

WELCOME
 New Graduate Students
 to
 the Department of Earth & Planetary Sciences (EPS)
 McGill University

INTRODUCTION

This orientation handbook for the Department of Earth & Planetary Sciences is an insider's look at the things you will need to know as a new graduate student from the moment you come into the Department and throughout your graduate program. **It is not intended to replace the academic calendar or provide a general guide to McGill University but to supplement these resources.** You may find that it contains some helpful information for the duration of your graduate degree in EPS. The handbook is divided into two parts:

Part I:	A GUIDE TO THE DEPARTMENT OF EARTH & PLANETARY SCIENCES 1. Welcome to EPS.....2 2. The 10 Most Wanted People on Staff and Faculty (Other Than Your Research Supervisor).....3 3. Getting Started at McGill: A Survival Guide.....3 4. General information that you will need sooner or later.....14 5. The Adams Club.....17 6. Departmental Academic Activities.....18 7. Departmental Social Activities.....20 8. Departmental Facilities.....20 9. Frequently Used Facilities Outside the Department.....27 10. UQAM Affiliation.....29 11. Financial Support.....29 12. Teaching Assistantships.....32 13. Course Load and Selection.....34 14. Registration Status.....38 15. Travel Registry.....41 16. Travel Advances and Expense Reports.....41
Part II:	AN INSIDER'S LOOK AT THE GRADUATE PROGRAMS 17. Successful Launching of Your Research.....45 18. Transfer within the Graduate Programs.....52 19. Oral Presentations within the Department.....54 20. Preparation of Your Thesis as a Document.....54 21. Submitting Your Thesis for Evaluation and/or Defence.....55 22. MSc Final Presentation.....58 23. PhD Oral Thesis Defence.....58 24. Internal and External Thesis Evaluation Reports.....60 25. Final Thesis Submission.....60
Appendices:	Appendix 1: Registration Breakdown.....62 Appendix 2: Graduate Program Constitution.....65

ACKNOWLEDGMENTS

A note of thanks is extended to those who contributed to assembling this departmental document, namely, Sandy Archibald, Jim Clark, David Dolejš, Alex Fitzpatrick, Martin Gauthier, Glenna Keating, Anne Kosowski, Steeve McCauley, Rob Marr, Michael Mlynarczyk, Alana Olson, George N. Panagiotidis, Jeanne Paquette, Glenn Poirier, and A.E. ("Willy") Williams-Jones. Subsequent editions have been updated by Andrew Hynes, Crystal Mann, David Dolejš, Kristy Thornton, A.E. ("Willy") Williams-Jones, Brandon Bray, Naomi Barshi, and Don Baker.

Members of the Department who have suggestions for modifications and/or additions to the handbook should email them to Kristy Thornton (kristy.thornton@mcgill.ca).

IMPORTANT NOTE

Please note that this handbook is an EPS-specific *supplement* and does not replace the **Graduate and Postdoctoral Studies Calendar** (found at <http://www.mcgill.ca/students/courses/calendars/>) or the **Policies and Procedures** (found in the right sidebar at <http://www.mcgill.ca/gps/students>). You are responsible for reading and understanding the official procedures, rules and regulations as presented in those documents. If there is anything that is not clear, please ask the Director of Graduate Studies.

PART I:

A GUIDE TO THE DEPARTMENT OF EARTH AND PLANETARY SCIENCES (EPS)

1. WELCOME TO EPS

You have joined a dynamic scientific group in our department that is ready to support your research efforts as a new graduate student. Faculty, staff and students will do their best to make your transition to McGill as smooth as possible. Feel free to ask for advice, particularly from your fellow graduate students in EPS.

If you are an international graduate student new to the Department and to Canada, we extend an added welcome. Former graduate students Michael Mlynarczyk and David Dolejš have compiled a survival guide for living in Montreal and getting started in your graduate degree (Section 3). Although the survival guide has been specifically targeted at newcomers to Canada, Canadian students from outside Montreal or outside McGill may also benefit from it.

2. THE 10 MOST WANTED PEOPLE ON STAFF AND FACULTY (OTHER THAN YOUR RESEARCH SUPERVISOR)

The human resources within the Department will be invaluable to you throughout your graduate program. They provide an outstanding atmosphere of support for a productive academic life as a graduate student.

	Name	Position	Office	Ext	Email address
1.	Professor Jeff McKenzie	Chair, fearless leader of our department	FDA 231	6768 or 3833	jeffrey.mckenzie@mcgill.ca
2.	Professor Don Baker	Director of Graduate Studies	FDA 310	7485	don.baker@mcgill.ca
3.	Anne Kosowski	Administrative Assistant	FDA 239	3490	anne.kosowski@mcgill.ca
4.	Kristy Thornton	Student Affairs Coordinator	FDA 238	6767	kristy.thornton@mcgill.ca
5.	Marisa Mastroberardino	FST Manager (Expense Reports)	FDA 238A	4626	fst.eps@mcgill.ca
6.	Angela Di Ninno	Timetable & Scheduling	FDA 238	6767	angela.dininno@mcgill.ca
7.	Brigitte Dionne	Systems Administrator	FDA 209A	1724	brigitte.dionne@mcgill.ca
8.	Lang Shi	Microanalysis Laboratory	McHarr B08	6774	lang.shi@mcgill.ca
9.	Isabelle Richer	Atomic Absorption (AA) Facility	FDA 207A	4881	isabelle.richer@mcgill.ca
10	Anna Jung	ICP-MS Facility	FDA 207	8850	anna.jung@mcgill.ca

3. GETTING STARTED AT MCGILL: A SURVIVAL GUIDE FOR NEW AND INTERNATIONAL GRADUATE STUDENTS

This section serves as a stepwise chronological guide to the essential steps that you will need to take upon your arrival in Montreal. Items that pertain specifically to international students are marked with an asterisk. You will need to register at the university, open a bank account, arrange for health insurance, acquire a social insurance number (SIN), and find a place to live. Guidelines are given in the booklets: "International Student Handbook" and "Welcome to McGill", which are available from the International Student Office located in the Brown Building. The International Student Office offers a range of services, including providing information about Canadian visas, student authorization and immigration

procedures. For more information on their services, please see their website at <http://www.mcgill.ca/internationalstudents/>.

A map of McGill University (online version at <http://www.mcgill.ca/maps/>), a map of downtown Montreal and a metro subway guide, which is available at any metro station, will all be helpful to you. They are also sold in the “Travel” section on the 3rd floor of the McGill Bookstore (3420 McTavish Street).

UNIVERSITY REGISTRATION & FINANCIAL ARRANGEMENTS

Minerva

Minerva (<http://www.mcgill.ca/minerva-students/>) is McGill’s online administrative system. It records your personal information, grades and fee information. Your 6-character PIN is initially “yymmdd” where yymmdd is the year, month and day of your birthdate, but a new PIN should be chosen immediately upon logging in for the first time. After logging in for the first time, you may then set your McGill password under Personal Menu → Password for McGill Username. This McGill password should be a minimum of 8 and a maximum of 18 characters with no spaces or single or double quotes. The McGill password is used in combination with your McGill username (firstname.lastname@mail.mcgill.ca) to let you access many online services within McGill. You may use either the combination of your student number and PIN, or your McGill username and password to log into Minerva. More information on your username and password (such as what to do if you forget your password) can be found at <http://kb.mcgill.ca/it/mcgillusername>.

It is up to you to update your new address in Montreal on this system as soon as possible under the “Personal Menu”. Otherwise, any hard-copy documents from McGill will be automatically sent to the mailing address from your uApply application. The “Student Records” menu allows you to request official transcripts and to view information on your grades and other academic-related information. You may also view your student account and pay information, as well as print tax forms, from the “Student Accounts” menu. Other menus in Minerva allow you to see your TA evaluations and register for a variety of things from extra courses to university events.

Initial Setup

Visit the main office, FDA, Room 238. You will be given an incoming student package that includes some of the forms you need to get started. The rest must be taken care of online through Minerva.

You will need to provide us with your address and phone number (kept in your file in case of emergency), as well as the names and amounts of any

scholarships or bursaries that you have for the coming academic year. This is done using the **EPS Registration Information** form. No need to include the Graduate Student Stipend or Teaching Assistantships that the EPS Department pays you. We are only looking to find out any additional/outside sources of funding. You will be asked to fill in one of these forms each year.

The **Cobbles/Pebbles Account Application** form will enable you to access the computers and printers that are on our departmental network, such as those in the computer lab in FDA 209. Please fill in the top part of the form and return it either to the main office or directly to our systems administrator Brigitte Dionne in FDA 209A. More information is available in Section 8 of this handbook.

All teaching assistants at McGill are members of the AGSEM union. Anne will ask you to fill in and sign an **AGSEM Union Membership** form for each teaching assistantship that you are assigned (one in the Fall, one in the Winter, and possibly one in the Summer). As a new student you will be assigned a TAship and informed of which course it will be. (In later semesters, you will be able to request the courses you want, but realize that TAships are awarded based upon union rules of seniority.)

If you are an international student and do not yet have a Social Insurance Number (SIN), you will need to get one. Follow the instructions on obtaining your SIN outlined in the next section, and fill out the **Employment Contract** provided in your welcome package. This is one of the documents that you will need in order to get a SIN. Fill in the top section and sign at the bottom, then return the form to the main office and we will fill in the bottom and have the Chair sign it. We'll let you know when your form is ready for you to pick up so that you can bring it with you to get your SIN.

To set up your salary payments, please see Anne Kosowski, our administrative assistant. She will have some forms for you to sign and will discuss tuition payments with you. If you are an international student, please bring your student visa and/or work permit to Anne, as a photocopy of it is needed for your file.

You will also need to fill in your direct-deposit banking information on Minerva in order to receive payments. This form can be found under your Student Menu → Student Accounts Menu → Direct Deposit Bank Account. Be sure to fill in both parts ("Bank account used for student-initiated payments" and Bank account used for payroll-initiated payments"), as the first is for fellowships and the second is for the rest of your payments (teaching assistantships and graduate student stipends). You cannot receive any payments until this information has been entered.

In order to take advantage of the one-time computer grant offered by the Department, you are encouraged to go and buy your own computer, then bring the receipt to Anne. She will see that you are reimbursed up to \$1000.

A free agenda book for the academic year is available from the Post-Graduate Students' Society (PGSS) at Thomson House (3650 McTavish) beginning the first day of classes.

Other useful information can be found in the course calendar and University Regulations and Resources (Graduate and Postdoctoral Studies), available online at <http://www.mcgill.ca/students/courses/calendars/>.

Course selection

Consult the course listing and descriptions for the current academic year. Undergraduate course descriptions are listed by departments in the McGill University course calendar (<http://www.mcgill.ca/courses/>). See the program information for Earth & Planetary Sciences (under "Academic Units") for the required number of credits. The first step, *which is the responsibility of the student* and should be done within a week of your arrival, is to consult with Professor Don Baker (EPS Director of Graduate Studies) to discuss the requirements of your program and ensure that you understand them. Consult with your research supervisor to select your courses, then register on Minerva.

Registration

Registration is done through Minerva (<http://www.mcgill.ca/minerva-students/>), the web interface to McGill's database. The **deadlines** and late registration fees are given in the course calendar under "General Information, Regulations and Research Guidelines → Calendar of Dates". You may register for the next academic session through Minerva from any computer with internet access. Either your student number and PIN or your email and password are necessary to log into your account on Minerva. Once you have logged in, click on "Student Menu", then "Registration Menu", and follow the steps listed to register (either by checking the box in the **Select** column and clicking the **Register** button while in the "Look Up Course Sections" menu, or by adding the Course Registration Numbers (CRNs) into the "Quick Add/Drop Menu".

In order to avoid the late registration fee, all students must register for REGN RCGR (the Registration Confirmation course) in both the Fall (CRN=2334) and Winter (CRN=2262) terms. For further information regarding required courses, please see Section 13 on Course Load and Selection.

Computer network account

To gain access to a computer network account and get your name on the departmental emailing list, follow the instructions in Section 8 under Computing.

EPS entry codes

See Kristy in the main office for the entry codes to the computer room, lounge and photocopier room (Section 5).

McGill Student ID card

A few days after your registration, the Registrar's Office will be able to issue you a McGill student ID card. Starting in August, you can obtain your student card at Service Point (corner of Sherbrooke St and McTavish). Expect to wait in line for at least one hour. If you arrive before classes begin, it's best to go get your ID right away, as Service Point often experiences even longer wait times in the first week of classes! You will need to bring your student ID number (e.g. given in your letter of acceptance), one piece of photo identification (e.g., passport, driver's license), as well as a document showing proof of citizenship (for Canadian students) or proof of legal status (for international students) if you have not already mailed it in. You will be registered for health insurance (International Student Health Insurance Plan or through the Post-Graduate Students' Society; see item below on health insurance). Your new student ID card also has a bar code for library access and the sports facilities.

Fee payment

You are required to pay university fees (e.g., tuition, student society). You may access information on the amount due, as well as the breakdown of the fees, through Minerva on your Student Accounts menu. Payment of fees can be done from your bank, at a banking machine (ATM), through telephone/internet banking, by pre-authorized debit (e-cheque, see <http://www.mcgill.ca/student-accounts/e-bill/> for information on setting this up), by mail or by wire transfer. When paying by mail, cheques, money orders or bank drafts should be made payable to "MCGILL UNIVERSITY" in Canadian funds. Please ensure that your family name and student number are written on the front of the cheque.

If you are expecting a major scholarship (e.g., NSERC, FQRNT, Tomlinson) and have not received it yet, or you simply do not have the money at the moment until you have had the chance to build some up from your salary as a graduate student, you may apply for a **fee deferral** on Minerva. This will allow you to delay payment of your fees until the end of the current semester without incurring any penalty. Simply go to Financial Aid & Awards Menu → Defer Payment of Tuition and Fees, and choose the option that applies to you. Unless you have one of the scholarships listed, the third option is generally the most accurate ("Graduate Students – McGill awards paid in installments (i.e. stipends or fellowships)"). More information on this is available at <http://www.mcgill.ca/student-accounts/deferred/>.

Note that the amount of fees that you must pay (and at what times of year) changes according to your registration status (see section 14).

* ***Open a bank account***

To receive direct payment of your teaching assistantship and graduate student stipend, you will need to open a bank account. The major banks in the vicinity of McGill are: the Royal Bank of Canada (branches on the corner of Leo Pariseau and Parc, McGill College, the corner of Sherbrooke and Peel, and the corner of St-Catherine and Stanley), Bank of Montreal (branch on the corner of St-Catherine and University), CIBC (branches on University and on the corner of Sherbrooke and Metcalfe), TD Canada Trust (branch on University between President Kennedy and Maisonneuve) and Scotia Bank (branch on the corner of Sherbrooke and McTavish). The Royal Bank also runs several banking machines on the McGill campus (e.g., McConnell Building, Burnside Hall) which can be used to make your fee or bill payments directly.

Before opening an account, ask for information about student accounts and the associated payment/credit cards. Consult any bank branch for detailed information. To open a student account, you will usually need two photo-bearing pieces of identification (preferably passport and student ID card), your student visa authorization. Some banks may require that you already have your Social Insurance Number. Once you have the bank account, you will need to submit the information through Minerva in order to receive direct-deposit payments (as stated in the "Initial Setup" section above).

* ***Apply for health insurance***

The Post-Graduate Students Society (PGSS, <http://www.pgss.mcgill.ca/>) offers an insurance plan to McGill graduate students on a compulsory basis. The compulsory nature of the plan is based on the concept of 'group insurance' which offers better coverage at better premiums (i.e. price) for a larger group rather than a smaller one. The plan functions as 'supplemental' insurance, meaning that it will cover those costs which are above and beyond what is covered by provincial Medicare. Because the plan functions as supplemental insurance, coverage on provincial Medicare from a Canadian province is an eligibility requirement to obtain coverage on the plan. Therefore, international students are normally not eligible for coverage on the PGSS health insurance plan.

As per the University's regulations, all international students must obtain 'equivalent to Medicare' coverage so that they can be welcomed into a hospital emergency room in case of major incident. This 'equivalent to Medicare' coverage is provided by the International Students' Office and is often referred to as the Blue Cross plan. International students who do not have a Medicare card

are charged for the Blue Cross international student health insurance plan. This plan is administered by the International Students Office, located in the Brown Building (3600 McTavish St., suite 3215). Confirmation of coverage is done through your Student Menu on Minerva by clicking on “International Student Health Insurance Coverage Form”. More information is available at <http://www.mcgill.ca/internationalstudents/health>.

* ***Apply for social insurance***

If you are supported by a graduate student stipend or a teaching assistantship (TA), McGill requires that you apply for a social insurance number (<http://www.mcgill.ca/internationalstudents/work/social-insurance>). The closest application office is located at Guy-Favreau Complex, Office 034, 200 René-Lévesque Blvd West, phone (514) 522-4444, fax (514) 496-5951 and is open weekdays from 8:30 a.m. to 4:00 p.m. You may download the application form from the Government of Canada website (<http://www.servicecanada.gc.ca/eng/sc/sin/index.shtml>) or pick one up at the nearest office. You may apply through the mail or in person, although it is safer to do so in person so that you do not have to part with your documents. These documents must be originals. Bring your passport, Study Permit / Student Authorization (issued by Citizenship and Immigration Canada) AND the Employment Contract form from McGill University (the EPS main office can write one for you). Expect to wait in line for 30-60 minutes. You will receive your SIN immediately, as a paper document.

Mandatory Academic Integrity Tutorial

All incoming graduate students must complete a mandatory online academic integrity tutorial (available through the Student Menu on Minerva). Graduate & Postdoctoral Studies sends each incoming student an email to their official McGill email address informing them of this requirement, as well as the consequences of not completing the tutorial before the end of the first term of registration (a registration HOLD will be placed on the student’s record and removed upon completion of the tutorial). One week after the end of the withdrawal deadline in a given term, one reminder will automatically be sent to students who have not completed the tutorial.

FINDING A PLACE TO LIVE IN MONTREAL
--

Graduate student residences

McGill University offers two main types of University housing to graduate students: single bedrooms in shared-facilities houses and single occupancy

apartments. Details on housing can be found at, <http://www.mcgill.ca/students/housing/rez-options/downtown-graduate>. The shared-facilities houses are single-gender or coed, fully furnished, with a common room and a common kitchen, and are located at 3647 University St, 3653 de la Montagne, 3661A Peel, 3704 Peel, 3710 Peel, 499 ave. des Pins, 501 ave. des Pins and 506 ave. des Pins.

Applications for graduate housing are available through email at the Graduate Housing Office (housing.residence@mcgill.ca, 3473 University St, 398-6368). All leases are for a 12-month period with an option to renew (provided you are a full time registered McGill student). Leases commence either on August 15th or September 1st. Rent for the first month of the lease is due upon your acceptance of the housing offer. Although it is convenient to live in these residences during your first year at McGill, the monthly rent is above the average for Montreal. You may prefer to rent an apartment privately.

Private apartment

The search for an apartment can be made easier by consulting the listings available through the McGill Off-Campus Housing website (<http://www.mcgill.ca/offcampus/>), by consulting internal postings on bulletin boards at McGill, or by searching online (such as through Padmapper, Kijiji, or Craigslist). Off-Campus Housing also includes helpful information regarding things like leases and roommates.

Many McGill students live in an area called the McGill “Ghetto,” immediately adjacent to the McGill campus on its eastern side. Accommodations usually become available during the summer months and during the first week of September for a one-year lease. Simply look for the “À Louer” or “For Rent” signs in the windows or at the entrances and call for an appointment to view the apartment. You can rent a “1½” (one room for bedroom and kitchen, separate bathroom) up to a “4½” (2 bedrooms, living room, kitchen, bathroom) or more, depending on whether you prefer to live alone or wish to share accommodation. Rooms are generally not furnished; electricity, heating, and phone or internet connection are often not included in the rent. Towards the end of August and the beginning of September, garage sales provide good opportunities to purchase second-hand furniture (posted on the street in the “Ghetto” or in the halls at McGill). You can also try the Salvation Army (1620 Notre Dame West Street) and other stores that specialize in second-hand furniture. There are also several McGill Facebook groups dedicated to “Free & For Sale”, clothing exchange housing, etc. You can join using your McGill email address at <https://www.facebook.com/groups/groupsatmcgill/>.

EPS WELCOME WEEK

In order to welcome new students to the Department, a series of activities will be held. Early in the first two weeks of the semester a special coffee hour will be held to introduce new students to the faculty and staff of the Department; there will also be tours of departmental facilities offered in which the students will have additional opportunities to meet faculty members and their students. An EPS Symposium will be held one afternoon in which professors present their research in short (less than 15 minutes) talks and undergrads, grads, postdocs and faculty present recent posters. A wine and cheese and a special field trip will also be held to welcome new students early in the Fall semester.

During the first month of their first semester new students will meet with a preliminary advisory committee to help start them off on their graduate studies and research. This committee will consist of the student's supervisor and three other members of the Department (one being an expert in a field similar to that studied by the student and the other two from different fields). The committee could be similar in composition to the student's future MSc or PhD committee, but this is not required.

SOCIETIES

Post Graduate Student Society (PGSS)

Every graduate student at McGill is automatically a member of PGSS. The headquarters are located at Thomson House (3650 McTavish, between Dr. Penfield and Pine), which serves all graduate students. Early in September, the PGSS organizes a series of events for new graduate students: Graduate Student Orientation (at Moyse Hall), Principal's reception, and a Wine & Cheese party (at Thomson House). As a graduate student, you can use all the facilities at Thomson House (e.g., study spaces, cafeteria, bar). Announcements of individual activities are available on the bulletin board at the entrance and are usually circulated on posters or by email. For more information, see <https://pgss.mcgill.ca/en/home>.

*** *McGill International Student Network***

The McGill International Student Network (MISN) is located in suite 416 of 3600 McTavish, (in the Shatner Building). This society organizes language classes, various activities and social events throughout the academic year (e.g., Wine & Cheese party, field trips). The International Student Day is usually at the end of September and offers free entry to various cultural and historical spots in Montreal, accompanied by a reception on Mount Royal. During the registration period, further information and the schedule are available in the MISN lounge, on

their website at <http://www.misn.ca/>, or by calling 398-MISN. This shared facility is a good place at which to meet other international students. There is also a MISN Facebook group at <https://www.facebook.com/groups/2201137626/>.

The Adams Club

The Adams Club is the society for graduate students in Earth & Planetary Sciences (See Section 5).

NEED TO TALK?

If at any point during your time in EPS something comes up that affects your emotional health (which in turn can affect your academics), there are several options for you. You can talk to your supervisor, and in fact it is important that he or she is made aware of any problems in order to minimize any impact on your research and academics. If there is a conflict between you and your supervisor, or if you simply wish to talk to someone other than your supervisor, please meet with the Director of Graduate Studies, Don Baker (don.baker@mcgill.ca).

Outside the department, McGill offers counselling services to assist with psychological, emotional, and interpersonal issues, as well as vocational and academic concerns. They are located in the Brown Building (3600 McTavish), suite 4200, and can be reached at counselling.service@mcgill.ca or 514-398-3601. Please go to <http://www.mcgill.ca/counselling/> for more information on their services.

If you feel that you have experienced harassment, sexual harassment or discrimination, please see <http://www.mcgill.ca/students/srr/personalrights/harassment> for information on your rights, McGill’s policies, and what to do next.

If you are unsure of who to talk to regarding a specific (or nonspecific) issue, feel free to ask anyone in the main office, who will point you in the right direction.

AMENITIES

<i>Supermarkets</i>	The most conveniently located supermarkets in the “Ghetto” are Provigo (Parc, between Sherbrooke and Milton) and Metro (corner of Parc and Prince Arthur, basement of “Les Galeries”). For more specialized options, there are also Marché Lobo and Produits Eden, both on Parc between Milton and Prince Arthur.
<i>Food on the Run</i>	The closest cafeteria to EPS is on the ground floor of the McConnell Engineering Building adjacent to FDA. Hot lunches,

	<p>soups and sandwiches are available in the basement of the Burnside Building, also adjacent to FDA. There are many reasonably priced underground food courts downtown, e.g., at the Centre Eaton, Montreal Trust, Place Ville Marie, and Cathedral. Thomson House (3650 McTavish) also serves meals between 11:30 a.m. and 2 p.m.</p>
<i>Household Needs</i>	<p>There are reasonably priced stores at the Atwater metro station (Alexis-Nihon complex, corner of St-Catherine and Atwater, e.g., Canadian Tire). Other large department stores (e.g. The Bay) are accessible from the McGill metro station.</p>
* <i>Clothing</i>	<p>We recommend that you get warm winter clothing. You can ask your Canadian counterparts for advice. You can get a FREE winter coat from MISN through the “winter coat project” (https://www.mcgill.ca/internationalstudents/once-here/winter-montreal/winter-coat-project). Clothing is available nearby in many shops in downtown Montreal (e.g., along Ste-Catherine between Stanley and St-Laurent). For better bargains, you can try one of the “Village des Valeurs” outlets (4906 Jean Talon W., 6779 Jean Talon E. at St. Léonard, or 2033 Pie IX). Winners and Cohoes are also good for bargains.</p>
<i>Stationery & Photocopying</i>	<p>The Department photocopier (in the main office) is also available for your use (see Section 4). The McGill Bookstore (McTavish), Dollarama shops (Ste-Catherine, St-Laurent, Parc, Place Montreal Trust on McGill College), and Bureau En Gros (at the train station, in the underground of Place Ville Marie), are some of the stores nearby that sell stationery items. Photocopying and binding is available through the Engineering Undergraduate Society (EUS) in the McConnell Engineering Building and also near McGill at various graphic service outlets (e.g., Copie Express, corner of Sherbrooke and University; Minolta store, corner of Sherbrooke and Metcalfe). In the Schulich library, photocopying is available on the 1st and 5th floors.</p>
<i>Bookstores</i>	<p>There are several large bookstores nearby in downtown Montreal (e.g., The McGill Bookstore at 3420 McTavish, Paragraphe at 2220 McGill College, and Indigo on the corner of McGill College and Ste-Catherine. Second-hand books are available from a variety of shops near McGill (e.g., Word on 469 Milton Street, Welch on 3878 St-Laurent). Private sales of second-hand textbooks are usually posted in the hallways or on bulletin boards at McGill or on the McGill Facebook group “Free & For Sale”.</p>
<i>Post Office</i>	<p>The closest post offices to McGill are located in the convenience store in the basement at 2001 University St, at the Pharmaprix in Place Ville-Marie, and at the Uniprix in Les Galeries.</p>

4. GENERAL INFORMATION THAT YOU WILL NEED SOONER OR LATER

<i>General McGill Phone Number</i>	(514) 398-4455
<i>Emergency Assistance (from within McGill)</i>	For external emergency assistance (ambulance, fire department or police), dial 911. For emergency assistance from McGill personnel (e.g., hazardous materials spills, flooding, electrical problems, security), dial 3000. For general maintenance problems (e.g., lighting problems, door locks, plumbing), call the McGill dispatcher at 4555.
<i>Department Mailing Address</i>	Earth & Planetary Sciences, McGill University, 3450 University St., Montreal, Quebec, Canada H3A 0E8
<i>Department Phone Number (Main Office)</i>	(514) 398-6767
<i>EPS FAX Number (Main Office)</i>	(514) 398-4680
<i>Main Office</i>	Most of the general information you will need can be found in the main office, Frank Dawson Adams Building (FDA), Room 238. Office hours are posted at the entrance.
<i>Photocopying Facilities</i>	The photocopier is located in the room adjacent to the main office (FDA 237) along with assorted colour papers, the paper cutter and brown wrapping paper to wrap packages for shipment. To use the room, you will need to obtain the entry code from Kristy. You can log into the machine by either swiping your McGill ID card or by typing your McGill email address and password. Photocopies are 6.5 cents/page (22 cents/page for colour), charged to your McGill student account using the uPrint system. Other photocopying facilities are available in the McGill libraries, on the ground floor of FDA (hallway between FDA and McConnell), and in local print shops in Montreal.
<i>FAX Machine</i>	You can have access to a research account code by seeing your research supervisor. There is no charge for local service. Long-distance faxes of a personal nature are expected to be paid for by the student using the price list located next to the fax machine. (Dial "9" before all non-McGill numbers.)
<i>Mail</i>	External mail can be sent by depositing it in the blue bag in the main office; no postage is required for research material. Similarly, internal McGill mail can be sent by depositing it in the red bag in the main office.
<i>Mailboxes</i>	Graduate student mailboxes are kept in the lounge (FDA 229); they are arranged alphabetically by the first letter of your last name.

<i>Laser printing (Pcounter)</i>	Printing on the departmental printers is charged to your supervisor (12 cents/page). You are on your honour not to take advantage of your supervisor's funds for personal printing. Please send personal documents to be printed by a uPrint printer, which is only 6 cents/page.
<i>Telephone</i>	Phones are not available in student offices, but there is a common telephone in the lounge by the student mailboxes (local 00020) that can be used for local outgoing calls only. Dial "9" before all non-McGill numbers. For long-distance calling codes, see your research supervisor.
<i>Phone Messages</i>	Phone messages that are left for you in the main office will be transmitted by email. Only in the case of an emergency will the Department seek you out in person to relay the message.
<i>TV/VCR, Powerpoint Projector, Digital Camera, DVD/Video Collection</i>	The TV and VCR are kept in the lounge and the Powerpoint projector is kept in the main office (on rollers); they must be signed out for teaching or presentation purposes within EPS. There is also a DVD/video library in the main office from which items can be borrowed against your student ID card. A list of the video collection is available on a sign-out basis in the main office. A digital camera is also available to be signed out from the main office--when returning it, please ensure that the cables are in the case and the batteries are charged.
<i>Office Equipment</i>	Equipment that is made available on the counter in the main office or the photocopy room can be used there but should not be removed.
<i>Overhead Transparencies</i>	Overhead transparencies are available from the main office at no charge.
<i>Department Letterhead</i>	Departmental letterhead is available from the main office upon request at no charge.
<i>Labeling</i>	The P-touch labeling system is used to label file folders, lab drawers, supply shelves and more. It is available in the main office but must be signed out.
<i>Lounge</i>	The lounge (FDA 229) is the heart of the Department for lunch and FREE afternoon coffee and cookies (3-3:30 p.m. Monday through Friday). A fridge, coffee machine and sink are available, as are several journals and magazines for your perusal. All materials should be kept in the lounge. Please do your part in maintaining the cleanliness of our lounge.
<i>Lounge, Photocopier, and Computing Access</i>	The lounge, photocopy room and computing facility are all under controlled access via an internal access code. See Kristy for the current codes; they are changed episodically for security reasons and are usually announced to users by email. These codes are for members of EPS only; please do not give these codes to people outside the Department.

<i>Recycling</i>	Recycling bins are available throughout the campus. Receptacles for paper recycling are located in almost every room in EPS. There is a box in the main office where you can drop off used batteries for recycling.
<i>Study Space</i>	You will be assigned a desk, chair and bookcase by Anne Kosowski in one of the graduate student offices or labs as soon as you arrive. You are <i>strongly</i> advised not to leave valuable items in your office even when locked!
<i>Office and Lab Keys</i>	Consult with your supervisor to find out which office and laboratory keys you will need. To obtain the keys you will need to fill out a key requisition form and submit it to Anne. You will be expected to pay a deposit per key; \$10 for regular keys and \$25 for Medeco keys (deposits will be returned in full upon return of the keys when you leave McGill).
<i>Seminar Room</i>	The Gill Room (FDA 232) is used for lectures, guest speakers, oral examinations, thesis defences, and internal departmental talks.
<i>Room Bookings</i>	EPS rooms are to be booked through Angela for presentations, meetings or guest speakers.
<i>After Hours Library Access (AHA)</i>	You can obtain access to the Schulich (PSE) Library in FDA outside regular library hours by filling out the required form which is available from Anne in the main office and is to be completed and returned to her. Access involves entering a simple code onto a keypad after you swipe your student ID card at the library entrance.
<i>Courier Service</i>	Courier waybills are available in the main office and you must ensure that your supervisor's account number is included. For couriers that do not require accounts, you will need your supervisor's university credit card (Pcard) number and expiry date. After making the arrangements, you can leave your packages with Angela in the main office for pick up. Deliveries are also made in the main office.
<i>Purchasing</i>	Please see your supervisor for information and permission when purchasing items pertaining to your research.
<i>Travel Registry</i>	If you will be traveling outside of Canada (including to the USA), you will have to fill out a travel registry. You must first send an email to Anne or Kristy to have the form created for you, and then fill out the online form found in your Student Records Menu on Minerva. For more information, please see section 15.
<i>Expense Reports</i>	The online form for research travel reimbursements or advances is available through your Student Menu on Minerva. You will need to print out and sign the form, then submit it and your original receipts to Angela in the main office. For more information, please see section 16.

<i>Scholarship Payment</i>	Department scholarships and bursaries usually cover the period of September through April, with payments on the 1st and the 15th of each month. All scholarships are taxable in Canada.
<i>Teaching Assistantship (TA) Applications</i>	TA applications are available from the main office, or underneath the TA postings when they are being displayed on the bulletin board between the lounge and the Chair's office (FDA 231). Note that Fall TAs are posted in March and Winter TAs in October.
<i>Thesis Submission Information</i>	The thesis submission forms (MSc and PhD) are available online at http://www.mcgill.ca/gps/thesis/guidelines/initial-submission#forms . All the information necessary to submit your thesis can be found at http://www.mcgill.ca/gps/students/thesis/guidelines .

5. THE ADAMS CLUB

The Adams Club is the society of graduate students within EPS and is responsible for coordinating several of the departmental academic and social activities, usually in conjunction with our undergraduate counterpart, the Monteregian Society. Every grad student within the Department is an automatic member of the Adams Club although a nominal yearly membership fee is charged to participate in social events at a reduced (or no) cost; in the end, it is a bargain.

Responsibilities

The Adams Club is responsible for coordinating the Masters and PhD Presentations (See Departmental Academic Activities). In addition, the Adams Club also organizes several of the main social events within the Department (e.g., Christmas Party, End-of-Year Party, New Grads Field Trip) in collaboration with the Monteregian Society. Graduate students help supply labour for the events and provide financial support for the Christmas Party.

Executive Positions

Normally, elections and/or volunteers for executive positions are held or declared early in the Fall term.

President
Vice-President
Secretary

Treasurer
Grad Student Representatives to the Department (2)
Grad Student Representative to the Post Graduate Student Society (PGSS)
Grad Student Representative to Graduate Faculty/AGSEM
Grad Student Representative to GEOTOP
Grad Student Representative to the Departmental Safety Committee
Grad Student Representatives to geology organizations (SEG, MAC, CSPG)
Social Events Coordinators (2+)

Support for Fellow Grad Students

One of the most important aspects of the mandate of the Adams Club as a society for graduate students is to provide advice to fellow grad students in a variety of functions:

- orientation to newcomers
- preparation of thesis proposals
- preparation for the preliminary PhD oral exam
- research, analytical or technical challenges
- conference preparation for oral and poster presentations
- an environment for interaction and camaraderie among peers

6. DEPARTMENTAL ACADEMIC ACTIVITIES

Announcements for our departmental academic activities are usually made in advance by email and on the departmental website: <http://www.mcgill.ca/eps>.

<i>Guest Speaker Series</i>	Two professors (this duty changes each year) coordinate the hosting of guest speakers from outside the Department who give 50-minute oral presentations within various fields in the Earth and planetary sciences. There is a question period after the presentation and guest speakers are encouraged to make themselves available during the day of their visit for less formal questions and discussion.
<i>Volcano Brewery and Willy Beer Seminars</i>	The Volcano Brewery and Willy Beer Seminars are organized to give grad students a relaxed forum in which to present and discuss their recent research findings, in the fields of volcanology and economic geology. These seminars are open to the whole Department, but are not widely advertised.
<i>Annual "Willy Trip"</i>	Students in the Department organize an annual trip to a foreign destination for "Geotourism". The trip, led by Professor A.E. "Willy" Williams-Jones, lasts up to two weeks in late February/early March (one of the two weeks is the study break

	<p>week at McGill). Recent destinations have included Guatemala, Peru, Colombia, and even Tanzania and South Africa. The trip is open to both graduate and undergraduate students. Organizers are sensitive to students' travel budgets. Planning starts in the Fall semester, with email notices of organizational meetings to identify a destination.</p>
<p><i>McGill Student Chapter of the SEG</i></p>	<p>The McGill Student Chapter of the Society of Economic Geologists (SEG) is an organization within EPS with a mandate to help students gain a better understanding of ore deposits. Cost for membership for grad students is \$15/year. The group invites guest speakers to cover a variety of topics within economic geology, such as ore deposit models, economic aspects of the mining industry, environmental consequences of mining, and environmental management. The SEG also organizes field trips in which members are invited to participate. Normally, transportation costs are covered. The group also subsidizes travel costs for students who participate in the annual Willy Trip.</p>
<p><i>Masters Presentations</i></p>	<p>Masters presentations are talks given by all Master's students in the second semester of their first year in which they present their thesis proposals and report on the progress of their research. They take place over the lunch hour, are generally 15 minutes long with 5 minutes for questions, and are open to the public. Master's students are also required to give a final presentation at the end of their second year.</p>
<p><i>PhD Presentations</i></p>	<p>With the exception of PhD students in their 1st and 2nd semesters at McGill, all PhD students are required to give one talk to the entire Department each academic year. The talks will be ~20 minutes in length and will take place over lunch time during the academic year. The goal of these presentations to keep everyone abreast of the research performed in the Department and to provide an opportunity for graduate students to practice giving talks to non-experts in their field. Note that presentations to individual research groups do not fulfill this requirement.</p>
<p><i>PhD Defences</i></p>	<p>You are welcome to attend PhD thesis oral defences which are normally held in the seminar room. They are open to the public and other graduate students are encouraged to attend. When there is an upcoming defence, Kristy sends out announcements by email and in the form of a pamphlet that is usually available in the main office. The PhD candidate gives an oral presentation that is followed by questions by the examining committee. When the committee has finished their round of questioning, those in attendance may also ask questions of the candidate. Afterwards, the candidate and the audience are asked to leave while the committee makes a final</p>

	decision. The audience should be prepared to remain in the examination room for its entire duration until dismissed for the decision. A successful defence (the norm) is followed by a wine and cheese party to celebrate the occasion.
--	---

7. DEPARTMENTAL SOCIAL ACTIVITIES

A variety of social events take place throughout the academic year. Some occur on a regular basis; others are initiated more spontaneously. Take advantage of the chance to get to know the faculty and your fellow grad students and undergrads in a less formal setting. These events are normally announced well in advance by email.

FREE Coffee & Cookies EVERY weekday at 3-3:30 p.m. in the lounge. (Get there early before the cookies disappear).
BBQ on Mount Royal (early September)
Wine & Cheese Party (early to mid-October)
Trip to Bancroft for Rock Hounds (late September to mid-October)
Thomson House Christmas Party (early December)

8. DEPARTMENTAL FACILITIES

COMPUTING

Upon registration McGill will grant you a student email account (firstname.lastname@mail.mcgill.ca). It is important to note that all official information, announcements and messages from McGill will ONLY be sent to your McGill email account (please read the official McGill policy on email communication with students at http://www.mcgill.ca/secretariat/files/secretariat/e-mail-communications-with-students-policy-on_5.pdf).

Please check your email regularly (at least once daily) as all departmental notices regarding registration, scholarships, departmental announcements, etc. will be sent by email. Pay attention to all notices and messages coming from Anne, Kristy, and Angela, or you may miss something important!

Getting Started

Each graduate student is given \$1000 by the Department to aid in the purchase of a personal computer, as stipulated in the departmental admission letter. It is also important to get a network computer account on pebbles and cobbles (EPS server), which will grant you space on a network drive as well as ensure that you are added to departmental emailing lists.

Brigitte Dionne is the resident computer expert for our departmental lab (Room 209). To apply for a network computer account, fill out one of the forms included in your departmental welcome package or posted outside Brigitte's office (Room 209A, to the left once you enter Room 209) and put it in her mailbox in the main office or return it directly to her. Your account will be created usually within one or two days; check back with Brigitte to see if it is ready. Brigitte will give you a login name and password on pebbles and cobbles that will allow you to login to any of the departmental networked computers.

What do we have?

As a graduate student you should purchase your own computer using the \$1000 one-time departmental grant, as the main computer room in FDA 209 is an undergraduate computer lab. It houses eight Intel PC terminals and one scanner. Windows 7 is available on the PCs with standard packages for word processing (Word), spreadsheets (Excel), graphics (PowerPoint, CorelDRAW, Adobe CS, etc.), Internet access (Mozilla Firefox, Internet Explorer), email (Mozilla Thunderbird) and some scientific software (MatLab, SciLab, Grapher, Surfer, etc.). You can print in black and white on the HP LaserJet 4050N or 4250dnt printers and in colour on the HP Color LaserJet 5550hdn printer in the computer lab, but you will be charged for pages printed. Brigitte sends out summaries of your submitted jobs to the printers approximately once per month. You should arrange to pay for your printing with Angela in the main office once you receive a notice by email. Most supervisors pay for research-related printing for their graduate students, but you should consult with them about it to be sure.

- *You can create a home page on Cobbles and link it to the EPS web site:*
To create your own web page, login to your Cobbles account and create a file called index.html in the directory **y:\www**. A skeletal index.html file looks something like this,

```
<html>
<head>
<title>Banana's Own Web Page</title>
</head>
<body bgcolor="white">
This is the main body of my web page.
This is the <a href="http://www.eps.mcgill.ca">EPS</a> home
page.
```

</body>
</html>

Your web page address would then be <http://www.eps.mcgill.ca/~banana> using the above example.

Brigitte periodically updates the computing facilities and will notify you of any changes or additional software/hardware by email. *Do not install any software yourself on any departmental computer!* For more info, see: <http://www.eps.mcgill.ca/local/newuser.html>.

Large-scale printing

Large-scale printing (i.e., poster or map size) is no longer available in the Department. Copi-EUS which is located in the McConnell Engineering Building, is a good alternative and provides poster printing services on a variety of paper types. For pricing, see <http://www.copieus.mcgilleus.ca/#!/posters/trdkm>. Several grad student posters that have been presented in recent scientific meetings are on display in the main hallways (2nd and 3rd floors of FDA) and are good examples of the poster presentation capabilities available locally.

Colour printing

If you do not have access to colour printing via your supervisor's facility, colour printing is available in the computer lab (printer "HPC5550" on the network). You will be charged 50 cents per page.

LABORATORIES

Safety

Workplace Hazardous Materials Information System (WHMIS) training is a legal requirement for all individuals working with chemicals, and therefore all students who will be working in *any* of the departmental laboratories must take a WHMIS course. McGill offers the course several times a year, and you will be informed by email at the beginning of each term of the dates that WHMIS courses will take place during that semester. It is your responsibility to ensure that you sign up for this course to obtain your certification. This certification should be updated every three years.

One graduate student representative will be part of the Department Safety Committee to ensure that all safety policies and any possible changes in such are related to the students, as well as communicate student concerns to the Committee.

ANALYTICAL FACILITIES

The Department hosts state-of-the-art analytical facilities for the (in-situ) analysis of fluid and solid samples for major, minor and trace elements, and isotopes. These labs are run by technical staff, and overseen by a staff member. These central facilities are: 1. Sample Preparation; 2. Major and Minor Elements; 3. Inductively Coupled Plasma Spectroscopy; and 4. Microanalysis Laboratory.

All laboratories operate under the principle that students will conduct their own analyses following training. These training sessions can be on an individual basis or in groups. When the user has shown sufficient proficiency in the technique, she/he will be able to use the instrument and facilities independently upon making a reservation. To arrange training, please contact the person in charge of the relevant facility (see below).

The labs represent, and operate as state-of-the-art research-grade facilities, and full involvement of students is expected in analytical design, sample preparation, data collection, and results processing. Technical staff is available to assist, and provide advice in all aspects of sample analysis, but as a user, you are expected to be the expert in your samples, and analyses and data quality are ultimately the responsibility of the user.

Use of the facilities (including training) is arranged with the lab technician and generally involves filling out a sample intake or analysis request form (available on the lab web site or from the lab technician). Analyses (and training) are charged to your supervisor's research grants, and a fund number will be required before analyses can commence. User fees and pricing structures of the various facilities vary and are available from the lab technician and posted on the Geotop website.

Sample preparation

To prepare samples for analysis, the Department has a facility for rock cutting, crushing and grinding, located in the basement (FDA 009 and 010). The rock saw uses a diamond blade (provided by each research group) to cut samples for thin sections and for further processing in crushing and grinding. A tungsten-carbide jaw crusher reduces rock fragments to small chips, and several ball and ring grinders are available to prepare fine-grained powders. Depending on what elements are to be analyzed, and the mineralogy of the sample, we have steel and alumina grinders. Access to the preparation facility should be arranged through Galen Halverson (galen.halverson@mcgill.ca). A low-speed wafering saw for delicate samples is also available on the 3rd floor, together with limited grinding and polishing facilities. To gain access to these, consult Galen Halverson (galen.halverson@mcgill.ca).

Petrographic Services

The Department has a thin section laboratory, currently undergoing renovations (FDA 006). When renovations have been completed, access for experienced users may be arranged through Jamie Kirkpatrick (james.kirkpatrick@mcgill.ca).

Students who wish to have thin sections made should consult their supervisor for more information on their company preference and that company's contact information.

Major and Minor Elements

This facility, directed by Alfonso Mucci (alfonso.mucci@mcgill.ca), houses one (flame or furnace) Atomic Absorption (AA) spectrometer and one Inductively Coupled Optical Emission Spectrometer (ICP-OES) for analysis of fluid samples for major and minor elements. A hydride generation system is also available to analyze elements such as mercury down to very low levels (ppt). The facility includes a support laboratory for sample digestion and preparation of standards for AA or ICP-OES analysis, including a water distillation system, analytical balances, and fume hoods. Request for use of the facility should be directed to Isabelle Richer (isabelle.richer@mcgill.ca).

LIBS-ICP-MS Laboratory

The LIBS-ICP-MS Laboratory houses a Thermo Finnigan iCAP Qc ICP-MS instrument that allows for analysis of trace elements to low ppt levels. It has a reaction cell to break down interferences for difficult elements such as V, As and Se. It accepts both fluid samples, and solid materials sampled by a laser ablation system. This laser allows for routine analysis of trace elements in 80 μm spots at the ppm level in thin sections, grain mounts and any other solid material, and can be optimized for the analysis of a small element set at spots as small as 5 μm . A new, state-of-the-art Laser Induced Breakdown Spectroscopy (LIBS) system is currently being installed. This system allows for standalone analyses by LIBS, to operate as a laser ablation sampler for the ICP-MS, or to be run in tandem LIBS-LA-ICP-MS mode. In tandem mode, major, minor, trace metals and halogens can be analysed simultaneously, in-situ, on grainmounts and thinsections. The laboratory is supported by a clean lab to prepare the ultra-clean solutions necessary for fluid ICP analyses, as well as facilities for wet ashing and flux digesting of rock samples and organics. More information and a booking calendar can be found on the laboratory's website at <http://eps.mcgill.ca/ICPLab/Welcome.html>. Requests for access should be directed to Anna Jung (anna.jung@mcgill.ca).

Microanalysis Laboratory

The Department is equipped with an electron microprobe (EMP). Applications of the EMP range from imaging metal zonation in hydrothermally deposited minerals to analyzing the compositions of crystals in human and rodent brains.

Don Baker (don.baker@mcgill.ca) is the director of the electron microprobe laboratory. For use of the microanalysis facilities, grad students should discuss their applications with their research supervisor, obtain authorization, and then contact Lang Shi (lang.shi@mcgill.ca), who supervises the facility. Grad students who want to use the instruments are trained by Lang and become qualified operators for their own research. For more information on the capabilities of these instruments, contact Lang Shi.

X-ray Diffraction Laboratory

Professor Christie Rowe acquired a [Rigaku Smartlab X-ray Diffractometer](#) was acquired in 2014. We use a copper target X-ray source. The XRD is equipped with two detectors: a high-efficiency scintillation detector and the D/tex Ultra 250 high speed silicon strip 1D detector for faster analyses. We have a monochromator for use with the scintillation detector for eliminating iron fluorescence. The system is fully automated, with software to help beginning users set up and run simple analyses safely.

We have three sample stages for the Smartlab XRD: general stage, for back-packed powder samples and glass slides; 10-disk automated sample changer for front-packed circular dishes and zero background silicon wafer sample holders (for use with very small powder samples and bulk powders containing no phyllosilicates) and an automated programmable x-y-z stage for microdiffraction.

For current information about the XRD lab, consult the facility webpage at <http://www.eps.mcgill.ca/xrd>. For training and booking time on the XRD, contact Christie Rowe (christie.rowe@mcgill.ca).

Other facilities

Our analytical facilities are not limited to those listed here. Individual research groups also host a diversity of analytical and experimental facilities, including furnaces, a freeze-drier, centrifuges, coulometer, UV-Vis spectrophotometers, cathode-luminescence microscope, field gear, etc. We recommend that you ask your fellow grads or your supervisor whether the instrument you need is available. Moreover, most faculty, and hence their students, are associated with the GEOTOP-UQAM-McGill research centre (www.geotop.ca), which groups researchers from UQAM, McGill, Concordia, INRS, UQAR and Laval. Two stable

isotope ratio mass spectrometers are hosted within the Department. One instrument (Nu Perspective), supervised by Galen Halverson, is used for C and O isotope analyses on carbonate minerals. The second instrument is a portable mass spectrometer supervised by John Stix that is used for measuring C isotopes in CO₂ gas. In addition to these instruments, the UQAM facility allows for analysis of stable isotopes in a variety of materials (H, C, N, O, S, as well as metals), long- and short-lived radionuclides, and radiometric dating. Access to the GEOTOP-UQAM-McGill facilities is generally arranged through your supervisor.

Distilled and Nanopure water

Our department houses a reverse osmosis system in FDA 222 that produces distilled and Nanopure water. Students are asked to contact Isabelle Richer (isabelle.richer@mcgill.ca) for access and instructions. Nanopure water can also be purchased in small quantities from the clean room by contacting Anna Jung (anna.jung@mcgill.ca).

Users should be aware of the following facts regarding Nanopure water:

1. Nanopure or de-ionized water is a very aggressive leaching agent. Within a few hours of storage in any container, except possibly Teflon, it will leach material from the walls of its containers, whether they are made of glass or of some plastic material. That is why Nanopure water should never be stored. It should always be prepared fresh just before use and must not be used for any procedure unless specified.
2. When in doubt, use distilled water.
3. Nanopure water is detrimental to the walls and soldered connections of water baths and other containers if used for long-term storage (more than 48 hours).
4. In general, Nanopure water is used for preparing solutions for trace element analysis. For all other uses, distilled water is the preferred choice.
5. Nanopure water is expensive to prepare.

Hazardous Waste Disposal

For full details on hazardous waste disposal, you should consult the McGill Laboratory Safety Manual (<http://www.mcgill.ca/ehs/laboratory/labsafety/>).

Wastes should not be discharged into the building's drain system, but into containers provided for this purpose. Improperly labeled waste will not be accepted. Over-filled and/or leaking containers will not be accepted. Incompatible chemicals should not be combined. When in doubt, ask the technical staff or phone Waste Management at 5066.

Empty waste containers can be obtained from your laboratory manager or the staff of the Geochemical Laboratories. Liquid waste is picked up on a regular

basis, but Waste Management must be informed of its location and access must be provided when required.

MICROSCOPY

A petrographic microscope with camera was donated to the graduate students by former Professor Don Francis. To use this instrument contact John Stix (john.stix@mcgill.ca). Petrographic microscopes for teaching are stored in lockers in FDA 210 and 315. Advanced undergraduate students are assigned individual microscopes each semester for use in labs. Some of these microscopes can be borrowed for research use, should there be any surplus to teaching requirements. Contact Kim Berlo (kim.berlo@mcgill.ca) regarding availability. Note that these microscopes have to be returned in good working order at the end of each semester (11th of December or 11th of April). Failure to return the microscope in good working order to its locker and the key to the main office by these dates will result in an automatic fine of \$250 to the student's account.

9. FREQUENTLY USED FACILITIES OUTSIDE THE DEPARTMENT

ELECTRON MICROSCOPY

The Facility for Electron Microscopy Research (FEMR) is an outgrowth of research undertaken at the *informally named* Electron Microscopy Centre (EM Centre) of McGill University. The state-of-the-art imaging and analytical facilities of FEMR are used to derive structural, compositional, morphological, elemental, and molecular information from diverse materials. These materials include biological tissues, biomimetic materials, high-performance synthetic materials, polymers, colloids, and materials of importance in both Earth and interplanetary studies. The facilities and instruments of FEMR are housed in the Strathcona Anatomy & Dentistry (SAD) Building (transmission electron microscopes - TEM) and the Wong Building (scanning electron microscopes - SEM). Information about access to the TEM facilities is available from the Research Manager, Dr Kelly Sears (kelly.sears@mcgill.ca or femr@mcgill.ca). The SEM facilities available within the Department of Mining, Metals and Materials Engineering (Wong Building) include a field-emission SEM and variable-pressure SEM and a gold-palladium coating facility. Information about access to the SEM facilities in the Wong building is available from Dr. Florence Paray (florence.paray@mcgill.ca).

X-RAY MICROTOMOGRAPHY

There is tabletop X-ray microtomography system in the Wong building that can provide three-dimensional images with spatial resolutions down to a few microns. For information about, and access to, this machine you can contact Dr. Florence Paray (florence.paray@mcgill.ca).

COLOUR PHOTOCOPYING

Colour photocopying is available through the Engineering Undergraduate Society in the McConnell Engineering Building or through local graphic service outlets such as Copie Express (860 Sherbrooke St across from the Roddick Gates, 514-499-9966).

COLOUR PRINTING

Colour printing can also be done through local graphic service outlets such as Copie Express (860 Sherbrooke St across from the Roddick Gates, 514-499-9966) and within other departments on campus.

McGILL LIBRARIES

Every academic session, the McGill libraries offer workshops for users. Announcements are usually posted in the libraries and are frequently circulated by email. There are several libraries on campus; those most frequently used by EPS students are Schulich (Science and Engineering) and Walter HITSCHFELD Geographic Information Centre (Burnside, 5th floor). The Islamic Studies library in Morrice Hall has a book scanner that you may find useful.

You will need your student ID card to check out any library materials. Most of the journals and databases that you will need are available online from the McGill library system. Also available is CISTI (<http://cat.cisti.nrc.ca/search>), username = fgh74087, password to be obtained from Professor Olivia Jensen), a service with which you can request a copy of a specific journal article that is unavailable electronically or in hard copy format from the library, and will receive it within 48 hours. Interlibrary loans are also available upon request. For more information on how to use the libraries and the searching tools therein, keep an eye open for library workshops or contact the library personnel. The McGill Libraries website, www.mcgill.ca/library, is also an excellent resource.

McGILL PRINTING

The print shop at McGill (local 6300) is where many of the course notes are printed and bound. Additionally, the print shop also makes business cards (at your expense) should you wish to flaunt your new McGill credentials at the next international conference you attend.

10. UQÀM (Université du Québec à Montréal) Affiliation

<i>Sciences de la Terre</i>	The Department of Earth Sciences at UQÀM is another potential resource for your studies at McGill.
<i>GEOTOP</i>	Many members of our department are also members of GEOTOP and, thereby, have access to its facilities at UQÀM (e.g., mass spectrometry). You should discuss access with your research supervisor. <i>GEOTOP</i> also offers scholarships to students.
<i>Library</i>	UQÀM has a science library, which is generally open for all users. There may be some journals in their holdings that we do not have at McGill, so it is worth doing a thorough search in Montreal before resorting to Interlibrary Loans or CISTI if you are in a hurry.

11. FINANCIAL SUPPORT: WHERE TO LOOK

All graduate students admitted to the Department are guaranteed a minimum level of financial support for a period of two years in the case of a MSc and four years in the case of a PhD. This comprises a TAsip and graduate student award (top-up) from the Department and a graduate student stipend from your supervisor. The amount is indicated in the letter of acceptance, which you will have received when you were admitted to the Department. If you are unsure of your entitlement you should see Anne Kosowski for clarification. Students who arrive in the Department with a major scholarship (e.g., NSERC or FQRNT) do not receive a graduate stipend but are eligible to hold a TAsip.

It is important to note that the salary you receive will likely not be evenly distributed throughout the year, due to factors such as the lack of a TAsip during the summer months or possible delays in setting up the reception of their first paycheques upon arrival. Students should not assume that they will be able to evenly divide their yearly net salary by 12 in order to make a monthly budget for personal expenses such as rent. If you have any questions or concerns

regarding your salary breakdown, please see Anne in the main office.

Note: All employees in Canada are required to file yearly tax returns, typically before the 20th of April each year. This includes students working as TA's and receiving graduate student stipends. For further information see <http://www.cra-arc.gc.ca/menu-eng.html>. Student Services (Brown Building suite 4100, student.services@mcgill.ca) can also help students with tax-related questions.

SCHOLARSHIPS

There are many major government agency scholarships (e.g., NSERC, FQRNT) for which students are encouraged to apply. In fact, if you qualify for a major scholarship outside McGill, you must apply for it in order to be considered for either internal departmental or McGill scholarships. Agency scholarships are listed online at <http://www.mcgill.ca/gps/students/fellowships/> and in the Graduate Fellowships and Awards handbook found at <http://www.mcgill.ca/students/courses/calendars/>. Note that if you are successful in obtaining a major scholarship, you are not eligible for a departmental graduate student stipend.

There are also other external fellowships available. For example, the SEG Foundation Graduate Student Fellowship Program also offers major fellowships for student SEG members who will be performing research in economic geology and its related fields (https://www.segweb.org/SEG/Students/Student_Research_Grants/SEG/Students/Student_Research_Grants.aspx). Your supervisor may be able to help you find fellowship possibilities in your research area.

Smaller scholarships are available from a variety of sources, e.g., GEOTOP. If you are successful in obtaining one of these scholarships, your Graduate Student Research Stipend may be reduced by an amount equivalent to 60% of the value of the scholarship. There are also scholarships that are awarded strictly to cover the cost of a small research project that could be part of your main research and which might not otherwise be funded, e.g., from GSA, MSA and SEG. The value of these scholarships is typically in the range of \$1,000 to \$5,000.

Finally, the Department distributes a set of internal scholarships that range in value from \$2,500 to \$15,000. They are awarded on academic merit to suitably qualified and eligible EPS grad students (those who don't have a major external scholarship or major scholarship from McGill, and have not exceeded their eligibility period, i.e. have not started MSc 3 or PhD 6) and, so it is not necessary to apply for them. However, **all students must submit a short (600 word) annual report stating an overview of work done so far, conferences attended, articles submitted, etc., in order to be eligible for consideration (please note that this is in addition to your yearly progress report that must be completed by the 1st of**

May each year to be eligible for scholarships). A departmental scholarship meeting is normally held in May to decide on the distribution of scholarships for the following academic year. As discussed above for small scholarships from sources outside the Department, if you are successful in obtaining one of these scholarships, your Graduate Student Research Stipend may be reduced by an amount equivalent to 60% of the value of the scholarship. If you would like more information about these scholarships, you can consult the Graduate Fellowships and Awards handbook under “Earth and Planetary Sciences” or talk to your research supervisor.

Graduate student and postdoc funding information on stipends can be found at <http://www.mcgill.ca/gradapplicants/funding/>.

GRADUATE STUDENT RESEARCH STIPEND

Each graduate student supervisor is required to provide a Graduate Student Research Stipend to each of his/her graduate students representing an amount that, when combined with their TAsip and departmental stipend, will guarantee these students a minimum level of disposable financial income (after tuition fee payments) of approximately \$18,200 per year. The exact amount is adjusted for inflation each year, and depends on whether the student is from Quebec, the rest of Canada or outside Canada. Supervisors may raise their support level above those recommended as the minimum. If students receive merit-based financial awards (e.g. departmental scholarships), supervisors are expected to ensure that these awards are reflected in the students’ ultimate remuneration (the Graduate Student Research Stipend may not be reduced by more than 60% of the value of the merit-based financial award, with the NSERC award level as a ceiling.

GREAT AWARDS

The Graduate Research Enhancement and Travel Awards (GREAT Awards) are used to support research travel and dissemination of research, including, but not limited to conference presentations, field research and collaborative research outside the university. The Department is allocated a certain amount of money for these awards each year and winners are then decided by internal competition. Competitions will be announced by email and are typically run twice a year. All students engaging in any of the travel activities listed above are encouraged to submit an application to Kristy, with copy to Don Baker.

DIFFERENTIAL FEE WAIVERS

Differential Fee Waivers (DFW) are available to international MSc1, PhD1, PhD2 and PhD3 students for a full academic year. The Department is allocated a

varying number of DFWs each year (4 in 2016-2017) to award to deserving international PhD students (no application required). Students who are awarded a DFW must register for REGN RCGR in both semesters in order to be full-time students for the full year. Although the student does not actually receive money for this award, DFWs are awarded on merit, so awardees can feel free to include them on their CV.

LOANS AND BURSARIES

Consult the Graduate Fellowships and Awards handbook for student loans, bursaries, and fellowships for student exchanges and travel.

POST-DOCTORAL FELLOWSHIPS

The Graduate Fellowships and Awards handbook also includes information about applications and deadlines for post-doctoral fellowships.

Please take note that the Department does not guarantee any financial support to grad students who are beyond their MSc2 or PhD5 years (in the form of TAs or departmental scholarships), so plan carefully. Any additional financial support beyond MSc2 or PhD5 is strictly up to the individual research supervisor.

12. TEACHING ASSISTANTSHIPS

Teaching assistantships (TAs) are positions for which you may apply. TA postings can be found on the bulletin board between the lounge and Chair's office (FDA 231). Anne emails the application form to all returning students, and paper copies for the form are also available in the main office. Applications are submitted to Anne either by email or by paper form. The advantage is that you can apply for the TAship of your choice (rating of your top three preferences). You can also indicate that you are willing to be assigned to any other TA position for which you are qualified (i.e., based on your research discipline or courses previously taken). Keep in mind that your TA assignment is subject to the needs of the Department, student course requirements and scheduling conflicts. Note that new graduate students (September entrance) are assigned TAships by the Chair for the Fall term.

The choice of TA might be particularly useful for your self-development within your graduate program. If you wish to develop your own teaching skills, broaden your general knowledge, explore a topic peripheral to your thesis, develop a

weak area, or even prepare for your PhD qualifying exam, then an appropriate TA position can help you to reach your goals. Several TAs within the Department are “hands-on” interactions with undergraduates in a teaching capacity; others are strictly marking assignments and proctoring exams. You can inquire about the nature of the TA by contacting the course instructor or by talking with experienced TAs before you submit an application.

TAs who are assigned to undergraduate courses usually have a combination of the following responsibilities:

- to be present at every lab of the course or appoint a replacement (with the instructor’s approval)
- to become familiar with the lab material before the lab session
- to take specimens required for the lab out of storage and organize them for use during the lab
- to prepare and present an introduction to the lab if required
- to help students understand lab material by asking and answering questions
- to clean up the lab at the end of the lab period and store all materials
- to assist in administering course evaluations
- to photocopy teaching materials for the instructor
- to help in the preparation of teaching materials
- to correct and mark assignments, mid-term exams and finals
- to help invigilate mid-term exams and in-house finals

Take note of the application deadlines, which Anne Kosowski usually announces in advance by email. TA assignments are normally announced before classes start, but usually cannot be finalized until after the first week of classes. When you are informed of your TA assignment, consult the course instructor as soon as possible since your services may be needed right away. Payment for your TAship will be made in semi-monthly installments by direct deposit during the academic term, and is based on 80 hours of work over the semester. As a TA, you are automatically part of the Association of Graduate Students Employed at McGill (AGSEM). Information on this TA union is available online at <http://agsem-aeedem.ca/>.

All TAs are required to sign the Teaching Assistant Workload Form, which you will find in your mailbox in the first two weeks of the semester. The signed form must be submitted to Anne in the main office. Please note that although the form says that a full TAship is based on 180 hours of work per semester, the TAships for Earth & Planetary Sciences courses are based on 80 hours of work per semester. It is suggested that each TA keep a copy of the signed form.

ADDITIONAL TEACHING ASSISTANTSHIPS

During the summer session, the Department has field school TA positions available. This is a good opportunity for additional TA experience and financial support. Anne Kosowski advertises these positions through email when they

become available. You can respond by email and will receive a final summer TA listing shortly afterwards.

TEACHING ASSISTANTSHIP EVALUATIONS

It is now mandatory that TAs be evaluated by students as part of the course evaluation system. You can find your results on Minerva under Student Menu → Mercury Online Course Evaluation Menu → Teaching Assistant Course Evaluation Results.

13. COURSE LOAD AND SELECTION

The graduate program constitution (see Appendix) stipulates course loads and selection for MSc and PhD programs.

MSc:

Item 19:

“A student in the MSc program is required to take at least 4 graduate courses (12 credits) during his/her 2 years of graduate study.”

There is no requirement to fulfill all of your course requirements in the first year of the Masters program (unless you plan on fast-tracking to the PhD program); you can spread out your course load over the duration of your degree program if you wish. If the available courses do not meet your needs, consider the reading-course option and discuss it with your research supervisor and advisory committee (Part II, Section 15). It may be more prudent to satisfy your course requirements during your first year of study since the workload of the thesis typically becomes heavier as deadlines approach during your second, and final, year of study.

PhD:

Item 11:

“Students entering at the PhD1 level must take a minimum of 6 courses (18 credits) by the end of their PhD2 year. Assignment of courses in the PhD1 year is by the Thesis Advisory Committee.”

Item 12:

“In the PhD2 year, students must take a minimum of 2 graduate-level courses (6 credits).”

PhD students must take 2 courses (6 credits) during the PhD2 year, whether they entered the program at the PhD1 or PhD2 level. Therefore, a student who entered at PhD1 is required to have accumulated a total of 6 courses (12+6=18 credits) at the end of their PhD2 year (it is recommended that students take 4

courses in their PhD1 year and 2 courses in their PhD2 year).

General Registration Information

In order to avoid the late registration fee, all students must register for REGN RCGR (the Registration Confirmation course) in both the Fall and Winter terms. MSc students must register for EPSC 697, 698 and 699 (Thesis Preparation I, II and III) over their first three semesters, and PhD students must register for EPSC 700 (Preliminary Doctoral Examination) in their PhD2 year.

A more detailed breakdown of which courses must be taken and when for both MSc and PhD can be found in *Appendix 1* at the end of this handbook.

You are not required to register for the Summer semester while you are still within your residency period; this will happen automatically and your transcript will show it as “Thesis Continuing” (see Section 14 below). You do not have to pay fees during this time.

Courses can also be taken in other departments at McGill with the permission of your supervisor and the Director of Graduate Studies if those courses are relevant to your research topic.

Note that the course load guidelines in the graduate program constitution are the minimum requirements. You, your research supervisor and/or thesis advisory committee may consider that additional courses are necessary to properly prepare you for your research.

Students must register (and pay fees) annually up to and including the term of graduation. Outstanding tuition fees must be paid *before* graduation. A graduate student registered in the Winter term who graduates in February will have their Winter registration and fees cancelled at the end of February.

Inter-University Transfers (IUT)

With the permission of the Faculty, students are allowed to take one course (and in rare cases, two courses) at other Quebec universities (e.g., UQÀM) for credit. These are called Inter-University Transfers (IUT). If the course is recognized by the Faculty and approved by the Director of Graduate Studies, the credits will then be automatically submitted to and recognized by McGill, although the grade received in the course will not be included in your GPA calculation. More information regarding IUTs is available at <http://www.mcgill.ca/students/iut/>.

The Quebec IUT agreement allows you to apply online to take a course at another university through the CREPUQ website at

<http://www.crepug.qc.ca/?lang=en>. Click on “Authorization to Transfer Credits,” login as a “Student”, and fill in the form. Once that is done, you must send an email to the Director of Graduate Studies, copied to Kristy, stating that you have made the request so that the Director of Graduate Studies may approve it. Tuition fees for the course are then paid through McGill rather than the host university. Note that the host university may refuse registration in their courses at their discretion.

For MSc students: As a rule, no more than one-third of the McGill program formal coursework (not thesis, project, stage, or internship) can be credited with courses from another university.

Extra courses

Extra courses such as English language (CESL 400+) or writing (EDEC 645 – Science Writing and Publishing, REDM 610 – Writing Science Articles 1 and REDM 710 – Writing Science Articles 2) courses do not count toward your credits or GPA, but will appear on your transcript. It is important to note that you must pay extra fees for these courses. More information is available at <http://www.mcgill.ca/student-accounts/tuition-fees/general-tuition-and-fees-information/grad-studies-information>. If you want to take a French course (FRSL), please note that it will NOT be automatically flagged as an extra course. You will have to follow the procedure below (same as taking an undergraduate course) in order to get it flagged as an extra course. If you do not do so, then the course will be included in your GPA and the failure policy (where any grade lower than a B- is considered an F for grad students) will apply.

If you wish to take an undergraduate course, you must first get permission from the host department to do so, then submit the Request for Course Change Form found at <https://www.mcgill.ca/students/records/cc>. In doing so, please be sure to choose the proper reason for requesting undergrad registration. Here are the explanations of the reasons listed on the form:

1. Additional coursework only: This course will not count for course work credit towards the program requirement, but is an additional requirement for program and will be included in student’s CGPA calculation. The Failure policy applies.
2. Research background only: This course will not count for course work credit towards the program requirement, but is an additional requirement for program and will be included in student’s CGPA calculation. Course is needed to be able to do the research necessary for the present graduate program. Note: Must include explanation memo from the Graduate Program Director. The Failure policy applies.
3. Language Requirements only: This course will not count for course work credit towards the program requirement, but will be included in student’s CGPA calculation. The Failure policy applies.
4. Extra course: Course is not required for the present graduate program

requirements. Course will not count in student's CGPA calculation and is not taken for credit in present graduate program. Student must be aware that additional tuition fees will be assessed according to student's program and citizenship status. The Failure policy does not apply.

This form will go to Don Baker, the Director of Graduate Studies, for approval. It will then be passed along to Graduate Records. Expect to wait 1-2 weeks for Graduate Records to process the request.

Short courses

Students are encouraged to take short courses outside of McGill as a supplement to their education. However, these courses cannot be used to fulfill program credit requirements.

Failure Policy

Students are allowed one failure while still being allowed to remain in the graduate program. If a student fails a course, they are allowed to either retake the course, write a supplemental exam, or complete another course (not previously taken) to fulfill this course requirement. This decision is made in consultation with the student, the student's supervisor, and Director of Graduate Studies. Once the decision is made, a webform will be submitted to Enrolment Services. The student will receive a copy of the webform submission as the official notification of their first failure.

After a second failure the department will submit a webform to Enrolment Services recommending that the student must be withdrawn from the program. Enrolment Services will process the University Withdrawal and send an official letter to the student confirming their withdrawn status. This letter will include conditions for possible readmission.

Second failures include the following combinations:

- Two failed courses (either in separate semesters or the same semester)
- One course failure and one unsatisfactory progress report
- Two unsatisfactory progress reports
- Second failure of a PhD Comprehensive Exam
- Failure of a supplemental exam of a failed course

Students can appeal the withdrawal within 30 days, but this requires evidence of their case and letters of support from both their supervisor and the Director of Graduate Studies. The case will be reviewed by the Associate Dean, whose decision will be final.

For more information please see the Graduate Failure Policy at http://www.mcgill.ca/study/2015-2016/university_regulations_and_resources/graduate/gps_gi_regulations_failure_policy.

14. REGISTRATION STATUS

You will find your registration status listed on your transcript underneath each semester. Our programs do not allow a student to be part-time. All of the statuses listed below are full-time, with all of the benefits (such as services and access to facilities) and requirements (such as study permits for international students) therein. **Note that registration status affects the amount of your tuition fees and the time(s) of year at which those fees must be paid.** Here is what they mean:

Thesis Full-time

MSc students are considered to be full-time for their first three semesters. PhD students are considered to be full-time until the end of their PhD4 year. This is considered to be your residency period, during which you pay full tuition fees.

Thesis Continuing

You will only see this status appear on the Summer semester. All continuing thesis students still within their residency period are automatically registered for the Summer. This is a full-time status but does not require payment of any tuition fees.

Thesis Additional Session

MSc students reach Additional Session at the beginning of their fourth semester, and PhD students reach it at the beginning of their PhD5 year. This is still a full-time status but tuition fees are reduced. However, students are required to pay fees in the Summer Additional Session semesters. The fees are spread out over three semesters rather than just Fall and Winter in order to reduce student monthly expenses. To find out how much your fees will be, please see <http://www.mcgill.ca/student-accounts/tuition-charges/fallwinter-term-tuition-and-fees/graduate-fees> (choose your residency status, then choose Additional Session). You can also find fee rate information at <http://www.mcgill.ca/student-accounts/tuition-fees/general-tuition-and-fees-information/grad-studies-information/graduate-studies-rates-fallwinter-2016-17>.

Also, because the residency requirements have been completed, the student could conceivably finish up their thesis from elsewhere (if necessary due to location of facilities, collaborative research, etc.). International students who intend to finish up and submit their thesis from outside Canada and whose study permits will expire during this time will need to send a letter to Enrolment Services, Service Point at legaldocumentation@mcgill.ca. This letter must explain the student's situation (i.e. that they left Canada and will not be returning except possibly for their Oral Defence and will obtain a Visitor's Visa) and give dates of when they left Canada, along with any documentation that proves their leaving Canada (i.e. copy of stamped passport) or living outside Canada. The student will need to provide Enrolment Services with a new letter explaining their situation for each term that they will be registered without a valid CAQ and Study Permit.

Thesis Evaluation

After a student submits the initial copy of their thesis, their following semester will automatically become a Thesis Evaluation semester. This is also still a full-time status, but carries even lower tuition fees than the Additional Session semester. To find out how much your fees will be, please see <http://www.mcgill.ca/student-accounts/tuition-charges/fallwinter-term-tuition-and-fees/graduate-fees> (choose your residency status, then choose Thesis Evaluation). You can also find fee rate information at <http://www.mcgill.ca/student-accounts/tuition-fees/general-tuition-and-fees-information/grad-studies-information/graduate-studies-rates-fallwinter-2016-17>.

Time Limitation

If a MSc student does not submit by the end of their MSc3 year, or if a PhD student does not submit by the end of their PhD7 year, they will be subject to Time Limitation. This means that the student will not be allowed to register for the following semester until the initial copy of their thesis has been submitted. During this time student status is lost (including access to services, libraries, insurance, etc.). This is particularly problematic for international students, as without their student status they have to leave Canada.

Students who have passed Time Limitation can be readmitted only once they are ready to submit their thesis (i.e., the thesis has already been approved by the supervisor(s) and all thesis submission forms are complete). In order to be readmitted, the student must fill out the webform found at <https://www.mcgill.ca/students/records/request-readmission>. The form will be forwarded to the Director of Graduate Studies, who will send his approval to Graduate Records. It is best if the student lets Kristy know when their thesis is

almost ready for submission and they are about to apply for readmission. It is important to ensure that all of your legal documentation is in order (i.e. study permit and CAQ) at the time of readmission. The student will be charged fees for the term of readmission and any future terms of registration up to and including their term of graduation. It is a good idea to try to time readmission and thesis submission for the beginning of a semester; this will provide a better chance of the thesis examination process being completed within that semester (so that registration and fees will only be required for one semester). More information can be found at <https://www.mcgill.ca/gps/students/progress/time-limitation>.

Summer and Vacation Policy

Graduate students are expected to devote the Summer semester to working on their theses. If they do not do so, then they are likely to go overtime and may run into Time Limitation (see section 2.2.3 and section 27.5.2 of the Graduate Programs calendar).

Graduate students and Postdocs should normally be entitled to vacation leave equivalent to university holidays and an additional total of fifteen (15) working days in the year. Funded students and Postdocs with fellowships and research grant stipends taking additional vacation leave may have their funding reduced accordingly (see section 27.9.3 of the Graduate Programs calendar or <http://www.mcgill.ca/gps/students/progress/leave-vacation>).

Leave of Absence Policy

A leave of absence may be granted for reasons such as maternity/parenting leave, personal/family health, professional development, required military service, or employment that precludes progress towards the degree. A leave must be requested on a term by term basis by filling out the webform found at <http://www.mcgill.ca/students/records/forms/>, and the appropriate supporting documentation must be provided. Supporting documentation (i.e. medical notes) must be sent as a PDF attachment to the Director of Graduate Studies, who will then forward it to Enrolment Services along with the webform confirmation. Students can request confidentiality of their medical condition by contacting the Associate Dean of Graduate and Postdoctoral Studies for advice before submitting their request.

Note that the use of the Non-Resident status is limited to situations where a graduate student has their department's approval to spend a semester (or maximum of a year) at another institution for full-time work. For full information please see <https://www.mcgill.ca/gps/students/progress/leave-vacation>.

15. TRAVEL REGISTRY

Students who will be traveling internationally (e.g. anywhere outside of Canada, including the United States) are now obligated to fill out a Travel Registry, even if the travel will only last for a day or two. In order to be able to fill one out, you must first send an email to either Anne or Kristy and request that a registry form be created for you. This email should include information on what type of activity you will be doing (e.g. research, field work, attending a conference, etc.), when it will take place, and the country in which you will be doing it.

Anne or Kristy will then send you an email notifying you that the form has been created, and you will also receive a notification when you sign into Minerva. The created form can be found under the Student Records menu in your Student menu on Minerva. You must then fill out all the mandatory fields in the form before leaving on your trip, and you will receive monthly email reminders through Minerva until the form has been successfully completed. If you need to change something later and find that you cannot do so because the form has been completed, contact Kristy or Anne to open up the form again for you.

If you are going to be doing field work in a remote area of Canada it is suggested that you fill out a travel registry (so that we know where you are!). In this case you will not have the information needed for the Supplemental Health Insurance, as such things are not required when traveling within Canada. Since the insurance-related fields on the form are mandatory, just put in 0's.

16. TRAVEL ADVANCES AND EXPENSE REPORTS

Travel Advances

For all travel advances and expense reimbursements please make sure you speak to your supervisor before you start planning your trip. Your supervisor or Angela Di Ninno (angela.dininno@mcgill.ca) can process the travel advances for you.

For more information on "How To" please refer to the McGill Financial Services Knowledge Base (<http://kb.mcgill.ca/fskb>) → select "HOW TO Request an Expense Reimbursement" on the right hand side (or search "expense report" to find that article) → select "Submit an Expense Report for Yourself (Student menu)".

There are 3 types of Advances:

- 1) For a **Cash Advance** your supervisor will decide how much you will need for your trip. A budget breakdown must be included in the description (e.g. \$1000 per diem; \$500 transportation; etc.). This must be processed by

- your supervisor.
- 2) An **“Out-of-Pocket” Advance** is for purchases before your trip, i.e. airfare, conference registration/abstract fees, deposits on accommodations, etc. This will enable you to pay off your credit card. Upon your return you will have to add these items to your expense report in order to reconcile the advance. This must be processed by your supervisor.
 - 3) A **third party prepayment** is mostly for airfare; in this case you make a request to one of the Travel Management Companies (affiliated with McGill’s Travel Services; our department usually uses Uniglobe or House of Travel) found at <http://www.mcgill.ca/travelservices/transport/tmc> to book a flight to your destination on your requested date. The company will then forward a form to you, which must be filled out (including a fund number) and signed by your supervisor. You can email or fax the form back to the company, who will then book the flight and send you your invoice and itinerary. Please note that there is an extra fee for this service. Keep copies of the itinerary and the charges for the airfare. An advance will be processed for you and will need to be cleared once you return from your trip.

No matter which type of advance you use, be sure to keep your boarding passes and all receipts for the expense report.

Expense Reports

Each student must fill out and submit their **own** expense reports!

Expense reports can be processed through Minerva using Student Menu → Expense Report Menu → Submit an Expense Report.

The “responsible McGill ID” is your own ID number. Fill in the rest of the fields: destination city, start/end date, purpose (select “Travel”). For “Describe Purpose”, make sure that you include a detailed description of who your supervisor is, your degree, where you went, name of conference (acronyms, i.e. “GAC-MAC” will not be accepted), etc. Do not fill in the Default Fund Code. Select “Earth and Planetary Sciences” in order to forward it to a reviewer, then click on “Continue”.

Enter all your receipts one at a time. Once completed you can click on “Save and View” and then “Forward to Reviewer”. Your expense report will be finished by someone else. Print the Expense report, attach all your receipts and sign as the “Claimant”. You **must** print at this point in order for the forms to be properly submitted and saved.

Please see your supervisor with your completed expense report in order for them to review and sign it as “Approver”. Your supervisor will then provide a Fund number for Angela Di Ninno to enter on your expense report.

Please bring your signed Advance OR Expense Report (with all your original receipts) to FDA Room 238 Attn: Angela Di Ninno. She has an inbox in her office indicated "Expense Report" that you can place it in. All Advances and Expense Reports must come by our office for approval by Marisa Mastroberardino. If this process is bypassed this will only cause further delays to your reimbursement.

If you need more information or have questions please do not hesitate to contact Angela Di Ninno (angela.dininno@mcgill.ca) or Marisa Mastroberardino (fst.eps@mcgill.ca), or drop by the main office.

Things to Remember:

- **Please keep all of your boarding passes** when you travel. They must be submitted with your expense report, especially since Tri-Council Agency requires them to be included.
- Keep all of your **original** receipts (taxi, gas, car rentals, accommodation, bus, conference registration fees, abstract fees, printing, airline etc) **or you will not get reimbursed by Travel Desk**. Electronic receipts such as an email confirmation of your airline ticket are acceptable. Capturing pictures of receipts with a Smartphone is *not* considered an acceptable substitute for original receipts.
- Restaurant receipts **MUST** show a detailed list of items; if not, a per diem will be given (your supervisor will decide on the amount). Per diems are for overnight stays only (i.e. meals for conferences in Montreal are not considered eligible for per diem). Alcohol costs will **NOT** be reimbursed.
- If you are entertaining guests for networking purposes and research-related activities, professors and students must submit the detailed itemized receipts along with the names of attendees if 10 people or less. If more than 10 people please indicate in the description the number of people that attended.
- If your receipts are in a foreign language please translate as to what was purchased.
- Receipts need to show the method of payment. If it is not clear we will need a copy of your credit card statement or bank statement as backup (you can blank out your personal information).
- If you are traveling in a remote area it is best practice to bring with you a "receipt booklet" for when you pay in "CASH ONLY" places. Ask that they (vendor/Field Assistant/local person etc.) sign the receipt. Indicate what the service was for (i.e.: for local rental of personal (name) boat to be transported to little island for soil sample collection) so that you have proof that you have paid the person in "Cash".
- If you are claiming mileage on your personal car please indicate your Start/End destination, # of kilometers (if traveling multiple days please include a spreadsheet with all information). Also include Google maps as an added reference. If claiming mileage you cannot claim any gas receipts.
- Please avoid paying on behalf of other fellow students. Every student

should be paying for their own expenses and should be submitting their own expense report OR receiving their own cash advances in order to pay for their receipts.

- Please include the conference prospectus showing dates of the conference and location, and also if you are presenter please print out the page with your name and title of your presentation.
- Please do not use acronyms (i.e. AGU) in your descriptions. Please refer to the full name (i.e. American Geophysical Union conference).
- If you extend your dates of travel for personal reasons, this can affect your expense report. Please see Angela for details.
- When entering the transmitted amount in the Minerva form, enter the amount as it appears on the receipt and in the currency of the destination of the trip. You will need to select the currency (if not Canadian) and tab to the currency rate (which will default to the rate of the date of the purchase OR put in the rate as it appears on your credit card statement).

PART II:

AN INSIDER'S LOOK AT THE GRADUATE PROGRAMS

17. SUCCESSFUL LAUNCHING OF YOUR RESEARCH

NETWORKING WITHIN THE DEPARTMENT

It is to your advantage to become an active member of the graduate student community within EPS as soon as you arrive and to make valuable contacts with faculty, fellow students and our technical and support staff.

Starting to network is as simple as taking up an executive position in the Adams Club or attending internal events such as our EPS ritual of afternoon coffee and cookies in the lounge (3-3:30 p.m. Monday through Friday), departmental talks, and departmental social events. Not only will you begin to meet other students who share the same research supervisor as you, but also other students in the Department from different disciplines. The resource provided by your peers is of inestimable value, and can range from sorting through the bureaucratic tasks of registration to receiving a critical evaluation of your research.

The contribution of the technical and support staff can be extremely valuable during your graduate program. Analytical and computer expertise is outstanding in this department; it is there for the asking. In the main office, Anne and Kristy are excellent resources for administrative challenges and can handle most inquiries and requests efficiently by email.

There are several ways to make contact with members of faculty. You will take graduate courses and work as a TA in EPS. These are opportunities to become acquainted with the faculty. The EPS Welcome Week activities provide preliminary exposure to each faculty member's research projects. You may discover an overlap with your own research and, consequently, seek scientific input, possibly by inclusion of a faculty member in your thesis advisory committee on the basis of research discipline, knowledge of analytical methods or research approach. With a greater awareness of the resources at McGill, you will be better able to take full advantage of them during your graduate program. Consider that any member of faculty in EPS, regardless of whether or not they are your research supervisor or on your advisory committee, can be approached for advice and consultation.

The graduate students form an integral part of the research in this Department and can play a major role in communicating enthusiasm for our research disciplines. Attending talks is one way to network, but giving an oral presentation within the Department also allows you to get acquainted with your peers and with

faculty and for them to learn about your research (Section 17). The distinct advantages in presenting your research internally are exposure and feedback. Don't hesitate to become a part of the academic community in EPS. You will benefit in the long run.

IDENTIFYING A THESIS TOPIC

The earlier you choose a thesis topic, the sooner you can get started on your research program. Although your topic may change as you collect data and make preliminary interpretations that can lead in different research directions, having some idea at the start is instructive and actually required for the MSc presentation and PhD preliminary oral examination. The choice of a thesis topic should consider a combination of priorities:

- your own research interests beyond your graduate program
- tools that you wish to learn
- logistical support from your supervisor, in EPS, or from collaborators
- availability of or accessibility to the appropriate analytical facilities
- academic support and availability of scientific exchange within or outside McGill
- research budget
- timing
- potential contribution to science and current knowledge

Several considerations stem from whether or not you choose to pursue a research topic that is “off the beaten path” or not directly in your research supervisor's field of expertise. If you select a topic that is in your supervisor's research field, the advantage is that you are more likely to get better in-house facilities, advice and scientific contacts. However, if you choose a topic slightly away from your supervisor's main research interests, you should be prepared to operate more autonomously, and seek expert advice and support from outside EPS. There are advantages and disadvantages to the two choices that you should weigh carefully before taking the plunge. You should also consider the duration of your degree program, particularly in areas of research that are field- or lab-intensive.

PREPARING YOUR THESIS PROPOSAL

The earlier you begin to prepare your thesis proposal, the sooner you will be launched into your research activities. The act of writing a proposal forces you to think about it in earnest. You can discuss it with your research supervisor in advance, but be advised that your supervisor is expected NOT to participate in the actual writing. You can also discuss it with other people in the Department, such as your colleagues, other members of faculty and technical staff. You can

also take a look at previously submitted proposals in the Department to get an idea of what is expected in terms of depth, breadth and format. A thesis proposal should include the context of your research within the current scientific literature, your research hypothesis, the main objective(s), the methods you will use to reach your objective(s), preliminary results (if any), and interpretations.

MSc proposals are usually 7-10 pages long (including figures and references), and should also include a timeline for data collection and thesis writing.

For PhD students, normally the proposal is not to exceed 15 pages (including figures, references and appendices). Do not include extraneous material, especially if you are not very familiar with it. Since the thesis proposal is a requirement for the PhD preliminary oral exam, you should consider its contents in that context (see Section 15, under preliminary PhD oral exam). The thesis proposal must be circulated to the examining committee at least a month before the scheduled exam.

THESIS ADVISORY COMMITTEES

According to the EPS graduate program constitution, you must form a thesis advisory committee. (In fact advisory committees are mandatory for all PhD students at McGill.)

Item 9:

“Each graduate student has a Thesis Advisory Committee consisting of the Supervisor and one (in the case of MSc) or two (in the case of PhD) other faculty member(s), selected by the Supervisor in consultation with the student. The function of the Thesis Advisory Committee is to supply regular advice to the student and to monitor his/her progress. It must meet with the student at least once a semester (twice a year) and submit a written report to the Department on the student's progress.”

You may discuss inclusion of a faculty member in your thesis advisory committee with your supervisor and take part in selecting its members. The members are not restricted to faculty in EPS or at McGill.

There is no strict format for the thesis committee meetings, but normally the student is expected to briefly present research results, interpretations and progress and to propose a timetable for future work. The main purposes of the committee meetings are to monitor the student's progress, to ensure that the supervisor-student relationship is on the right track, and to provide an expert forum for research discussion.

It is a good idea to become active in forming your thesis advisory committee, to hold regular meetings and to make the most of it as a resource throughout your graduate program.

HUMAN RESOURCES

Your greatest source of support is obviously your research supervisor and thesis advisory committee. However, if a problem arises that cannot be resolved directly with those most involved in your research, you can consult the Director of Graduate Studies or the Departmental Chair. Their doors are open to discuss any problems or conflicts you might be having in your graduate program, be they bureaucratic, financial, logistical, scientific or with the student-supervisor relationship. Although it may be worthwhile at times to discuss your concerns with fellow graduate students, in the end, the Director of Graduate Studies and the Departmental Chair are in the best positions to help resolve a problem or conflict. Naturally, you can also consult with other faculty who may not be on your thesis committee.

PROGRESS REPORTS

Students are **required** to meet with their advisory committee at least once a year (usually in March or April) to present their research progress. All students must use the official Graduate Student Research Progress Tracking Form (a fillable pdf form that can be signed with digital signatures) found at https://www.mcgill.ca/gps/files/gps/gps_graduate_student_research_progress_tracking_report_2016.pdf. The supervisor, advisory committee and the student are expected to sign the form and return it to Kristy (email or hard copy are both allowed). If for some reason you do not agree with what your supervisor has written, you may refuse to sign the report, but then you must provide a written explanation of your refusal.

The Graduate Program Director will review and sign off on each student's report. These progress reports are kept in your file as not only an indication of your progress but also as a written record should any conflict arise. All NSERC award holders must also submit the form to graduatefunding.gps@mcgill.ca each year by August 15th in order to retain their funding for the following year. For more information on the progress tracking policy, please see <http://www.mcgill.ca/gps/students/research-tracking>.

THE MSc FIRST-YEAR PRESENTATION

The Seminar Coordinator (one of our faculty members), coordinates the MSc presentations.

Item 20:

"MSc1 students must submit a written statement of their proposed thesis research to the Department by March 1st (November 1st for January entrants) and give a

public presentation (~ 20 minutes in duration) of their plans to the Department, followed by questions, later in the month.

The purpose of the MSc presentation is to ensure that students have developed a research proposal early in their program and have a chance to get initial feedback on the project design and preliminary results. The presentations last 20 minutes each, including time (about 5 minutes) for questions. All members of the Department are encouraged to attend. Although there is no formal evaluation of the MSc presentations, they are required for fulfillment of the MSc degree.

THE PRELIMINARY PhD ORAL EXAM

The preliminary PhD oral examination or “comps” is required early in the doctoral program according to the EPS Graduate Program Constitution.

14:

“PhD2 students take a PhD Comprehensive Oral Examination near the end of their second semester if they started in September and near the middle of their second semester (October 15th - November 15th) if they started in January. In preparation for this examination the student must submit a written research proposal, normally the PhD thesis topic, to their committee by March 1st for September entrants and September 30th for January entrants. The written proposal must be prepared independently of the Supervisor, although the Supervisor may have provided advice in the scientific design of the project. Provided the committee considers the written proposal acceptable, the proposal and the science associated with it are the subject of the oral examination. The examination may include questions pertaining to the Earth Sciences in general, in addition to ones related specifically to the thesis proposal. Each graduate student is expected to demonstrate a knowledge base equivalent to that taught in our 100-level courses and/or EPSC 201 (Understanding Planet Earth) during this exam. During this exam the student is expected to demonstrate numerical competency, especially in the methods required for their own research.”

Item 15:

“The PhD Comprehensive Oral Examination is conducted by a committee, distinct for each student, consisting of 5 faculty selected by the Supervisor in consultation with the Director of Graduate Studies. This committee examines the candidate orally and, based on its assessment of the examination and the written proposal, as well as the student's academic record, recommends either that the student has passed the examination, or that he/she has failed but may retake the examination, or that the student must take a written examination, or that (in the case of a second failure) the student has failed and must withdraw from the doctoral program. The committee will provide the student with a written evaluation of the exam suggesting areas of the student's knowledge that need improvement and ways of improving that knowledge, such as guided reading or taking a formal course.”

Item 16:

“If a student chooses to retake the PhD Comprehensive Oral Examination he/she must submit a new written proposal, which may be a revised version of the original one, by the beginning of the following semester and take the oral examination before the end of that semester. Under most circumstances the examining committee will be the same as for the first examination.”

The main purpose of the PhD preliminary oral exam is to ensure that the student is truly prepared and competent to continue in the doctoral program. Not only does the examination test your knowledge and ability to design and articulate your research intent, but also your ability to think critically. Much of the questioning targets your ability to think “on your feet” and to make links between different themes in the Earth and planetary sciences. The examining committee is also interested in determining the depth and breadth of your knowledge base in your specific field of research and more generally.

Preparation

In order to prepare for the preliminary oral exam, you must first compose your thesis proposal. Be aware that anything that is included in your thesis proposal, particularly the underlying scientific principles, is fair game for questioning in your exam. Consequently, it is prudent to write a succinct proposal and eliminate extraneous information. Make sure that you are extremely familiar with its content, including the necessary analytical techniques. After it is written, you are required to circulate the proposal to the members of your examination committee, usually at least one month in advance of your scheduled exam.

You can discuss selection of your exam committee with your research supervisor and will be informed of its final composition by the Director of Graduate Studies. After the committee members have had a chance to peruse your proposal, you should make individual appointments with them to discuss the proposal and the exam. Timing and organization are critical; committee members cannot be of much help to you during your preparation if you plan a meeting a few days before the exam. Often members of the committee will give you suggestions to improve your proposal. You may choose to incorporate their suggestions and circulate the revised version. Several faculty members may also tell you in which domains of the Earth and planetary sciences they will focus their questioning. Heed them carefully. They might even give you a sample of their questioning style. During your meeting, you can also ask them for advice on which areas you should concentrate your preparation. The exam questioning will focus mainly on the scientific principles which underpin the proposal. However, you should expect some questions designed to ensure that you have a firm knowledge of the basic background geology/geochemistry/geophysics associated with your research.

The PhD preliminary oral examination is an important qualifying hurdle that requires careful preparation, organization and a significant preparation-time commitment. There are several strategies that can help. You may choose to TA a course that is relevant to your research. You may audit an undergraduate course in case your background is lacking in a given area. If you are not accustomed to the oral format of the exam, you could form a “mock” oral committee with your colleagues from various disciplines, give them your research proposal and arrange a time to give them a brief presentation (20 minutes) and accept questions as though it were the real thing. To gain confidence in the oral format before the exam, you might consider giving a talk in any of the venues available within the Department (Section 17) or at a scientific meeting.

Format

Normally, the student is asked to leave while the chair of the exam and committee deliberate over the order of examiners. The entire exam is overseen by the chair of the committee. The student is expected to give a brief presentation that summarizes the thesis proposal. Questioning begins, usually with the committee member whose own research is most distant from that of the student. Each questioner is given a 20-minute time slot. The chair will signal when the period is over and indicate from which examiner the next round of questioning will come. The chair himself/herself is also an examiner and will have a turn at asking questions. If deemed appropriate during the exam, the chair may decide to allow a short recess. The research supervisor is normally the final examiner. A second round of questioning will be offered to the examiners by the chair. Afterwards, the student is asked to leave while the committee deliberates the outcome. The entire exam is strictly a closed affair with only you and your examination committee.

Strategies

During the exam, if you have not understood an examiner’s question, ask him/her to repeat it. Instead of rushing to give a response, take your time to answer as fully as possible. Use the blackboard liberally to clarify the question or to illustrate your response. Be prepared to face different styles of questioning even from the same examiner. The examiners may continue on a single narrow theme to determine where your limits of knowledge lie. Alternatively, they may cut you off if they detect that you are competent in a given line of questioning. If you don’t know the answer to a question, try to follow the train of thought within the question and address it as best you can. If you really haven’t got a clue or have drawn a blank, say so. If you are guessing, say so, and provide the arguments that led you to your conclusions. Try to let the examiners see your own train of thought in formulating an answer. They are not interested in your ability to retain trivia, but in your thinking process.

Evaluation and Possible Outcomes

Normally the chair of your committee will give you the final decision immediately after a few minutes of deliberation, so stay near the examination room. Currently the possible outcomes are: pass, or fail with chance to retake the exam. Some committees may advise or require the student who has passed to take additional courses to strengthen an existing area of weakness.

In the event of a failure, one retake of the exam (in whole or in part) is allowed. The grade of HH will be entered on the student's record as a placeholder until the outcome of the second exam is determined. The student will be informed of the failure and of the conditions relating to the retake; at this time the student should discuss options with their supervisor(s). For more information, please see the "Failures" section of the PhD Comprehensives Policy at http://www.mcgill.ca/study/2015-2016/university_regulations_and_resources/graduate/gps_gi_guidelines_policies_phd_comprehensives_policy.

If the student fails the retake, they will be given a grade of F and will be withdrawn from the PhD program as per the Failure Policy (see above link).

DEADLINES, DEADLINES AND MORE DEADLINES!

While at McGill there will be numerous times when you must meet a deadline, either a departmental deadline or a university deadline. Perhaps the best examples of these deadlines are the thesis submission deadlines (discussed in Section 21). The deadlines are almost never flexible and you are responsible for meeting these deadlines. In some cases you may need input from your supervisor(s) to meet a deadline; an example of this is the need for your supervisor(s)'s approval to submit a MSc or PhD thesis. In such cases you need to provide all necessary documentation (e.g., your thesis) to the supervisor(s) at least two weeks (14 days) in advance of the deadline unless you and your supervisor(s) have previously agreed upon another time frame.

18. TRANSFER WITHIN THE GRADUATE PROGRAMS

According to the Graduate Program Constitution, transfers within the graduate programs are possible.

MSc to PhD (fast-tracking):

Item 21:

"A student may apply to transfer from the MSc program into PhD2 at the end of

MSc1 if he/she has taken 4 courses and has a GPA of not less than 3.5, with no course grade lower than 3.0 (B). In selected cases students who have completed 3 courses may request to be fast-tracked, but they must provide compelling reasons as to why they could not finish 4 courses in their MSc1 year. Criteria that will be considered in assessing such an application are the grades and academic level of the courses taken and the progress reports from the Thesis Advisory Committee.”

A student who is “fast-tracking” from MSc to PhD must submit a fast-track application through uApply for the PhD program. This application must specifically be opened for the student by Kristy, so the student and supervisor should inform her of the intention to back-track as early as possible in order to ensure that application deadlines are met. No fee is levied, and no additional transcripts or letters are necessary. This program change requires supervisor support, and the Director of Graduate Studies should be informed. More information can be found at <http://www.mcgill.ca/gps/students/progress/fast-track>.

PhD to MSc (back-tracking):

Item 17:

“A PhD1 or PhD2 student may transfer to a terminal MSc program (i.e., they cannot later enter the PhD program) at any time. Courses taken in the PhD program are in this case creditable towards the MSc requirements provided they meet the criteria for the MSc program.”

Item 18:

“A student who fails the PhD Comprehensive Oral Examination may, on the recommendation of the Examining Committee, apply to transfer into a terminal MSc program (i.e., they cannot later enter the PhD program). Courses taken in the PhD program are in this case creditable towards the MSc requirements provided they meet the criteria for the MSc program.”

A student who is “back-tracking” from PhD to MSc must submit a back-track application through uApply for the MSc program. This application must specifically be opened for the student by Kristy, so the student and supervisor should inform her of the intention to back-track as early as possible in order to ensure that application deadlines are met. No fee is levied, and no additional transcripts or letters are necessary. This requires permission from the Director of Graduate Studies, so a case must be made by the student’s supervisor.

It is important to note that a student who back-tracks *cannot* be re-admitted into the PhD program in EPS after their MSc is complete (although a PhD in another department may be possible). More information can be found at <http://www.mcgill.ca/gps/students/progress/fast-track>.

19. ORAL PRESENTATIONS WITHIN THE DEPARTMENT

Every graduate student must give at least one oral presentation internally in order to be considered for teaching assistantships and departmental scholarships in the subsequent academic year. These are great opportunities to receive scientific feedback, to “test drive” a presentation destined for an upcoming scientific meeting, and to practice your presentation skills. The following venues count towards fulfilling this requirement:

- MSc Presentations
- Preliminary PhD Oral Exam
- Yearly PhD Presentations
- PhD Oral Thesis Defence

To receive credit for your presentation, send an email message to Don Baker (don.baker@mcgill.ca) with the time, title and venue of your talk, after the fact.

20. PREPARATION OF YOUR THESIS AS A DOCUMENT

GUIDELINES FOR THESIS PREPARATION

Regardless of the thesis format (traditional versus manuscript-based), you must comply with the “Guidelines for Thesis Preparation” as outlined by the Graduate and Postdoctoral Studies Office. It is available on the web (<http://www.mcgill.ca/gps/students/thesis/guidelines>). You must get the most recent copy of this document as its contents change episodically. It includes general comments, thesis specifications, the manuscript-based thesis, thesis formatting and withholding your dissertation (e.g., for sensitive content).

TRADITIONAL VERSUS MANUSCRIPT-BASED THESIS

Your thesis can be submitted either in classical format or as a collection of manuscripts that is a combination of papers already published, submitted for publication or to be submitted for publication. Consult with your research supervisor. The choice of a traditional thesis versus a series of articles for publication is a subjective one with advantages and disadvantages for each option. In the long run, most students find that writing a manuscript-based thesis saves time since it does not need to be rewritten or re-formatted for subsequent publication although, initially, it does take longer to write it succinctly for publication. Even if several individual manuscripts within the thesis have been published, it is no guarantee of thesis success. A manuscript-based dissertation will go through the same rigorous critical examination as would a classical thesis.

To accommodate the manuscript-based thesis, the Graduate and Postdoctoral Studies Office has set very specific instructions (found at <http://www.mcgill.ca/gps/thesis/guidelines/preparation>). The main requirements are:

- to include connecting texts to form logical bridges between the different papers
- to conform to all the other requirements for thesis preparation (unifying introduction, literature review, unifying conclusion and summary)
- to include supporting material in appendices
- to make a statement of your original contribution and that of your co-authors
- to obtain signed waivers from co-authors and publishers.

If, in the examiners' opinion, the thesis does not conform to the guidelines, re-submission of an amended version may be required. A co-author of any component of a manuscript-based thesis cannot serve as an external examiner.

21. SUBMITTING YOUR THESIS FOR EVALUATION AND/OR DEFENCE (INITIAL SUBMISSION)

<p>The "Thesis Preparation and Submission Guidelines" are absolutely essential. The document is available online at http://www.mcgill.ca/gps/students/thesis/guidelines. This section of the handbook cannot replace the official guidelines, but does emphasize the highlights.</p>
--

Plan ahead. All forms must be completed and submitted along with your thesis. This means that your supervisor must have chosen and secured the examiner(s) (with their agreement) by the time you are ready to submit. For more information on examiners please see <http://www.mcgill.ca/gps/thesis/guidelines/examination>.

An MSc thesis only requires one examiner (the external examiner chosen by the supervisor). The examiner's qualifications are that he/she be sufficiently knowledgeable in the field to evaluate the thesis (although not necessarily working in the same field) and not be the supervisor nor on the advisory committee. He/she can be from any Faculty or department from within McGill, including Earth & Planetary Sciences, as long as there is no conflict of interest (see the Conflict of Interest Checklist on the second page of the form found at http://www.mcgill.ca/gps/files/gps/nomination_of_examiners_and_thesis_submission_form_final_october_2014.pdf).

A PhD thesis requires two examiners, one internal examiner (not the supervisor) and an external examiner. The internal examiner should be someone from our department, and may be someone from the advisory committee. The internal examiner **must** attend the oral defence. The external examiner must be a specialist in the field, have no conflict of interest, and not have an academic appointment at McGill. Ideally the external examiner would be someone who has had a reasonably long record of evaluating theses; they are apt to give your dissertation a fair assessment in comparison with others they have examined. Once again, please use the checklist associated with the thesis submission form (link above) to check on possible conflicts of interest before finalizing the choice of external examiner. Graduate Studies will re-check when they receive the form. This external examiner does not have to attend the defence.

Deadlines

Submission deadlines are posted on the web at <http://www.mcgill.ca/gps/thesis/deadlines>. Currently they are:

<i>Initial Submission</i>	<i>Final Submission</i>	<i>Additional Session</i>	<i>Thesis Evaluation</i>	<i>Graduation</i>
Aug 15	Dec 15	Summer	Fall	February
Dec 15	Apr 15	Fall	Winter	June
Apr 15	Aug 15	Winter	Summer	October

In this case both the initial and final submission dates are hard deadlines.

If you do your initial submission long before the deadline then you could still make the final submission deadline in that same semester and thus never have a Thesis Evaluation semester. For example, for February graduation, say you did your initial submission in May or June (rather than waiting all the way to the August 15 deadline to submit), and everything went quickly and smoothly with your examiners and corrections--you could still make the final submission deadline of August 15. This means that your initial and final submissions are done in the same semester (during which you were registered as Additional Session) and you will not need a Thesis Evaluation semester. Below are those possibilities:

<i>Initial Submission</i>	<i>Final Submission</i>	<i>Additional Session</i>	<i>Thesis Evaluation</i>	<i>Graduation</i>
Apr 16 – Aug 15	Aug 15	Summer	None	October
Aug 16 – Dec 15	Dec 15	Fall	None	February
Dec 16 – Apr 15	Apr 15	Winter	None	June

In this case only the final submission dates are hard deadlines, but recognizing that external examiner's reports can take anywhere from 6 to 10 weeks (not even

counting delays!) to be returned, it is strongly suggested that MSc students make their initial submission at least two months before the final submission deadline and PhD students make their initial submission at least three months before the final submission deadline. You may be lucky with swift external examiners, but don't count on it, especially during the summer months when many are off doing field work.

So whenever you are ready to submit, please do!! Don't feel that you should or have to wait for the deadlines--theses will process faster when not in the crunch time caused by those deadlines.

Several documents must accompany your initial thesis submission; they are available at <http://www.mcgill.ca/gps/thesis/guidelines/initial-submission#forms>. All of these are fillable PDFs, but most require signatures. **Don't wait until the last minute to let your supervisor or the Director of Graduate Studies know that you are submitting and need their signature!** If possible, a week's notice is appreciated. It is also a good idea to leave a copy of these forms with Kristy in the main office just in case. Your initial submission requires sending a single email containing four PDFs – your thesis and the three required documents – to either mastersthesissubmission.gps@mcgill.ca or doctoralthesissubmission.gps@mcgill.ca, depending on your program.

Plan for external thesis examination to take a minimum of 6-8 weeks for the MSc and 8-10 weeks for the PhD. Delays can be caused by submission during busy periods in the academic year, both for GPS and for your external examiner. You can check on the status of your thesis with Kristy in the main office.

Final reports from the internal and external examiners must reach GPS one week before the defence with a passing grade for a PhD oral defence to continue as planned.

Please note that meeting the suggested deadlines for initial submission does not guarantee graduation (although missing them means that you will not get to take advantage of the reduced fees of a Thesis Evaluation semester). They are suggested deadlines that should allow for enough time for the external examiner to submit their report to GPS, and for the student to then make their corrections and submit their final copy of their thesis online. Neither GPS nor EPS is held responsible for delays caused by the external examination process. Conversely, even if you do not make the suggested deadlines, a rapid return by the external examiner and quick corrections on your part may result in you finishing in time to have your degree granted earlier than you expected!

Readmission

If you are not currently registered at the time that you wish to submit your initial

thesis (due to having passed your time limitation or because you have not been registering due to personal reasons), you will need to request to be readmitted in order to submit your thesis. Please see the instructions and links listed under *Time Limitation* in Section 14 of this handbook.

22. MSc FINAL PRESENTATION

All MSc students should present the results of their thesis work to the Department towards the end of their fourth semester (or near the beginning of the following one), when the student's research should be near its end.

This presentation should be a public seminar of at least 25 minutes (with 5 minutes for questions following the presentation), but the student may find it easier to summarize their research in a 50-minute presentation.

23. PhD ORAL THESIS DEFENCE

You must look up the guidelines for Doctoral Oral Examinations online at <http://www.mcgill.ca/gps/thesis/guidelines/oral-defence>. This handbook only provides the highlights and is inadequate on its own.

It is advisable for students and their supervisors to begin planning the composition of the defence committee directly after the initial thesis has been submitted. An oral defence form, stating the earliest date that the defence can be scheduled, will be sent to the EPS main office once the thesis has been sent to the external examiner (usually about a week after submission). Kristy will inform you of this date. You can contact Kristy to schedule a defence date, keeping in mind that GPS requires a minimum of *four weeks'* notice. In the summer, six weeks' (or more) notice is best, due to the difficulty of finding a Pro-Dean at that time or year. It is important to note that reports from the internal and external examiners must be received by GPS at least one week prior to the defence date so that they can be communicated in time to all oral defence members. If the reports are not in by then, the defence will be postponed, so scheduling your defence before the date listed on the defence form (i.e. before the date the reports are due back) is a bad idea!

Kristy will also email you a template for a PhD defence booklet. You will be asked to enter your own information (thesis abstract, publication list, brief curriculum vitae) and return it to her. This booklet is used as an advertisement/souvenir for your defence.

Oral Defence Committee

After discussing the composition of your defence committee with your supervisor and confirming it with the Director of Graduate Studies, please email Kristy the names and contact information of its members so that she can begin scheduling a defence date. Keep in mind that GPS requires a minimum of two weeks' notice. Please note that the internal examiner *must* be included in the committee, although the external examiner does not.

A majority of the committee members must not have been closely involved with the thesis research. Also, if a student is co-supervised and if both supervisors plan to participate in the defence, choosing a "closely involved" Internal Examiner will necessitate a 7-member oral defence committee to achieve a majority of members who were not closely involved with the work.

Please consult the following table for the accepted possible compositions of an oral defence committee (note that the total membership, including all close and not close members, must be either 5 or 7):

Chair	Supervisor	Internal Examiner		External Member	Other Member		Total	
		close	not close		close	not close	close	not close
1	1	1	n/a	1	0	1	2	3
1	1	n/a	1	1	1	0	1	3
1	1	n/a	1	1	0	1	1	4
1	2	n/a	1	1	0	0	2	3
1	2	1	n/a	2	0	1	3	4

The Defence

In the oral defence, the candidate is expected to give an introductory 20-minute presentation that emphasizes the contributions of the dissertation to existing knowledge in the presentation format of a scientific meeting. Chaired by the Pro-Dean (a faculty member from another department chosen by Grad Office) in 20-minute time slots, each member of the examining committee will question the student on the thesis, presentation, and also on related subjects. Many of the strategies you used in your preliminary PhD oral exam can be used again during your final defence (see Section 15). Typically, there is one full round of questioning followed by an invitation from the Pro-Dean for additional questions from the examining committee. Afterwards, the Chair will invite the audience to question the candidate as well. At the end of the question period, the candidate and audience leave while the committee discusses examiners' comments, the thesis and the entire student record. The final PhD oral defence is open to all graduate students and members of faculty. A successful defence is followed by a wine and cheese reception.

24. INTERNAL AND EXTERNAL THESIS EVALUATION REPORTS

Evaluation of the MSc and PhD thesis are identical in format. The evaluation form that each examiner will use contains the following criteria:

Each category is assessed as excellent, very good, good, satisfactory, or unsatisfactory where applicable.

1. Grasp of subject, powers of criticism and awareness of previous work
2. Resourcefulness, alertness to significance of findings
3. Diligence, care and technical skill in research
4. Organization of findings
5. Quality of presentation (coherence, lucidity, grammar, style, freedom from typographic errors)
6. Overall judgment: Pass or Fail
7. External and internal examiners are invited to provide comments explaining their evaluation of the thesis as well as any suggestions for improvements.

The possible final outcomes are:

- Pass, with minor changes recommended
- Fail, in which case the student will be offered the option to either revise and resubmit the thesis, challenge the decision, or withdraw the thesis. More information on these options will be provided to the student and supervisor in the event of a fail.

25. FINAL THESIS SUBMISSION

The “Guidelines for Thesis Submission” (found online at <http://www.mcgill.ca/gps/students/thesis/guidelines>) include instructions for final thesis submission. After all required corrections have been made in consultation with the research supervisor, the student must submit their final thesis copy online (more information at <http://www.mcgill.ca/gps/thesis/guidelines/final-submission>). The supervisor will receive a prompt to approve the thesis online. If you are co-supervised, both supervisors have to approve the final thesis online. It is important to note that if you have a co-supervisor who is not a McGill faculty member and therefore cannot log in to approve the thesis, they must send an email to thesis.gps@mcgill.ca to request that the thesis be approved on their behalf. Remember that the final thesis submission deadlines listed in Section 21 must be met in order to graduate at those convocations, so make sure that your supervisors are informed and given plenty of time (2 weeks or more) to approve your thesis!

Make the most of your graduate program in the Department of Earth & Planetary Sciences. You will spend a large proportion of your time within these walls; it is worth investing in the graduate student community. Not only will it help you in your own research and self-development, but it will also benefit your current colleagues and graduate students to come. Since the graduate student population is one of the principal driving forces for research in the Department, they can make a positive contribution to the Department by active participation during their time in EPS.

Hopefully, this handbook has provided you with some of the tools and resources for productive years as a graduate student.

Original version: 26 August 1998, compiled by Sam Alpay
Revisions 1999-2005: Sam Alpay, Andrew Hynes, A.E. Williams-Jones, Kristy Thornton
Subsequent updates: Kristy Thornton

Suggestions for modifications and/or additions to the handbook can be emailed to Kristy Thornton (kristy.thornton@mcgill.ca).

APPENDIX 1

REGISTRATION BREAKDOWN

1. MSc program – Students beginning in the Fall semester

MSc1 – Fall	REGN RCGR EPSC 697 2-3 500+ level courses
MSc1 – Winter	REGN RCGR EPSC 698 1-2 500+ level courses
MSc2 – Fall	REGN RCGR EPSC 699 (if you haven't done 4 courses already, add your last course here!)
MSc2 – Winter (and all following semesters)	REGN RCGR

2. MSc program – Students beginning in the Winter semester

MSc1 – Winter	REGN RCGR EPSC 697 2-3 500+ level courses
MSc1 – Fall	REGN RCGR EPSC 698 1-2 500+ level courses
MSc2 – Winter	REGN RCGR EPSC 699 (if you haven't done 4 courses already, add your last course here!)
MSc2 – Fall (and all following semesters)	REGN RCGR

Please note that if you have not submitted by the end of your MSc3 year, you will be subject to Time Limitation and will not be allowed to register for the following semesters until you submit your initial copy of your thesis.

3. PhD program – Students beginning in PhD1 in the Fall semester

PhD1 – Fall	REGN RCGR 2 500+ level courses
PhD1 – Winter	REGN RCGR 2 500+ level courses
PhD2 – Fall	REGN RCGR EPSC 700D1 1-2 500+ level courses
PhD2 – Winter	REGN RCGR EPSC 700D2 1 500+ level course (until you have completed 2 courses)
PhD3 – Fall (and all following semesters)	REGN RCGR

4. PhD program – Students beginning in PhD1 in the Winter semester

PhD1 – Winter	REGN RCGR 2 500+ level courses
PhD1 – Fall	REGN RCGR 2 500+ level courses
PhD2 – Winter	REGN RCGR 1-2 500+ level courses
PhD2 – Fall	REGN RCGR EPSC 700 1 500+ level course (until you have completed 2 courses)
PhD3 – Winter (and all following semesters)	REGN RCGR

5. PhD program – Students beginning in PhD2 in the Fall semester

PhD2 – Fall	REGN RCGR EPSC 700D1 1-2 500+ level courses
PhD2 – Winter	REGN RCGR EPSC 700D2 (if you haven't done your other course already, add it here!)
PhD3 – Fall (and all following semesters)	REGN RCGR

6. PhD program – Students beginning in PhD2 in the Winter semester

PhD2 – Winter	REGN RCGR 1-2 500+ level course
PhD2 – Fall	REGN RCGR EPSC 700 (if you haven't done your other course already, add it here!)
PhD3 – Winter (and all following semesters)	REGN RCGR

One of the two courses that PhD students are supposed to take in their PhD2 year could be taken in the following year if there are no relevant courses being offered during the PhD2 year.

Please note that if you have not submitted by the end of your PhD7 year, you will be subject to Time Limitation and will not be allowed to register for the following semesters until you submit your initial copy of your thesis.

APPENDIX 2

GRADUATE PROGRAM CONSTITUTION

1. The Department will have a Graduate Admissions Committee, consisting of 2-3 members, appointed by the departmental Chair, in consultation with the Director of Graduate Admissions, whose functions are, in general terms, to consider whether applicants are admissible and, if so, at what level, and to oversee the bureaucratic aspects of graduate application and admission.
2. Membership of the Graduate Admissions Committee is determined by the departmental Chair in consultation with the Chair of the Admissions Committee. At least two members must change every year and no member except the Chair may serve more than two successive years.
3. Students with only a BSc may be admitted directly into the PhD program, at the PhD1 level.
4. Admission to the PhD program directly from a Bachelors degree will require a CGPA of 3.5 (or equivalent) in the prior two full-time years of academic study. Students with a CGPA below that will be admissible in the first instance only into the MSc1 year ('MSc1').
5. Admissible doctoral applicants with an MSc (or a qualification equivalent to a McGill MSc) enter the PhD2 year, unless their MSc is not considered equivalent to a McGill MSc or is in a field significantly different from the subject of their proposed doctoral study, in which case they enter PhD1.
6. Admissible MSc applicants, or those desiring the PhD but whose grades are too low for direct admission, enter MSc1.
7. Students entering the Department at the MSc1 or PhD2 level do so with an identified supervisor. Supervisors are assigned by the Admissions Committee, following consultation with the faculty concerned.
8. During their first week at McGill new students will meet with a Preliminary Advisory Committee to discuss the student's goals and how to best achieve them. The committee will help the student prepare for their research by making written recommendations concerning knowledge that the student needs to gain in order to be successful in their graduate studies at McGill and in their professional career. This committee will consist of the student's supervisor and three other members of the Department (one being an expert in a field similar to that studied by the student and the other two from different fields).
9. Each graduate student has a Thesis Advisory Committee consisting of the Supervisor and one (in the case of MSc) or two (in the case of PhD) other faculty member(s), selected by the Supervisor in consultation with the student. The function of the Thesis Advisory Committee is to supply regular advice to the student and to monitor his/her progress. It must meet with the student at least once a year and submit a written report to the Department on the student's progress after each meeting.

10. New graduate students are expected to attend the majority of departmental seminars during their first year. All other graduate students and post-docs are encouraged to frequently attend departmental seminars. These seminars are important for broadening exposure to the range of current Earth science research.
11. Students entering at the PhD1 level must take a minimum of 6 courses (18 credits) by the end of their PhD2 year. Assignment of courses in the PhD1 year is by the Thesis Advisory Committee.
12. In the PhD2 year, students must take a minimum of 2 graduate-level courses (6 credits).
13. With the exception of PhD students in their 1st and 2nd semesters at McGill, all PhD students are required to give one talk to the entire department each academic year. The talks will be ~20 minutes in length and will be given over lunch time during the academic year. The goal of these presentations to keep everyone abreast of the research performed in the Department and to provide an opportunity for graduate students to practice giving talks to non-experts in their field. Note that presentations to individual research groups will not fulfill this requirement.
14. PhD2 students take a PhD Comprehensive Oral Examination near the end of their second semester if they started in September and near the middle of their second semester (October 15th - November 15th) if they started in January. In preparation for this examination the student must submit a written research proposal, normally the PhD thesis topic, to their committee by March 1st for September entrants and September 30th for January entrants. The written proposal must be prepared independently of the Supervisor, although the Supervisor may have provided advice in the scientific design of the project. Provided the committee considers the written proposal acceptable, the proposal and the science associated with it are the subject of an oral examination conducted late in April (December, for January entrants). The examination may include questions pertaining to the Earth Sciences in general, in addition to ones related specifically to the thesis proposal. Each graduate student is expected to demonstrate a knowledge base equivalent to that taught in our 100-level courses and/or EPSC 201 (Understanding Planet Earth) during this exam. During this exam the student is expected to demonstrate numerical competency, especially in the methods required for their own research.
15. The PhD Comprehensive Oral Examination is conducted by a committee, distinct for each student, consisting of 5 faculty selected by the Supervisor in consultation with the Director of Graduate Studies. This committee examines the candidate orally and, based on its assessment of the examination and the written proposal, as well as the student's academic record, recommends either that the student has passed the examination, or that he/she has failed but may retake the examination, or that the student must take a written examination, or that (in the case of a second failure) the student has failed and must withdraw from the doctoral program. The committee will provide the student with a written evaluation of the exam suggesting areas of the student's knowledge that need improvement and ways of improving that knowledge, such as guided reading or taking a formal course.

16. If a student chooses to retake the PhD Comprehensive Oral Examination he/she must submit a new written proposal, which may be a revised version of the original one by the beginning of the following semester and take the oral examination before the end of that semester. Under most circumstances the examining committee will be the same as for the first examination.
17. A PhD1 or PhD2 student may transfer to the MSc program at any time. Courses taken in the PhD program are in this case creditable towards the MSc requirements provided they meet the criteria for the MSc program.
18. A student who fails the PhD Comprehensive Oral Examination may, on the recommendation of the Examining Committee, transfer to a terminal MSc program (i.e., they cannot later enter the PhD program) at any time. Courses taken in the PhD program are in this case creditable towards the MSc requirements provided they meet the criteria for the MSc program.
19. A student in the MSc program is required to take at least 4 graduate courses (12 credits) during his/her 2 years of graduate study.
20. MSc1 students must submit a written statement of their proposed thesis research to the Department by March 1st (November 1st for January entrants) and give a public presentation (~20 minutes) of their plans to the Department, followed by questions, later in the month.
21. A student may apply to transfer from the MSc program into PhD2 (fast-track) at the end of MSc1 if he/she has taken 4 courses and has a GPA of not less than 3.5, with no course grade lower than 3.0 (B). In selected cases students who have completed 3 courses may request to be fast-tracked, but they must provide compelling reasons as to why they could not finish 4 courses in their MSc1 year. Criteria that will be considered in assessing such an application are the grades and academic level of the courses taken and the progress reports from the Thesis Advisory Committee.
22. MSc2 students must present a summary of their research during the second semester of their second year (a ~ 20 minute talk). During this presentation the student is expected to demonstrate numerical competency, especially in the methods required for their own research.
23. Any graduate student wishing to use the analytical facilities of the Department and of our sister universities must attend WHMIS training.

Andrew Hynes, 9 April 1993
Don R. Baker Revised 28 July 2016