplished, **not** quality: An M.C.S. thesis is worth one credit more than an ISS thesis.

- b) A Ph.D. thesis must present at least one *original* and *significant* contribution.
- c) In any dissertation, all contributions must be clearly identified in the initial chapter of the dissertation (and ideally summarized in the Abstract **and** in the conclusions of the thesis). Any form of plagiarism makes the thesis unacceptable.
- d) All claims, and in particular those pertaining to the originality, significance, correctness and validation of the results, must be supported (through proper argumentation, formal proofs, references, etc.).
- e) Scholarship, that is, in-depth understanding of the published state-of-the-art in the relevant research field, must also be demonstrated. For this purpose, a section or chapter summarizing and discussing the state-of-the-art, as well as a detailed bibliography are recommended.
- f) Throughout the dissertation, all writings and work of others must be properly identified and referenced. Plagiarism of any sort (e.g., in the form of unreferenced paraphrasing or quoting) constitutes a serious academic offence.
- g) The thesis supervisor has the right to refuse a thesis that does not meet the standard of quality discussed above or which is poorly written with respect to formatting or English

grammar and spelling. It is the responsibility of the student to ensure that a well-written and grammatically correct thesis is submitted on time.

D. THESIS DEFENCE GRADE

There are four possible grades for a thesis defence.

- *Accepted.* Used in cases where only a few typographical or stylistic changes are required.

- *Acceptable after minor revisions.* Used in cases where a large number of typographical errors exist, or where other changes are required which do not affect the basic tenets of the research or its findings and do not call for alteration to the basic structure of the thesis. Such changes are subject only to the approval of the thesis supervisor before the thesis is finally submitted for binding.

- *Acceptable after major modifications as outlined on attached sheet.* Used in cases where, in the judgment of the examiners, changes of a substantive nature which call for re-writing of parts of the thesis are required. These should be clearly specified in writing. Such changes should be approved by the thesis board, or a designated committee, before the thesis is finally accepted for binding.

- *Rejected.* Used, when, in the judgment of the examiners, the thesis is unacceptable on substantive grounds.

E. SUPERVISOR/STUDENT GUIDELINES

The Supervisor/Student Guidelines which can be found on the Graduate Studies website were approved by the Carleton University Senate in October, 2000.

http://www.gs.carleton.ca/current_students/graduate_supervision.html

Fundamental to a satisfactory relationship between a supervisor and a student are mutual respect and a high level of professional integrity. What follows are guidelines to assist in the functioning of that relationship. These are necessarily rather general since it is recognized that different faculties and disciplines have different requirements and expectations which will supplement or give specificity to these general statements.

In those disciplines that do not assign a supervisor on admission, the student should understand that, while the department (the term includes school and institute) will make every attempt to assign the supervisor of choice, the supervisory relationship has to be consensual and determined primarily by competence in the field of the proposed thesis topic, and the availability of the supervisor.

Students in Science and Engineering should understand that their lines of research may encounter some restriction due to dependence upon the research direction of the supervisor who accepts them into the laboratory and provides a significant portion of their income out of his/her research grant.

When a supervisor-student relationship is established, the parties should understand that they assume the following responsibilities and can have the following expectations:

Responsibilities of Supervisors

1. To be familiar with the regulations and standards of the Faculty of Graduate Studies and Research, and the department, especially as they pertain to the conduct of research and the production of the thesis, and to ensure that the student is aware of these regulations and standards.
2. To be aware of and abide by the university's policies on conflict of interest, sexual harassment, and research ethics.
3. To assist the student in identifying a suitable research topic and (where appropriate) setting up a program of study.
4. To assist the student in the interpretation of research materials.
5. To be available for regular and timely consultations with students and to provide notification of lengthy absences and the support mechanisms available under these circumstances.
6. To convene meetings of the advisory committee as agreed with the student.
7. To agree to continue supervision when on leave, or to assist the student in making arrangements for supervision during the period of the leave.
8. To assist students in seeking financial support, especially in writing letters of good quality in support of scholarship and fellowship applications (e.g., well-written, informative, typed, on university letterhead), and to inform a student if a supportive letter cannot be written.
9. To read in a timely fashion portions of the thesis submitted by the student and provide constructive suggestions especially vis-à-vis difficulties or deficiencies perceived in the draft.
10. To indicate clearly when a draft thesis is in acceptable condition for examination or, if it is clear that the thesis will not be examinable, to advise the student in a timely fashion.
11. To complete the supervisor's section of the annual audit form required by GSRO.
12. To discuss with the student as early as feasible, any potential joint authorships or joint ownership of data or patents which might arise, provide a written version of any understandings reached on these matters, and also ensure that student contributions to publications are adequately acknowledged. (Granting agencies and major journals have guidelines which cover some or all of these items.)

Responsibilities of Students

1. To choose, with the supervisor's help, a research topic which the supervisor considers to be suitable and which he/she is competent to supervise.
2. To work systematically and within agreed deadlines, as far as possible, in order to meet the program deadlines specified by the regulations of the Faculty of Graduate Studies and Research.
3. To be well prepared for meetings with the supervisor.

4. To submit to the supervisor all research materials, as requested, and, at the agreed times, drafts of parts of the thesis for comment.
5. To give serious attention to the advice and direction of the supervisor.
6. To realize that the supervisor has duties and commitments that may delay access at short notice or slow down the return of a draft.
7. To acknowledge direct assistance of material drawn from other scholars and researchers.
8. To produce a thesis which meets the specifications and standards of the Faculty of Graduate Studies and Research and the department.
9. To submit the thesis to the judgment of the department via the examination procedures specified and to abide by the judgment of the examiners, subject to any appeal on grounds of procedural irregularities.

This array of responsibilities imparts certain expectations on the part of both the supervisor and student.

Expectations of the Supervisor

1. To expect the student to pursue the agreed research topic, unless a change has been mutually agreed upon.
2. To expect the student to give serious attention to advice concerning perceived deficiencies in the research and the thesis, and to receive a reasonable explanation when this advice is not followed.
3. To terminate supervision if the student is not displaying a reasonable effort, if he/she fails to heed advice on changes deemed essential, or if the student changes the agreed thesis topic without consent.
4. To have his/her contribution to the thesis appropriately and clearly acknowledged.
5. To have permission from the author of the thesis for the research set out in the thesis to be used as part of the larger project, when the student has produced the research as a research assistant employed on the larger project (with the understanding that the student will retain scholarly credit).

Expectations of the Student

1. To be assisted by the supervisor in developing a clear and feasible research topic and in solving problems and assessing progress as the work develops.
2. To be assisted to a clear understanding of the substantive and formal requirements of a thesis (e.g., length; methodology; validation of topic; degree of originality, especially in masters theses).
3. To receive within a reasonable time frame a fair and thorough assessment of both the drafts and the completed thesis, and clear explanations of negative comments.
4. To be permitted to seek a new supervisor if it can be clearly shown that the supervisorial relationship has broken down or if the student and supervisor cannot agree on a suitable research topic (although it is understood that a department cannot, in every circumstance, guarantee a suitable replacement).
5. To be protected from arbitrary changes in research direction which are detrimental to the timely completion of the thesis.
6. To have his/her contribution to the thesis fairly reflected in the attribution of authorship of publications and of patents.

7. To be permitted to submit a thesis for examination even if the supervisor is not satisfied, providing the work conforms to the guidelines and regulations laid down by the Faculty of Graduate Studies and Research and the department.

V. DIRECTED STUDIES

COMP 5901 and COMP 6901

- Before registering in a directed studies course COMP 5901 (MCS and ISS students) or COMP 6901 (Ph.D. students), a student must submit a topic proposal signed by a faculty member who will act as the supervisor and examiner for this course.
- The Graduate Director must approve this proposal. The proposal must detail a topic, specific deliverables, a tentative schedule and a mode of attribution for marks. Neither reading nor summarizing existing research is sufficient for directed studies.
- *Most importantly, the work carried out in a directed studies must NOT be or become a significant part of the thesis or project.* It is fundamental that any piece of work be used for obtaining credits only once throughout the studies of a student. For example, there must be a significant difference between the undergraduate honour's project, any directed studies, and the dissertation.
- Completion requires that a *copy* of the results or report be submitted to the Graduate Director.
- Directed studies courses cannot be taken to satisfy an "area" requirement for M.C.S and Ph.D students.
- A directed studies must not cover the same content as an existing course.
- A student is limited to a maximum of 2 directed studies per program, with different supervisors.

VI. GRADUATE SEMINAR REQUIREMENTS

(For Ph.D. and M.C.S. Students Only)

OCICS Graduate Seminar Co-ordinators:

for SCS:

To Be Determined

for SITE:

Prof. Stéphane Somé, email: ssome@site.uottawa.ca

There are seminar requirements for *M.C.S.* and *Ph.D.* students. The purpose of the seminar series is to encourage graduate students to make presentations that will illuminate a research topic. The student in consultation with her/his thesis supervisor chooses the topic of presentation.

- Participation in the graduate seminar series must occur in a single academic year. All students who intend to participate in the graduate seminar series in a particular academic year must submit the Seminar Participation form.
- The right to participate is NOT automatically granted. Priority will be given to students who will finish all their program requirements (including thesis or project) in either of the following months: December 2009, April 2010, or August 2010 and who must complete the seminar requirement in order to graduate.

For those students allowed to participate:

- M.C.S. students must register in COMP 5904, once and only once their Seminar Participation form is approved.
- Ph.D. students are not required to register in COMP 5904 but must follow the process described below.
- You **MUST** have a supervisor in order to schedule a seminar in the graduate seminar series.
- **ALL students who wish to schedule their presentation must get their abstract approved by their supervisor and submit to the seminar coordinator the Abstract Approval form.**
- **ALL students with scheduled presentations must also get their presentation approved by their supervisor and submit at least 2 weeks in advance, to the seminar coordinator, the Presentation Approval form. Failure to submit this form in time will result in the student possibly losing the right to present.**
- **Seminar coordinators will assign a PASS or FAIL mark to your presentation.** An unsatisfactory presentation will have to be rescheduled (which may delay you considerably) and redone satisfactorily. For those registered in COMP 5904, failure to obtain a PASS for the presentation will force the student to keep registering in COMP 5904 until the presentation is rescheduled and redone with a PASS grade.

A. M.C.S. STUDENTS

- M.C.S. students must register for the seminar course COMP5904.
- To complete this course, students must attend five graduate seminars at Carleton University, and five seminars at the University of Ottawa within one academic year. Each seminar consists of several student presentations.
- This requirement must be completed in the Fall and Winter terms as there is no seminar series in the Summer. Attendance is recorded for all seminars.
- The student must also make one presentation at the University of Ottawa in the context of this graduate series of seminars.
- This is a continuous registration course and if all course requirements are not completed (attendance and presentation) by the end of the Fall Term, students must register again in the Winter Term.
- Failure to obtain a PASS for the presentation will force the student to keep registering in COMP 5904 until the presentation is rescheduled and redone with a PASS grade.
- Please also refer to the Guidelines for the OCICS Graduate Seminar Series below.

B. Ph.D. STUDENTS

For Ph.D. students the seminar requirement is met by *presenting two seminars*: a) one seminar in the OCICS Graduate Seminar Series and b) one seminar approved by their supervisor. Ph.D. students are not required to register in a course.

1. OCICS Graduate Seminar Series.

- Ph.D. students are not required to register in COMP 5904 but must obtain permission to make their presentation by completing and submitting a Seminar Permission form . The student and the supervisor must both fill out and sign the Seminar Permission form and attach an approved abstract. Once permission to make a presentation has been granted, students must select a presentation date from a web-site yet to be determined.
- At least one week before the presentation, the student must submit to the Seminar Coordinator a presentation approval form.
- Failure to submit this form in time will result in the student possibly losing the right to present.
- Failure to obtain a PASS for the presentation will force the student to redo the presentation and obtain a PASS grade.
- Please refer to the Guidelines for the OCICS Graduate Seminar Series given below. This requirement must be completed during the Fall and Winter Terms as there is no seminar series in the Summer Term.

2. Supervisor approved seminar.

- A Ph.D. student must present a second seminar approved by the student's supervisor. This seminar may be given in the context of a research group, or of a conference, or of the School's departmental series. Please fill out the appropriate form.

- Ph.D. students should contact Sharmila Nama at sharmi@scs.carleton.ca to reserve a presentation date for their *second* seminar requirement if they choose to have a departmental seminar. The supervisor is required to attend such a seminar.

C. GUIDELINES FOR THE OCICS GRADUATE SEMINAR SERIES

- It is expected that graduate students will:
 1. Make a high quality presentation with carefully prepared and easily readable (i.e., typed) transparencies (and/or with any other necessary visual aids). Each presentation typically lasts approximately 20 minutes, plus a 10-minute period for questions. Please check with the seminar coordinator.
 2. Present ideas in a way that is understandable to a general audience.
 3. Answer questions by the audience and show necessary understanding of material presented.
- On failure to comply with the above guidelines and at the discretion of the graduate seminar supervisors (from SCS and SITE), in collaboration with the student's supervisor(s), a student may be required to prepare a new presentation on an alternate topic.
- These seminars are held weekly on Friday mornings, alternating between the Carleton and Ottawa campuses. Each seminar includes several student presentations. Attendance is taken for M.C.S. students. This seminar series runs from September to April only. The seminar schedule and abstracts will be available on a web site yet to be determined.
- Arrangements for scheduling a presentation should be made early each year (preferably in early September before the last date for registration for the Fall Term). This requirement must be completed before the student will be permitted to graduate.

All graduate students are encouraged to attend seminars in the School and at SITE, even after the completion of their formal attendance and presentation requirements. Although not a requirement for M.Sc. students, they are also encouraged to attend.

VII. GENERAL REGULATIONS

As listed in the Graduate Calendar

<http://www.carleton.ca/cugc/regulations/index.html>

- These regulations *apply to all graduate students* at the University. It is considered the responsibility of each student to be aware of the University requirements to remain a student in good standing and to complete their individual degree requirements for graduation.
- If after referring to your “*Statement of Standing on Admission*” and the Graduate Calendar, you are still in doubt as to your requirements, please check with the Graduate Director or the Graduate Administrator.
- Below is a brief summary of a few of these regulations. The numbers in brackets represent the regulation number to be found in the Graduate Calendar. Please ensure that you refer to the Web site above.

(11) **Academic Standing.** *A grade of B- or better must be obtained in each course credited towards the degree.* The Graduate Committee within the School reviews any grades below B-. The School in such cases may make a recommendation of removal from the program.

(7.10-7.13) **Status.** *Full or Part-Time status is determined by a graduate student’s declaration of status on the Application for Admission form and the first term of registration.*

Full-time students should register in a minimum of 1.5 credits in their first term of registration.

Ph.D. students may register in fewer than 3 courses in their first term of registration provided their supervisors allow them to register in their thesis, which requires a research plan.

Thereafter the student is considered to be full time in all subsequent terms of registration and subject to full-time fees.

Part-time students may not register in more than 1.0 credit per term (i.e., 2 half-credit courses), except for their thesis or project.

Students who have a valid reason for changing from full to part-time status may make a request for status change by completing a “*Request for a Change of Status*” form.

This request requires the signed support of the thesis supervisor (if there is one) and the School’s Graduate Director. If approved, please allow a minimum of two weeks (longer during a registration period) for a status change to become official.

(8.1-8.5) **Loss of status and reinstatement.** *A student who does not maintain continuous registration in a comprehensive, proposal, thesis, project or seminar course or who remains unregistered at the University for more than 2 terms (without being on an approved leave of absence), will lose status as a graduate student.* If a student loses

status in a graduate program, they are no longer eligible to register at the University. Should a student want to continue with their program, it is necessary to apply to the Graduate Director for reinstatement. The thesis supervisor (if there is one) must provide written support. Such reinstatement is not guaranteed. There will be a fee charged at the time tuition is paid. In addition, if the reason for the loss of status is failure to maintain continuous registration, there may be an additional charge of 1.0 credit tuition fees for each term in which the student failed to register. Please allow a minimum of three weeks for official notification of reinstatement.

Continuous registration. *After the first registration in a comprehensive, proposal, thesis, project or seminar course, a student must continue registration until such time as all work is completed and approved.* Any student with a valid reason as to why they might not be able to maintain continuous registration may complete a **“Request for a Leave of Absence”** form.

If continuous registration is not maintained, a student will lose status as a graduate student and must apply for reinstatement.

- (13) **Time Limits for Completion of the Program.** Each student has a time limit to complete all his or her degree requirements. These time limits are determined by status (i.e., full time, part time or a combination of full time and part time). Please refer to General Regulation #13 for a complete description of time limits. Students are sent a warning when one term remains on their time limit. Students who run out of time must appeal for an extension by completing **“A Request for Extension of Time”** form. Your student account will be charged and administrative fee.
- (7.8) **Auditing a Course.** *A student may "audit" only 1 credit (or 2 half credits) for their entire program.* Students who exceed this limit may find that the Faculty of Graduate Studies has deleted the additional audit courses from their registration.

VIII. FINANCIAL ASSISTANCE

A. INTERNAL AWARDS AND FINANCIAL ASSISTANCE

1. University Entrance Scholarships

- Scholarships may be awarded to newly admitted students with high grade point averages and excellent references who intend to maintain full-time registration status at the University. These scholarships range between \$1,000 to \$5,000 per year.

2. Teaching Assistantships (TA)

- **Training Manual** (<http://edc.carleton.ca/taprograms.php>)
- Teaching Assistantships (TAs) may be awarded to newly admitted students with high grade point averages, excellent references, excellent English competence, and who have applied for financial assistance and who intend to maintain full-time registration status at the University. These funds are limited, and not all qualified students admitted can be funded in this manner. The possibility of receiving a Teaching Assistantship after entering the program is extremely small. If an offer of funding is not made upon admission, it is strongly recommended that students should not expect to be funded by the School by this method but should refer to other funding possibilities.
- Students who have been awarded a TA receive a formal offer of funding from the Office of the Dean of Graduate Studies. TA assignment questionnaires are used to assist the School in making the most appropriate assignments to specific courses.
- A Teaching Assistantship may include marking of students' work, consultation with students and other duties to be assigned by the course instructor. A standard TA position represents 260 hours of work, usually completed during the Fall and Winter Terms. Presently the value of a TA award is \$9638 for work completed from September to April.
- A Master's student who receives a Teaching Assistantship upon admission will be eligible to continue receiving this funding for 4 terms and a Ph.D. student will be eligible for 10 terms over 5 consecutive calendar years, provided academic and TA performance is satisfactory.
- Teaching Assistants at Carleton University are unionized employees and are members of CUPE 4600. It is important to be aware of the rights and responsibilities of being a Teaching Assistant.

Mandatory TA Orientation and Information Sessions

- Graduate Studies will provide a MANDATORY orientation for all NEW Teaching Assistants on **Tuesday, September 7, 10:00–11:00a.m in the Kailash Mital Theatre, Southam Hall.** Attendance is deemed time worked under the terms of the collective agreement. Accordingly, attendance will be taken. Further information on this orientation is mailed directly to those students who have been offered an assistantship.

**NEW
STUDENTS**

NEW AND
CONTINUING

- The School of Computer Science will also hold an orientation for both NEW and CONTINUING TAs. All TAs must attend on **Tuesday, September 7 at 2:00–4:00p.m.** in room TBD. Attendance will be taken. Discussion will be held on the rights and responsibilities of a Teaching Assistant, the procedures for dealing with any difficulties during assignments, and the expectations which must be met in order to remain in good standing and retain the Assistantship. It is at this session that TAs receive information on being officially documented in order to obtain an employee number and be eligible for payment at the end of each month.

3. Research Assistantships

- A student working on research with a faculty member, who has grant or contract money available for student research, may be eligible to receive a Research Assistantship. The amounts available vary and are determined in discussions between the student and the faculty member who is usually the student's thesis supervisor.

4. Endowment Awards

- Computer Science students may be eligible for various endowment awards. These awards are of diverse amounts, have different eligibility criteria and are awarded at various times during the year. Students who believe they qualify for one or more of these awards should provide the required documentation to the School's Graduate Administrator, prior to the deadlines indicated. Please refer to the Web site of the Faculty of Graduate Studies at Carleton University for further information on these awards:
<http://www2.carleton.ca/graduate-studies/awards-and-funding/>

5. Graduate Student Travel

- There is limited funding available for full time graduate students who are presenting a paper at a conference, please see the Graduate Studies website, Graduate Student Research Bursary (<http://www2.carleton.ca/graduate-studies/awards-and-funding/internal-awards/travel-research-bursary/>) and Graduate Students Association website under Travel Grant http://www.gsacarleton.ca/index.php?section_id=35

6. Graduate Students Association (GSA)

- There are financial awards available through the GSA. Please see their website for details on how to apply <http://www.gsacarleton.ca/>

7. Payroll Deposit and HR Documentation

- For students who receive any funding awards such as TAs, scholarships, RAs and endowments, you must contact Human Resources in order to be paid by direct deposit.

- As all TAs are paid by direct deposit to a personal bank account, it is necessary to bring a blank cheque with you to the orientation. This will enable Human Resources to retrieve the bank and account code numbers necessary to deposit your pay directly to your personal bank account. International students must also bring their student authorization form (a visa form attached to the passport) and need to apply for a Social Insurance (SIN) number.

B. EXTERNAL AWARDS AND FINANCIAL ASSISTANCE

1. Natural Sciences and Engineering Research Council (NSERC) Scholarships Canada Graduate Scholarship (CGS) NSERC Postgraduate Scholarship (PGS) NSERC Postgraduate Fellowship

- Web site: <http://www.nserc.ca>

Available to:	Graduate Students and Fourth Year Undergraduate Students Must be full-time ¹ students with a high grade point average (GPA)
Citizenship:	Canadian or permanent resident
Value:	Approximately \$17,300 - \$35,000 a year
How To Apply:	Application information and forms are online - See Web site above The application process is lengthy and it is recommended that students start the process early.
Deadline:	The deadline for submitting applications to the School for 2011-2012 awards will be posted and e-mail notices sent.
Information	Information sessions are offered on campus, dates and times to be determined.

NOTE

Please ensure that only the forms dated for 2011-2012 are used. Students who use forms from a previous year may have their application denied by NSERC.

2. Industrial Postgraduate Scholarship (IPS)

Web site: http://www.nserc-crsng.gc.ca/Students-Etudiants/PG-CS/IPS-BESII_eng.asp

Available to:	Graduates with a degree in Science or Engineering (from a university whose standing is acceptable to NSERC) who have a high GPA and are pursuing full- or part-time study in an Engineering or Science degree
Citizenship:	Canadian citizen or permanent resident

¹ Please refer to the NSERC application guidelines concerning part-time criteria for “disability” or “family responsibility”.

Value: \$13,800 a year for two years, plus company contribution of \$5,500 minimum a year.
How to Apply: Application information and forms are online – See NSERC website
Deadline: Open

3. Ontario Graduate Scholarship (OGS)

Web site: <https://osap.gov.on.ca/OSAPPortal/en/OSAPStarttoFinish/GraduateStudents/index.htm>

Available to: Graduate Students with a high GPA (A-) and planning to study full time
Citizenship: Canadian citizen, permanent resident (the “landed on” date on permanent resident document can be no later than a specified date each year) or admitted to Canada with a student visa dated no later than a specific date each year. Students who fit these last two definitions are advised to refer to the application instructions for the coming year.

Value: Approximately \$10,000 - \$15,000 per year
How To Apply: Application information and forms are online - See Web site above
The application process is lengthy and it is recommended that students start the process early.

Deadline: The deadline for submitting applications to the School for 2011-2012 awards will be posted.

NOTE

Information Information sessions are offered on campus, dates and times to be determined. Please watch for posted notices.

Please ensure that only the forms dated for 2011-2012 are used. Students who use forms from a previous year may have their application denied by OGS.

4. Ontario Graduate Scholarship in Science and Technology (OGSST)

Web site: <http://www2.carleton.ca/graduate-studies/awards-and-funding/external-awards/ogsst/>

- The maximum value of the award is \$15,000 per annum or \$5,000 per term, of which one third is contributed by the private sector and two thirds by the Province of Ontario. Candidates must be nominated through their home department and are usually nominated by their thesis supervisor. Further information may be obtained from the web site above.

5. Ontario Student Assistance Program.

Web site: <http://osap.gov.on.ca>

- This is an interest-free loan program, which has residency requirements. The maximum loan a student can receive in one academic year is usually the total amount of his or her allowable educational costs. Further information can be obtained by contacting the Awards Office at Carleton University or viewing the above web site.

6. Other Funding Opportunities

- Deadlines for submitting applications for awards and scholarships are posted, as they become available, on the School's bulletin boards and Web site.
- The listings above are not comprehensive and students are invited to view the Faculty of Graduate and Postdoctoral Affairs web site at <http://www2.carleton.ca/graduate-studies/awards-and-funding/> for a more detailed listing of available sources of funding. Students may find the following web site useful in locating additional external funding sources: <http://www.studentawards.com>
- *International or Visa students* are encouraged to contact government agencies or the Ministry of Education in their home country for information on financial assistance to study abroad. Citizens of Commonwealth countries may apply for a Commonwealth Scholarship prior to leaving their home country and further information on this scholarship may be obtained from a Canadian Embassy or High Commission. The following Web site may be of use for International or Visa students seeking information on financial assistance external to Carleton University: <http://www.cbie.ca>
- *Association of Universities and Colleges of Canada (AUCC)*
Web site: http://www.aucc.ca/programs/scholarships/index_e.html
- *Communications and Information Technology Ontario (CITO)*
CITO Research Excellence Scholarship Award
Web site: <http://www.oce-ontario.org/>

IX. SCHOOL SERVICES

Students must be registered in courses in order to be eligible for these services each term.

A. COMPUTER LABORATORIES

There are joint undergraduate and graduate Computer Science Labs available on the fourth floor of the Herzberg building. These labs are windows based and are access controlled. Your campus card is used for the lab access and the labs are available at the start of each term.

B. COMPUTER ACCOUNT AND EMAIL ACCESS

Registered students can create an SCS linux and windows computer account. The school offers computer laboratories in the Herzberg building that can be used by undergraduate and graduate students. Accounts can be created online here:

https://www.scs.carleton.ca/web_newacct

Please be advised that Computing Services (CCS) offers a university wide email account (Connect) that is used to contact students. It's imperative that students create their connect account since important graduate information will be sent to your account.

In addition, graduate students may use their SCS email account which comes as part of their SCS linux account. The SCS linux account also offers students hosting their own personal website. More information about SCS accounts is available here:

<http://www.scs.carleton.ca/nethelp>

C. SHUTTLE BUS SERVICE TO THE UNIVERSITY OF OTTAWA

There is a shuttle bus service for students taking classes at the University of Ottawa.

Please check the Web site for the Faculty of Graduate Studies at

<http://www2.carleton.ca/infocarleton/shuttle-bus-service/> to obtain a shuttle bus schedule.

X. TIPS

A. CARLETON IDENTIFICATION

Please use your legal name (the name on your admission documents), Carleton student number, and indicate your program (Ph.D., MCS, ISS) on all correspondence with the School and the University. **Please also use your @connect.carleton.ca or @scs.carleton.ca email account for all correspondence with the School and the University.**

B. DEADLINES

Deadlines are important and often mean there are no options if they are missed. For example, if an application for graduation is even one day late, the University could refuse it. This would mean that a student's graduation would be delayed by one term.

C. OFFICIAL DOCUMENTATION

All requests for changes in program requirements or student status must be made to your home department, the School of Computer. For fundamental changes to your program or status at Carleton, the School of Computer Science must make recommendations to the Registrar of the Faculty of Graduate and Postdoctoral Affairs who has final approval. Please do not assume that any change you have requested is approved until you receive an official document stating that it is done.

D. PLAN AHEAD

The School of Computer Science has a large graduate program, typically the second or third largest at Carleton University. With such a large number of students (approximately 130 registered students per term), it is not always possible for Computer Science staff to respond immediately to all requests. This is particularly true during registration periods when the volume of requests far exceeds the ability of the staff to respond quickly. Therefore, we ask that you please make your requests for status change, permission for credit, leave of absence, etc., well in advance.

E. FORMS

Please use the forms provided for many of the most common requests (i.e., thesis supervisor, directed studies, leave of absence, change of status, permission for credit, etc.). Ensure that all questions on the form are completed, that necessary signatures have been obtained and any requested documents are attached. This will enable staff to process your request quickly. All forms can be found at <http://www.scs.carleton.ca/studentinfo/gradforms/>.