



Master of Science

Department of Earth Sciences

**GRADUATE
HANDBOOK**

2015 v1

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Introduction

Welcome to the Department of Earth Sciences at Brock University. We hope that you will have a stimulating and enjoyable experience as a Graduate Student.

This document is intended as a resource to both Graduate Students and their Supervisors. Most aspects of a Graduate Student's career at Brock are governed by University Regulations. The official version of these regulations are found on the Brock website. Aside from a brief overview, these regulations have not been reproduced in this handbook. Refer to Appendix 1 for important links and short explanations.

In this guide you will find primarily information that is specific to the procedures and practices within the Department of Earth Sciences.

University Regulations

There are two principal sources for regulations relevant to Graduate Students and it is suggested that you familiarize with them.

Graduate Calendar

The graduate calendar contains the regulations for the MSc in Earth Sciences, including degree requirements and course descriptions. Please note: the calendar of the year of initial graduate enrolment governs a Graduate Student's program.

The calendar also contains the **Academic Regulations and University Policies**. These regulate most aspects of student's academic life, including registration policies and procedures, degree completion time limits, research policies and procedures, thesis defence and academic integrity.

Faculty of Graduate Studies

The Faculty of Graduate Studies (FGS) maintains a comprehensive website for all Graduate Student related issues. It is the best source for financial information, thesis regulations and formats, and all forms that might be needed during your program. Your thesis will have to comply with FGS thesis format specifications for acceptance by the Faculty of Graduate Studies. The website also contains FAQs, information for professional development as well as campus life in general. Many links ultimately lead you back to the graduate calendar, as it is the official document.

Graduate Students' Association

As a Graduate Student you are represented by the Graduate Students' Association (GSA). Although, the GSA does not deal with academic issues, it does support graduate students in a variety of ways and organizes social and recreational events. The GSA administers the Graduate Student Health Plan and Graduate Student U-Pass.

Departmental Regulations

The Department of Earth Sciences is governed by and subject to University Regulations. Departmental Regulations, therefore, outline the specifics of the implementation of the University rules. In addition, the Departmental Policies outlined below will elaborate and clarify some of the more general University policies.

Seminars

Full-time graduate students are required to attend all Departmental as well as Graduate Student Seminars. Failure to attend will result in the deduction of 2% for each seminar missed from the grade assigned by the supervisor for ERSC 5P95 (passed Dept. Meeting March 7, 2012). Furthermore, a conference presentation may be substituted for one of the student's seminars. An essay is required for the seminar on the topic related to the student's research thesis and interest (passed Dept. Meeting March 14, 2012).

People

We hope that you will interact with people of the Department and the University, but in general, the following are the most important contacts during your graduate studies:

Supervisor

Your Supervisor is the person with whom you will be working more closely than anyone else during the course of your studies. She/he will be your main source of guidance for all academic matters regarding your graduate program, including course selection, research funding, and degree progress. Most importantly, your Supervisor will guide you on all aspects of your MSc thesis research, including proposed research topic selection, research direction, thesis writing, and thesis defence.

Supervisory Committee Members

Your two Supervisory Committee Members are 'de facto' secondary supervisors. The Committee Members usually have some expertise in your research area and will contribute to the selection of courses. The Committee Members help monitor your progress (see Committee meetings below), offer advice, and most importantly, read and approve your thesis prior to it going to defence.

Graduate Program Director

The Graduate Program Director is responsible for the administration of the graduate program. She/he is available when you have specific issues regarding your master's program, for example, facilities, research progress, regulations, or funding issues. The Graduate Program Director will normally chair your committee meetings. It is

suggested that you discuss any questions with your Supervisor prior to consulting with the Graduate Program Director. He/she will also schedule the Committee Progress meetings, usually at the beginning of each semester (Fall, Winter, Summer).

Senior Lab Coordinator

You will normally work as a Teaching Assistant (TA) during your two-year stay as a graduate student in the Department. The Senior Lab Coordinator will determine your TA assignments in consultation with your Supervisor. Any issues regarding assignments prior to, or during the work term, should first be brought to the attention of the Senior Lab Coordinator.

Departmental Seminars and Graduate Student Seminars

Office of Graduate Studies

This office is arguably the most important resource when it comes to administrative matters. It can help you find the correct forms and provide you with contacts for other bureaucratic matters. Please contact this office prior to asking the Supervisor or Graduate Program Director if related to matters of graduate registration, financial matters, etc.

FORMS: Please submit all university forms to the Administrative Assistant for processing and to ensure that your student file is kept current for Committee Meetings.

Composition of Thesis Supervisory Committees

All students are supervised by a thesis committee. Thesis committee usually consists of the student's research Supervisor and two additional faculty members, the Supervisory Committee Members. The Graduate Program Director will normally serve as Chair of the Committee. Faculty members from other departments at Brock, or external agencies (e.g., Geological Survey of Canada) may serve as additional committee members.

Monitoring of Graduate Student Progress

Graduate Students are responsible for attending their committees when scheduled by the Graduate Program Director, and to come prepared with requested material/information by the GPD. The thesis committee meets, at least, three times per year during the Graduate Student's program; more often if warranted. Graduate Student progress is monitored using the form listed in Appendix 2.

The first committee meeting is used to decide on the courses you are required to take and on the timing of these courses. In addition, several other forms will be filled out at this time and submitted to the GPD. Also, a preliminary research outline will be discussed during the initial meeting. This meeting is normally scheduled within the first week of

your first semester on campus. Subsequent meetings are primarily designed to monitor your progress.

If your progress has been deemed unsatisfactory, the committee will design a plan to remedy the situation. This plan will normally include a set of agreed upon

milestones with deadlines which will be monitored by your supervisory committee. You may be dismissed from the graduate program if you are unsuccessful in following this plan.

Registration Throughout the Program

Initial Registration

New students usually arrive on campus in late August or early September.

- 1) Get in touch with your Supervisor. He/she will decide who should be on your committee. The choice of Committee Members depends on your thesis topic.
- 2) You should discuss with your Supervisor (and Committee Members) what courses you should be taking. The first committee meeting is really more for formalizing the choices.

Since steps 1 + 2 usually do not take place until the beginning of September, the course you need to register for prior to the meeting is the Thesis course (ERSC 5F90). In fact, you will need to re-register for that course every term until you graduate. Graduate course can be added after courses have been decided on during the Initial Committee Meeting. Course registration is done for each course only at the beginning of the term in which you take the course.

You are required to be registered as a student during every term of your studies in the program and ensure that your fees are paid by the set deadlines (late fees will be administered by the University). Please register for your graduate courses in the term decided upon during your committee meetings. Full information about registration, change of courses, withdrawals, etc. is available at the Brock Website listed in Appendix 1. Students who fail to register for any term, and who have not applied for inactive status or been granted a leave of absence, are considered to have withdrawn from their program of study. The student will be required to apply for reinstatement into the program.

Thesis Format - copyright material

The Copyright Act allows anyone to deal with copyright material for the purpose of research provided the use is 'fair' and the work is properly credited. Use of data, values, numbers should be considered similar to figures and tables by affording proper credit/citation to the original author(s). However, if extensive use of copyright material (multiple figures, tables, etc.) from a single source is anticipated it is advisable to seek permission of the author/publisher by contacting them through the pertinent web links.

MSc Thesis Submission Procedure

When is it time to stop collecting data and write the thesis?

The student and supervisor normally determine when sufficient data have been collected to complete the thesis. It is advised that a committee meeting be used to document this milestone.

First Draft Submission for Tuition-Fee Reduction

Once the student has completed a first draft of their thesis and it has been reviewed and accepted by his/her supervisor, the student may then submit the approved draft along with the first draft form (available from the Faculty of Graduate Studies) to the Graduate Program Director. The student is then eligible to apply for first draft tuition-fee reduction. Please note that the first draft requires the thesis to conform to proper thesis standards, including abstract, figures, and references. The website for thesis format regulations and fee reductions is listed in Appendix 1 (Faculty of Graduate Studies).

Note: This First-Draft Tuition-Fee reduction is valid ONLY for ONE semester; no extensions will be granted (except under special circumstances), then the REGULAR fee structure applies until graduation.

Internal Thesis Review

Before your thesis can be submitted to the external reviewer for the final defence, it undergoes an internal thesis review. The Supervisor and Committee Members must agree that the thesis can be defended in its submitted form. They will acknowledge this fact by signing the Department's MSc Thesis Draft Approval form given in Appendix 3. However, if the supervisor and/or committee feel that the thesis is not defensible, the defence may still proceed at the discretion of the student.

The student must submit the thesis for defence to B. Alexander, Associate Dean of Mathematics and Science office (NOT to the Earth Science Department office or GPD).

Associate Dean of Graduate Studies, Mathematics & Science Office

External Thesis Review and Defence Date

Once the thesis has passed internal review, the student should contact the Associate Dean of Graduate Studies, Mathematics and Science Office for procedures to follow as to formatting, copies required for the Defence, and other matters pertaining to the actual Thesis Defence. The supervisor will compile a list of three potential external examiners and their contact information, ranked in order of preference. The external examiner will provide a report that will be shared with the examination committee and the graduate student prior to the defence. Please note that the date for the defence will normally be 4-6 weeks from the external examiner notification date.

MSc Defence Format

Examining Committee Composition

The Examining Committee is composed of a chair (Faculty Dean or delegate), the external examiner*, the thesis supervisor, the committee members and any other members that may have been on the supervisory committee.

The external examiner may be one of the following:

- A) a faculty member from Brock but from a unit outside the program (Department,
- B) a faculty/expert from outside of Brock who will submit a report including questions and anticipated answers to be addressed to the student by the chair of the examining committee,
- C) a faculty/expert from outside Brock may participate in the defence via video conferencing, or
- D) a faculty/expert from outside Brock may attend the defence (at the expense of the Department)

Format of Exam

- In accordance with University regulations the defence will be open, which means that members of the audience will be allowed to be present for all rounds of questioning.
- Exam chair introduces committee and candidate, explains the format of the defence.
- Candidate presents a research seminar, approximately 30 minutes in length.
- Floor is open to questions from the audience.
- This is followed by a short break. Audience may remain but may not ask further questions.
- Order of questioning is usually the external examiner, the committee member and finally the supervisor. The chair of the examining committee is not required to participate in the questioning period.
- The defence period will be limited to 2 hours, normally consisting of two rounds of questioning by the examining committee.
- When the committee is satisfied with the questioning, the Chair thanks the candidate and the audience, who then leave the room so that the Committee may deliberate *in camera*.

Possible Outcomes of the Exam

All members of the examining committee, excluding the committee chair, will vote on the outcome of the exam.

Fail - the majority of members of the committee, including the external examiner, vote to fail;

Pass - the majority of members of the committee vote to pass.

In the event of a tie vote, the vote of the external examiner will determine the outcome of the exam.

The examining committee has the following options:

- Thesis is satisfactory and accepted as submitted
- Thesis is accepted with minor corrections or modifications
- Thesis is accepted conditionally upon completion of major modifications
- Thesis is deemed unsatisfactory and not acceptable.

Students are given between two to four weeks to complete minor revisions, which are to be approved by the supervisor. Four to twelve weeks are given to complete major revisions, which are to be approved by the supervisor and external examiner should he/she have requested it.

If revisions are necessary, the committee will specify the areas for revision and the date by which the revised, typed thesis is to be returned to the Graduate Program Director.

In the instance of a failed defence, the student may, at the discretion of the Examining Committee, be permitted a second and final thesis submission and defence. This will be scheduled for no later than one calendar year after the original presentation and defence. In the preparation of the thesis for resubmission, you will be guided by the written criticisms of members of the Examining Committee.

Final Thesis Submission

University regulations require that an e-file of the thesis be submitted to the Faculty of Graduate Studies for processing. See Faculty of Graduate Studies for procedure and links.

However, within the Department of Earth Sciences it is customary that the Supervisor also receives a thesis (i.e. a fifth copy is required). If a thesis has been sponsored by an external agency, they too may request a bound copy.

The thesis must be free from typographical and other errors and all copies must be identical in content, each containing all illustrations, charts, maps, figures, tables and appendices as approved by the Examining Committee. Each copy of the thesis must contain a copy of the Certificate of Approval signed by each member of the Examining

Committee. The thesis must be accompanied by the candidate's Certificate of Approval, Graduate Record Form, two copies of the National Library of Canada (NLC) Non-Exclusive License to Reproduce Theses and a copy of the Partial Copyright Licence.

Conflict Resolution for Graduate Students

If a Graduate Student encounters a conflict that cannot be resolved with their Supervisor, the Graduate Student should then inform the Graduate Program Director of the problem and the GPD will try to facilitate a satisfactory resolution to the conflict. If the student's Supervisor is the Graduate Program Director, the conflict should be directed to another member of the departmental graduate committee and the committee will try to facilitate a satisfactory resolution to the conflict. If a satisfactory resolution to the conflict is not reached, the departmental graduate committee will then make a recommendation to the Dean of Mathematics and Science for resolving the problem, after which, the Dean's office will decide the course of action to be taken.

The student may, at their discretion, be accompanied to any interviews by one of the following: departmental student representative or faculty, staff or student member of Brock such as, but not limited to, a representative from the Student Development Centre or the Ombuds Officer.

Appendix 1

Graduate Calendar

The graduate calendar contains program requirements and academic regulations for most situations. Please note that the calendar of the year of the initial graduate enrolment is the one that governs a Graduate Student's program.

<http://www.brocku.ca/webcal/2015/graduate/>

Faculty of Graduate Studies

Most links related to graduate studies can be found directly at the graduate studies website:

<http://www.brocku.ca/graduate-studies>

Thesis Format Specifications

https://brocku.ca/webfm_send/25517

Forms

In addition to the departmental forms in this guide, there are Brock forms for most occasions. Many are clustered here:

<http://www.brocku.ca/graduate-studies/current-students/student-forms>

Appendix 2

Progress Report Form – separate file

Appendix 3

MSc Thesis Final Draft Approval

Candidate: _____

Supervisor: _____

Title: _____

The draft has been approved for defence and submission to the external examiner.

Supervisor: _____ Date: _____

Committee Member: _____ Date: _____

Committee Member: _____ Date: _____