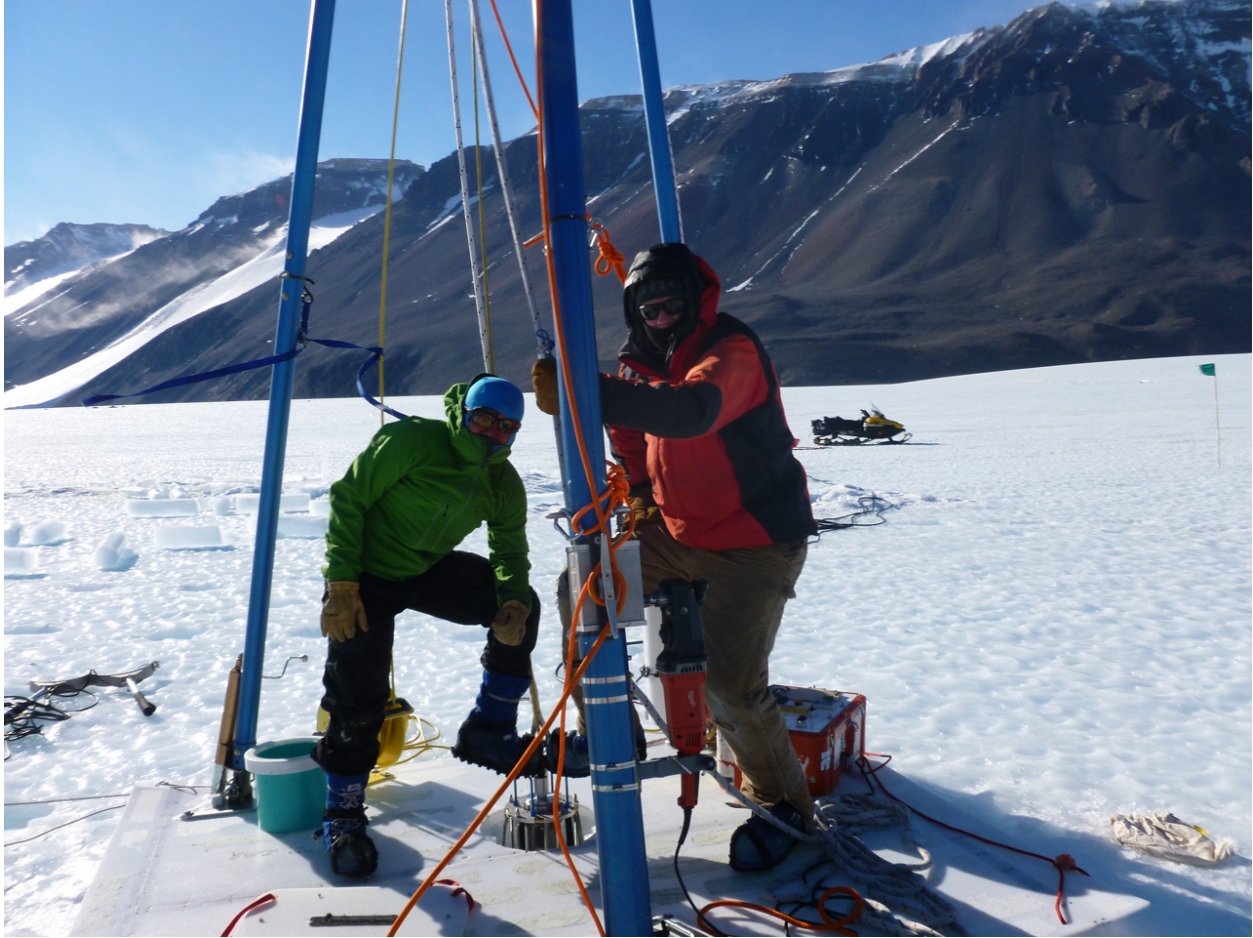


# THE GRADUATE STUDENT HANDBOOK 2022 - 23

## FACTS, INFORMATION AND REQUIREMENTS



**UNIVERSITY OF ROCHESTER**

**DEPARTMENT OF EARTH AND ENVIRONMENTAL SCIENCES**

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## WELCOME TO EES!

Welcome to all incoming graduate students, and welcome back to all of you who have been here before. The purpose of this handbook (which is updated every summer) is to provide you with answers to some of the more commonly asked questions; to inform you of common deadlines and fees; and to lead you through the department's requirements for M.S. and Ph.D. students. We hope that you will find this handbook useful as a guide and reference.

### The Graduate Advisors:

#### For the Department:

Director of Graduate Studies: Professor Vasilii Petrenko, Hutchison 228, 276-6094,  
vasilii.petrenko@rochester.edu

Programs Coordinator: Marissa Sette, Hutchison 227, 275-5713, msette@ur.rochester.edu

#### For AS&E; Graduate Education and Postdoctoral Affairs (GEPA):

Phone: (585) 275-4153

Email : ASEGEPA@rochester.edu

Lattimore 206

Dean of Graduate Studies: Nick Vamivakas - nick.vamivakas@rochester.edu

Assistant Director of Academic Operations: Jon Herington - jonathan.herington@rochester.edu

#### For the University:

Wallis 259

University Dean of Graduate Studies: Melissa Sturge-Apple

Manager of the Office of Graduate Studies: Gretchen Briscoe - gretchen.briscoe@rochester.edu

### Arrival and Orientation:

#### Departmental:

New students should set up a brief meeting with the department programs coordinator when they first arrive in the department. New students will also have an opportunity to meet with the director of graduate studies at the beginning of their first semester.

#### AS&E GEPA:

The Office of Graduate Education and Postdoctoral Affairs in Arts, Sciences & Engineering will host an orientation, with online and in-person components, for incoming graduate students. The orientation program is designed to introduce you to our graduate education team and current students, and to inform you of important policies and available resources at the University. While most programming is optional, please note that there will be required trainings to complete.

The University's learning management system, Blackboard, will be used to house online trainings and information sessions, along with links to important documents and University websites. **You will receive an email in early August letting you know to access the online orientation in Blackboard.** Additional programming may be announced prior to the start of the fall semester.

**General advice for getting started with your graduate program**

We don't expect first-year students to come here with a defined research plan, although some do. Your first two semesters here provide some opportunity to explore your interests and plans. The goal is for you, in consultation with your advisors, to devise course and research programs which are feasible and fit your own talents and aspirations. It is primarily your responsibility to consult with your primary advisor and develop a suitable program within the basic departmental guidelines described in this handbook.

Try to determine your initial advising committee (this can change later) by the end of your second semester. These faculty members (3-4 from within the department) will, in the case of Ph.D. candidates, conduct your qualifying exam, or for the Masters (2-3 from within the department) will be your defense committee or those responsible for reading your essay. One of these faculty members should be your Thesis Advisor and will be the primary person guiding your research. Meet with your thesis advisor regularly and keep them informed about your progress. This person will also guide you through your course work requirements. But we encourage all students to become acquainted with as many of the faculty members as possible during their first two semesters in residence.

## UNIVERSITY ADMINISTRATIVE AND LOGISTICAL MATTERS

### Net ID

This is needed to access university on-line services such as registration, health insurance information and payroll information, and can be obtained through the web site [www.rochester.edu/netid/](http://www.rochester.edu/netid/). You will need your Employee ID number (from your paycheck) or your student ID number. Contact the Information Technology Services Center (ITS) if you have any problems getting this set up. Their phone number is 275-2000 and their email address is [univithelp@rochester.edu](mailto:univithelp@rochester.edu).

### STUDENT I.D. CARD

Please go to the Department of Public Safety office located at 612 Wilson Boulevard to get your ID card.

Upon the beginning of your sixth year, your ID card becomes “deactivated”. In order for you to access facilities, such as the athletic center, you will need to go to the ID card Office to extend your graduation date.

### REGISTRATION

The University’s registration and related deadlines for the new academic year are posted in the main office or found at the following internet address:

<http://www.rochester.edu/registrar/>

Registration will be conducted in the UR Student system. You will need your net ID and password to access this site. Students can register on-line for most courses except for Reading courses. **All students should consult with their advisors before completing their on-line registration.** Remember that you must register before the deadline (9/14/22) even if your schedule is not finalized (or you will be fined \$160 for late registration). This is especially important for our international students because it can affect their visa status. “Adds” and “Drops” can be made during the early weeks of all semesters.

### HEALTH INSURANCE

All students must have health insurance coverage –either the Student Health Plan through the University or their own coverage. All students must document their choice each year. Students are responsible for paying for their own health insurance. The advisor / department covers the mandatory health fee for PhD students. Health insurance options can be accessed at <http://www.rochester.edu/uhs/>. You will need your Net ID and password. To complete the Health Insurance Enrollment/Waiver process, click on “Health Insurance for Students” in the pink box on the right side of the screen. If you have any questions about health insurance coverage, you can call an insurance advisor at 275-2637 or email them at [insurance@uhs.rochester.edu](mailto:insurance@uhs.rochester.edu).

To schedule an appointment at the University Health Center, please call 275-2662.

## LANGUAGE REQUIREMENTS

The Department requires that all graduate students be fluent in English reading, writing and speaking. Students undertaking field work overseas may want to become familiar with the relevant foreign language. Coursework in certain languages can be taken as a “**bridging course**” through the university and can be paid for with your tuition waiver; this requires permission from the Dean of Graduate Studies in the College. *Please see Undergraduate Credit Policy section on page 11 for more info.*

All incoming graduate students whose first language is not English and who will be teaching assistants in the coming year are required to be tested for their English proficiency. The Graduate Education and Postdoctoral Affairs office will help schedule this exam with you in August of the year before you begin TA-ing. It consists of a short oral interview. Failure in these exams or failure to take these exams will result in being asked to take an additional class in the Fall semester to prepare you for TA-ing at the university.

# STUDENT STIPENDS, TUITION WAIVERS, CREDIT HOURS AND TAXES, UNIVERSITY SUPPORT RESOURCES

## STUDENT STIPENDS

Financial assistance in the form of stipends is allocated on a yearly basis, with separate support for the academic year and the summer months. The department is committed to supporting PhD students for a period of 5 years, provided that students are in good academic standing and make good progress in their research and with the required program milestones. Support beyond 5 years is at the discretion of the primary research advisor. Ph.D. students are typically initially supported as teaching assistants, usually for the first year of their residence here. Support for the following years and for any summer months generally comes from research grants, administered by the student's research advisor.

## TUITION WAIVERS AND CREDIT HOURS

**PhD students:** All full-time PhD students should register for a minimum of 9 and no more than 12 credit hours if they are a teaching or research assistant. If your tuition waiver says 12 credit hours, you must not register for more than 12 credits or you will be responsible for the cost of the additional credits. Ph.D. candidates will, when possible, receive tuition waivers for no more than 90 credit hours total (90 is also the number of credit hours required for completion of the PhD degree). The recommended strategy for PhD students is to register for 9 credits per semester, which allows a 90-credit tuition waiver to last for 5 years. These credits can be made up from some combination of formal coursework, research credits (such as EESC 595), and the required department seminar, EESC 499 (1 credit per semester). **After reaching the 90-credit limit, PhD candidates are charged a continuation fee (presently about \$1,070 per semester) to maintain their full-time enrollment.** The student's research advisor may choose to pay the continuation fee for the student, depending on availability of funds.

Of the required 90 credit hours, no more than 30 credit hours may be accepted as transfer credit (on approval of the associate dean of graduate studies) for work previously taken at the University of Rochester or at another university. If you use transfer credits to satisfy Ph.D. requirements, your tuition waiver is reduced by an equivalent number of credit hours (i.e. you no longer have 90 hours of tuition waiver) [per University Regulations].

**M.S.** (plan A, B and 5<sup>th</sup> Year MS students) can, in some cases, receive partial to full tuition waivers. All first year Masters Students usually serve as teaching assistants as part of their departmental degree requirements; however, Masters Students do not receive stipends as teaching assistants. But they can be supported as research assistants if their advisor has such funds available.

Summer school courses are not covered by tuition waiver unless prior approval of the Associate Dean has been granted. Students covered by a partial tuition waiver will receive that percentage of tuition coverage for the number of credits in which they are enrolled, up to a maximum of 12 credits for PhD students (16 credits for M.S. students). For example, if you are granted a 75% tuition waiver for 12 credit hours, you will pay 25% of the tuition up to 12 credit hours and 100% of the tuition above 12 credit hours.

## PAYROLL, TAXES AND FORMS

Teaching and research assistantship income is taxable (a W-4 form has to be filed at the Payroll office). The W-4 form can be accessed at the HRMS site under "employee self-service". For non-resident aliens,

an online tax compliance system known as “GLACIER” has been implemented to help expedite filing of tax related paperwork. New international students will automatically be enrolled in the system. They will receive an email from [support@online-tax.net](mailto:support@online-tax.net) when they arrive on campus explaining the GLACIER system and which will contain a passcode that they can use to access the system. Once the passcode and instructions are received, the student can enter information and update it as needed (for example, when your funding changes). Failure to provide adequate information could result in taxes being withheld at the maximum withholding rate. To contact a UR Nonresident Alien Tax Specialist for assistance or questions, send an email to [glacier@hr.rochester.edu](mailto:glacier@hr.rochester.edu) or call the International Student Office at 275-2866 or the Payroll Office at 275-3483.

Direct deposit to your savings/checking accounts in local banks is also available. This can be done on-line with your Payroll Net ID by accessing the HRMS system at [www.rochester.edu/working](http://www.rochester.edu/working) and clicking on the HRMS icon on the left side of the screen.

Every student must also sign an “Intellectual Property Agreement”.

## **FINANCIAL AID**

The university provides only a limited amount of funds for graduate stipends. The rest of the graduate student support comes from research grants. If you are supported on a research grant, make sure that you and your advisor are clear about the work you are doing; the grant and your future support depend on it. Do not take financial support for granted; it is limited and only guaranteed for one year at a time. While there is very little that you can do to change the situation regarding university funds, there are several things that you can and should do to help us with the funding for your research.

## **OTHER FINANCIAL ASSISTANCE**

Scholarships and awards are offered to graduate students by various federal and private organizations. Some helpful web sites are [www.studentaid.ed.gov](http://www.studentaid.ed.gov) and our own University Financial Aid web site <https://enrollment.rochester.edu/financial-aid/>. Information is also available in the College Dean’s office in Lattimore 218.

## **RESEARCH GRANTS FOR GRADUATE PROJECTS**

There are several sources of funding available to you that you can apply for. The list below is not exhaustive – you should check with your advisor about options. Having your own funding helps to ensure that you have reliable financial support during your PhD, provides a higher measure of independence in your research, and is a great accomplishment to be able to put on your CV.

1. NSF graduate research fellowships (for US citizens only). Application materials can be downloaded from the NSF website at <http://www.fastlane.nsf.gov>
2. Sigma Xi Grants-in-Aid of Research – deadlines – March 15 and October 15. Applications can be downloaded from the Sigma Xi web site at <http://www.sigmaxi.org/about/news/giarOct.shtml>



3. Geological Society of America Research Grants – deadline February 1. Applications can be downloaded from the GSA website at <http://geosociety.org/grants/gradgrants.htm>
4. AAPG Grants-in-Aid – deadline January 31. Application materials can be downloaded from the AAPG website at <http://www.aapg.org/explorer/foundation/2009/01Jan.cfm>

If you are applying, you will need recommendation letters from more than one faculty member. Get your proposal and other necessary forms to the appropriate faculty members at least 2 weeks before the deadline – don't expect them to write letters for you on short notice!

## **STUDENT SUPPORT**

Students in need of support are encouraged to speak with their advisor or the department's graduate coordinator.

Students can also refer themselves and others to the CARE Network ([www.rochester.edu/care](http://www.rochester.edu/care)), an office dedicated to helping students understand what type of support they need and connecting them with the appropriate campus resource.

In addition, the University Counseling Center (UCC) provides individualized and group treatment to students with mental health and well-being concerns. Their services are free for full-time students who pay the mandatory health fee. To schedule an appointment, call (585) 275-3113 or visit the center on the second floor of the University Health Service building located at 738 Library Road on the River Campus.

## **EMERGENCY CONTACTS**

Call the Department of Public Safety at (585) 275-3333 or by picking up a direct dial Blue Light Emergency Phone on campus. For mental health emergencies, call Public Safety or the UCC 24/7 on-call professional at (585) 275-3113.

## DEGREE REQUIREMENTS – PhD Candidates

### BRIEF OVERVIEW OF PhD DEGREE REQUIREMENTS AND MILESTONES

The Department of Earth and Environmental Sciences offers the degree of Doctor of Philosophy (Ph.D.) in Geosciences. For the Ph.D. degree, university regulations require **90 hours** of credit for students coming in with a Bachelor's degree. We expect that  $\approx$  **36 hours** of these 90 hours are taken up with formal course work, with the remainder coming from Ph.D. research credits (mainly EESC 595: PhD Research). For students entering with an approved Master's degree and transferring credit (up to **30 hours**) from this degree, the pertinent figures are at least **60 hours** of total credit including approximately **24 hours** of formal course credit. Because the course work provides a foundation for your research, we expect most of the course work to be finished in the first 2 years.

Near the end of the first year of your PhD program, you are expected to submit a brief **1<sup>st</sup> year research progress report** (more details in following sections).

Serving as a **graduate teaching assistant (TA)** is another important part of our PhD program. You are required to serve as a TA for at least one semester, although most students do more.

The **Qualifying Examination** is a key milestone in the PhD program. This examination typically takes place during your 5th semester in the program, and involves writing a research proposal that is submitted to your exam committee, followed by an oral exam during which you present and defend the merits of your research proposal to the committee and also answer general scientific knowledge questions in areas broadly related to your topic of research. Once you pass the exam, you will be promoted to the status of "PhD Candidate". Depending on transfer credit/credit hours, a MS in Geological Sciences is also awarded. Full details on this exam are given in the sections below.

During your time as a Ph.D. candidate, you will be guided by a new advising committee, which by now will also include a faculty member from another department or an expert in your field from outside the University. Once your research is completed and the results reported in your dissertation (to the satisfaction of the committee) the **Final Ph.D. Examination (Ph.D. defense)** is the only step left between you and the Ph.D. degree. This examination consists of an oral presentation of your research – open to the public – which is followed by a closed oral examination administered by a faculty committee appointed by the Dean of Graduate Studies, usually your advising committee plus an outside chairperson.

Students are generally expected (although not absolutely required) to have between one and three papers submitted or in press in the leading journals in their field by the time of their defense.

### FIRST YEAR CURRICULUM AND EVALUATION FOR PhD STUDENTS

In general, 1<sup>st</sup>-year PhD students should be registering for 9 credits per academic semester (same as for students beyond their first year). 1<sup>st</sup> year curriculum should be determined in close consultation with the primary research advisor.

1<sup>st</sup>-year students must register for a 1<sup>st</sup>-year research course (EESC 505) in one of the semesters during their 1<sup>st</sup> year. The purpose of this course is to help ensure that PhD students get a good start on their PhD research during their first year. It is recommended that this course is taken for 4 credits, although taking it

for 1 credit is acceptable. For the purposes of credit accounting, if registering for 1 credit, this could take the place of either EESC 490 (Supervised teaching; note that students can still TA / receive TAsip even if they are not registered for this) or EESC 499 (Research Frontiers — our department seminar; students are still required to attend the seminars). The structure of this research course and associated evaluation is determined by the student's research supervisor. The course will be graded on an A – E scale.

It is recommended, but not required that 1<sup>st</sup> year students reserve at least 1 semester of TAing until a later year (i.e., we recommend that you do not TA both semesters in your 1<sup>st</sup> year, but rather leave at least some of your TAing until later years). This allows for more research time in the 1<sup>st</sup> year, and also ultimately provides a more qualified TA pool that would be better able to support advanced courses.

First-year students must submit a brief research report by August 15 (prior to the start of their 3<sup>rd</sup> semester), which will summarize their research objectives and progress over the first year, as well as briefly describe the proposed research going forward. The report must contain no more than 1-page of single-spaced text (Arial 11 font or another similarly-sized font), plus any references. The report may also include one figure or table if needed. The report should be prepared in close consultation with the student's primary advisor and submitted to the student coordinator (Marissa Sette) and the Director of Graduate Studies (DGS; Vas Petrenko).

A faculty review committee, consisting of the DGS, Department Chair and all advisors of 1<sup>st</sup>-year PhD students will meet near the end of August to review the performance of each 1<sup>st</sup>-year student, taking into consideration course performance as well as research performance based on the annual evaluation form, research course grade and the 1-page report. The committee will use a rubric (attached at the end of this handbook) to evaluate student performance, with possible outcomes being “good” (way to go, no significant problems), “satisfactory” (meeting most expectations, but improvement needed in some areas; feedback would be provided to the student), and “unsatisfactory” (not meeting expectations, significant problems, student would be placed on academic probation).

## **FORMAL COURSE REQUIREMENTS**

### **I. PREREQUISITES:**

You are expected to have taken the courses listed below as an undergraduate.

2 semesters of Calculus  
Differential Equations or Statistics or Linear Algebra  
2 semesters of Physics  
2 semesters of Chemistry

Students entering the PhD program with a focus on Geology are expected to have completed a program equivalent to a BS in Geology from the University of Rochester. This would include courses in:

Physical Geology  
Historical Geology  
Mineralogy (including Optical Mineralogy)  
Sedimentology and Stratigraphy  
Structural Geology  
3 elective (upper level) courses e.g. Geochemistry, Geophysics, Petrology, Paleontology or Paleomagnetism

### **Credit Policy with respect to Undergraduate Courses**

If you have not had the above courses, the sooner you take them the better. Note, however, that graduate students cannot take 100-level courses for credit. However, one 100-level or 200-level course can be taken as a **bridging course** with the permission of the Associate Dean; bridging courses are covered by your tuition waiver, but do not count toward your total required 90 hours of graduate credits. Any additional 200-level course that is taken as part of a graduate curriculum must be certified by the instructor to have some content at the graduate level; such 200-level courses, when permitted, carry the usual 4 credit hours. There is also a limit of two 200-level courses that can be taken within the normal course of a graduate student curriculum. 100 or 200-level courses that do you need as background can also sometimes be audited with permission from the instructor. Talk to your primary advisor and the department graduate advisor to work out a program.

## II. GRADUATE COURSES FOR PH.D. STUDENTS

PhD students are expected to complete  $\approx 9$  formal graduate courses ( $\approx 36$  credit hours; less if transferring approved graduate courses in from a prior program you completed). Most of these courses should be completed in the first 2 years. The course plan should be put together by the student in close consultation with his/her primary advisor and possibly the advising committee. The graduate coursework serves to provide a useful foundation for your research, prepare you for the qualifying exams and to broaden your knowledge and perspective within the Earth Sciences.

You are expected to earn A's and B's in all your course work. Grades below B- are **not** considered satisfactory. Incompletes (I) are not looked upon favorably either. Two grades of "C+" or lower can result in dismissal from the program. Failure to pass (i.e. B- or higher) at least 9 credits/semester can lead to probation/dismissal.

As part of their coursework, students must complete one 2-4 course sequence in their area of specialty; course selection should be done in consultation with the research advisor. We also expect that one of your graduate courses within the department will be in a field that is unrelated to your field of research interest. This is meant to broaden your horizons and introduce you to a field of research that is completely different from your own. Students may also take graduate-level courses that are relevant to their research direction in departments other than EES, with agreement from the student's research advisor. For a full list of EES graduate courses, please see the EES department website.

## **TEACHING REQUIREMENT**

All PhD students are required to serve as TAs in the department for at least one semester, although typically students do two or more semesters. Students who are TAs should register for EESC 490 (Supervised College Teaching: 1 credit) for at least 1 semester and no more than 2 semesters. Note that you can still be a TA for a course without registering for EESC 490 if you are serving as a TA for more than one or two semesters. Graduate TA assignments are finalized in August for the fall semester, and in December for the spring semester. Students are encouraged to reserve their second semester of TAing until after their first year, to allow more time for research in the first year and also to allow them to gain the expertise to TA more advanced courses. The approximate time commitment expected from graduate TAs is 10 hours/week on average over the duration of the academic semester.

## **ATTENDANCE OF DEPARTMENTAL SEMINARS**

Students should register for EESC 499 (Research Frontiers in Geoscience, which is the departmental seminar) for 1 credit every semester when they are not registered for EESC 490 (TAsip) or EESC 505 for 1 credit (First-Year PhD Research). The departmental seminar series is comprised of invited speakers from other institutions as well as talks from members of the department, including students. You will be expected to present your research in this seminar occasionally during your time at the department. Students must attend at least 75% of the seminars each semester (whether or not you are registered for EESC 499) in order to pass, unless you have been given explicit permission to attend less. A written warning will be issued after the first semester of not meeting the 75% attendance requirement. A repeat failure to meet this requirement will result in academic probation.

## **Ph.D. QUALIFYING EXAMINATIONS**

All PhD students are required to complete their qualifying examination before the end of the 5<sup>th</sup> semester in residence. The main objectives of the qualifying examination are as follows:

- Ensure that the student has been making good progress in their research
- Ensure that the student has a well-designed plan for a project that is scientifically compelling and feasible
- Ensure that the student has a good level of general background knowledge in their field

The exam is to be administered by a committee of three faculty, and it is the student's responsibility to form the committee and to identify a time for the closed-door exam. One of the faculty members must be the student's primary research supervisor. It is acceptable to include a faculty member from another department at U Rochester or from outside of U Rochester (as one of the three) if this faculty member has significant expertise relevant to the student's research. In the case of a committee member from outside of U Rochester, a petition would have to be filed and the external member would have to be approved by the Office of the Dean of Graduate Education and Postdoctoral Affairs. This petition should be completed at least a month ahead of the closed-door exam, to allow for adequate time for the approval process. It is required that that student consult with their primary research supervisor for the formation of this committee. Please inform Marissa Sette of the confirmed date and time of your closed-door exam along with who will be serving on your committee at least two weeks in advance of the examination date.

How the exam works:

### Step 1: the written proposal.

The student needs to submit a PhD project proposal to the committee. The proposal should be no longer than 15 single-spaced pages (this includes any figures / tables, but references can be extra beyond 15 pages), and should approximately follow the format of an NSF proposal Project Description (although there is no need for a Broader Impacts section) or a NASA Science/Technical/Management Plan. The proposal should describe the relevant background and motivation for the project(s), the work accomplished and the results and interpretations so far. The proposal should also describe the proposed work and explain why it is important and how it is going to be accomplished during the remainder of the PhD. The research proposal should be prepared in close cooperation with the student's primary research advisor. The proposal needs to be submitted to the committee at least two weeks ahead of the scheduled closed-door exam session.

### Step 2: the closed-door exam

Only the student and the committee will be present at this exam, which will be approximately 2 hours in length. The student will give a brief (20 - 30 min) presentation on the work accomplished so far and the plan for the duration of the PhD. The committee will then ask the student questions. The questions will be of two general varieties:

- 1) focused on the research proposal and quality and feasibility of the science and
- 2) focused on general background knowledge. Some of these will be directly relevant to the research proposal, while others may test more broad knowledge in the field.

Each committee member will provide 1 proposal-focused and 1 background knowledge-focused question to the student 1 week ahead of time to help the student prepare; however committee members will ask multiple questions each (so there will be questions that the student has not seen ahead of time).

The exam will be evaluated with the aid of a rubric (attached at the end of this handbook), and the possible outcomes of the exam are as follows:

- a) Pass. Promotion by the Associate Dean of Graduate Studies to the status of “PhD Candidate”. Depending on transfer credit/credit hours, a MS in Geological Sciences is awarded.
- b) Some follow-up required. In this case, the student will be required to address in writing specific questions / criticisms that came up during the exam and that were not addressed to the satisfaction of the committee. In this case, the student would be required to submit answers to questions / criticisms and a revised proposal to the committee within 2 weeks after the exam. The committee will then determine if the student has passed.
- c) Fail. In this case, the student will be placed on academic probation and given one more chance to repeat the exam (revised proposal and closed-door exam). The repeat closed-door exam must be completed no later than 5 months after the initial exam. A repeat fail would result in dismissal from the PhD program with a MS degree.

### Step 3: the public presentation

After the student has passed the exam, the student will do a public presentation for the department (also 20 – 30 min in length), followed by questions from the audience.

## **FINAL ORAL THESIS DEFENSE AND ASSOCIATED PREPARATION**

When you are ready to begin writing your final Ph.D. thesis, please ask Marissa Sette for a copy of the “Preparation of Doctoral Theses” manual also known as the “Blue Book”. This is your guide to formatting and arranging your thesis. It is important that you follow these guidelines in the preparation of your thesis.

### FINAL ORAL THESIS COMMITTEE

The committee for the final oral examination for the Ph.D. (i.e. PhD. thesis defense) “shall consist of at least 2 current full-time faculty members of the rank of assistant professor or higher (one of those being the student’s advisor) who hold their primary appointment in the candidate’s major department, and one full-time faculty member, assistant professor rank or higher with a primary appointment in a department other than the candidate’s major department (usually referred to as the outside reader).” The “outside reader” may be replaced by a person outside the University that is a recognized expert in the field; this requires prior approval by the Associate Graduate Dean of the College and the University Graduate Dean. (Paraphrased from Regulations Concerning Graduate Studies [Red Book]). The thesis must be approved by the entire committee before it can be registered for a thesis defense. The final oral examination committee is presided over by the University dean of graduate studies or an appointed representative, who serves as Chair; nominations for the chair of the committee must be submitted by the department to the Associate Dean for Graduate Studies within the College (ASE).

Should an additional person with the rank of assistant professor or higher, from another university or a recognized expert in the field be required on the committee, that person, after permission has been granted by the Associate Dean’s Office, will constitute a member of the committee above and beyond those

outlined in the previous paragraph. However, such a “second outside member” does not have a vote on the committee proceedings.

Permission to add any committee member(s) from outside the university requires submission of a “Petition for a Non-Standard Member of the PhD Examination Committee” form along with a complete copy of the curriculum vitae from the committee-member-to-be. This form must be submitted and approved by the Dean’s office before the registration paperwork can be submitted. Please speak with Marissa Sette regarding the completion of this form.

### DEFENSE REGISTRATION

Please inform Marissa Sette as soon as possible, at least 6 weeks in advance, once a defense date has been determined. She will then be able to assist you with exact dates and start your defense record (Sharepoint). Your committee will need to receive a copy of your thesis **6 weeks in advance** of your defense date.

Your advisor and all of your committee members must verify that they have seen and read your PhD thesis in its final form (i.e. they should not find any errors in it). This is all done through your Sharepoint record.

Once verified by your committee, your thesis will then go through the GEPA office and the University’s Dean’s office for approval. Again, this is all done through Sharepoint.

### POST DEFENSE

The University of Rochester requires all graduate students submitting a Ph.D. thesis to access the online University of Rochester ProQuest web site to complete and submit a publishing form. There is no fee for this submission. After the Ph.D. defense is passed, each student will upload a pdf of their final corrected dissertation to the ProQuest site. Students can access this site before their defense. However, you will not be able to complete the form until after your successful defense. Further upload instructions will be sent after the successful completion of your defense.

After your defense and all other formalities have been completed (and any final corrections have been incorporated into your thesis) all students need to provide a final copy of their essay/thesis either pre-bound or as a PDF to Marissa Sette,

### VI. TIME LINE FOR PH.D. STUDENTS

*End of second semester in residence* – candidates should have selected an advisor

*Summer following first year in residence* - submission of first-year research report

*Fourth semester* – By the end of this semester you should have taken most of your courses.

*End of fifth semester in residence* –finish the Qualifying Examination by the end of this semester

*End of fourth year* -- you should aim to have at least one paper submitted for publication. The typical length of time for completion of a Ph.D. is around 5 years.

*After fifth year* – the tuition waiver you receive covers 90 credit hours. Students continuing enrollment after 90 credit hours must register for EES 999 (Continuation of doctoral enrollment) and will be responsible for the \$1,070 / semester continuation fee. These fees are not covered by a tuition waiver.

*End of Seventh Year* The PhD program is to not exceed 7 years (per University regulations). However, if there are extenuating circumstances, a Time to Degree Extension petition can be filed with the Dean's Office. This form would need the approval of your advisor, Departmental Chair and the GEPA Dean. This form should be filed no later than 7/31 at the end of the summer of your seventh year.



## MASTER'S CANDIDATES – DEGREE REQUIREMENTS

The Department offers two different and distinct programs by which a student can work toward a Master of Science degree in Geological Sciences. The two plans are known as Plan A and Plan B. Plan A is a research and thesis track; Plan B is essentially a course work plus essay track. The decision to follow Plan A or Plan B should be made early in your program and is a matter for you and your advisor to discuss.

Common requirements for both plans include:

Complete 30 graduate credit hours of correlated graduate work (including formal coursework).

Complete a minimum of 18 credit hours in formal class work (or 4-5 4-credit courses).

### I. COURSE REQUIREMENTS FOR M.S. STUDENTS

Of the 18 credit hours of course work required by the University, the Department requires students to complete at least two courses from two different specializations, plus at least two courses from your advisor's sequence (a minimum of 4 formal courses). Note that students who are doing a 5<sup>th</sup>-year Master's following an undergraduate degree in the department can use graduate-level (400-level) courses that they took while they were undergraduates to help meet the course requirement. Students may use EESC 499 (department seminar) to help fulfill the 18-credit coursework requirement.

For a list of graduate courses please see the EES department website.

### III. RESEARCH, READING AND DISSERTATION COURSES FOR M.S. STUDENTS

EES 491: Reading (Research and Internship) courses credit hours may NOT exceed a total (including 495) of 6 credit hours of the 30.

EES 493: Master's Essay. Can enroll in this course during your final semester (the last semester before you graduate) if you are doing a Plan B Master's degree.

EES 495: Master's Research in Geology. Credit hours are assigned by the instructor, specific to each student's needs. Not to exceed 6 credits (including 491) if pursuing Plan B. Note: you do not need to be enrolled in Master's research in order to actually be doing research.

EES 895: Continuation of Master's Enrollment: For Plan B Master's degree or Plan A Master's degree who are not working full-time on their dissertation. Once you are finished with the minimum requirements for the degree (i.e. 30-32 credit hours), if you plan to complete your degree off campus you must register for Master's Continuation of Enrollment (EES 895) and you will be responsible for the continuation fee at that point onward (\$1070 per semester). This registration is "X" time status (less than part time).

EES 899: Master's Dissertation. Enroll in this course if you have exceeded 30 credits but still have not completed your thesis dissertation. This is for those completing a Plan A Master's degree and are working full-time on their dissertation. Satisfactory completion of this course is based on the final decision of your advising committee (at least 3 faculty members).

#### IV. OTHER REQUIREMENTS

**It is expected that you have finished your essay/thesis by the end of your fourth semester in residence!**

#### MINIMUM RESIDENCY REQUIREMENT:

A minimum of one year (two consecutive semesters, excluding summers) in residence and enrollment as a full-time student is required

#### **REQUIREMENTS FOR MASTER'S PLAN A (THESIS) INCLUDE:**

1. Complete a minimum of 18 credit hours from formal 400-level courses and EESC 499 (2 credits maximum from EESC 499)
2. Completion of EES 495 (Research) and EES 491 (Reading). The dissertation and associated research must provide a combined total of no less than 6 credit hours and normally no more than 12 credit hours. Under special circumstances, with prior approval of the Associate Dean for Graduate Studies, the combined credit for dissertation and research may exceed 12 credit hours.
3. The Master's dissertation must be submitted according to a predetermined format. A booklet describing details of the preparation is available from the Associate Dean. Copies are available in the department office.
4. You will need to inform Marissa Sette at least two weeks prior to your desired defense date.
5. Your master's thesis must be received in the AS&E Graduate Studies Office at least 5 working days prior to the defense date. To register your thesis for defense, you should turn in one bound hard-copy of the thesis to the AS&E Graduate Studies Office in Lattimore 206. You should also be sending your committee your thesis at this time (or sooner). Please contact Marissa if you have any questions regarding this process.
6. You must pass a final oral examination (defense). The examining committee will be appointed by the Associate Dean, and it will consist of two faculty members from your major department (Earth and Environmental Sciences) and one faculty member from another department within the University. The department recommends an oral presentation of your research -- open to the public -- before the closed oral examination.
7. Once the thesis is accepted by your committee, two printed copies (using the proper format, see No. 3 above), containing all of the required corrections and revisions, must be filed at the office of the Associate Dean for the Graduate School; one copy should also go to the Department and another to your advisor. Additional copies for your own personal use should also be made.
8. If you take more than three (3) years to complete your dissertation, you may be required to take a written comprehensive examination. There are certain provisions available for students who do not pass their comprehensive (final) examination. These are described in the Graduate Bulletin.

### **REQUIREMENTS FOR MASTER'S PLAN B (ESSAY)**

1. Complete a minimum of 18 credit hours from formal 400-level courses and EESC 499 (2 credits maximum from EESC 499)
2. Total credit hours for EES 493 may not exceed 4. Satisfactory completion of this course is based on the final decision of your advising committee (at least 2 faculty members).
3. Students must make sure the sum of their “research/reading” credits (495/491 courses) total fewer than or equal to six.
4. Students are required to pass a comprehensive examination in their field of specialization. This is an oral examination conducted by 2 members of the faculty from the Department of Earth and Environmental Sciences.

## EVALUATIONS, PROBATION AND DISMISSAL

### Annual Evaluations

In accordance with University policy, EES conducts annual evaluations of PhD students. The main goal of the evaluations is to assess progress and to provide feedback to the students to help them progress toward the PhD degree and their career goals. The evaluations cover learning (formal courses and other more informal learning), research and research products (e.g., conference presentations, publications) as well as teaching. Students complete their part of the evaluation form and submit it to their advisor, who completes their respective parts. The student and advisor then meet to discuss and finalize the evaluation form, and submit the evaluation to Marissa Sette and Vas Petrenko, typically by around mid-August.

### Academic Probation

All graduate students are expected to maintain high standards of academic performance in their coursework and their research. Both the School of Arts, Sciences and Engineering and the Department have policies outlining when a student is to be placed on academic probation.

### AS&E Academic Probation

A student who receives the grade of lower than B- in one or more courses will be considered to have an unsatisfactory record and will be automatically placed on academic probation.

When a student is placed on probation by the AS&E GEPA office, both our program and the student will be notified in writing (email communication is considered to be “in writing”) and the student will be given one semester to resume satisfactory academic standing. During the probationary period, students will remain eligible to receive federal and institutional assistance (except when they have exceeded their degree deadline).

At the end of the probationary semester, progress will be reviewed by the AS&E GEPA office. A student will be removed from AS&E academic probation if the student completes 12 semester hours of graduate credit with no grade lower than B-.

If a student does not re-establish satisfactory academic standing (i.e. fails to complete 12 credits or receives a grade lower than a B-), the student will become ineligible to receive financial aid and will be excluded (dismissed) by the AS&E Dean of Graduate Education.

### Departmental Academic Probation

Additionally, a student may be placed on departmental probation instead of, or in addition to, college academic probation. Departmental probation may be recommended if a student is not making satisfactory progress towards completing the PhD program’s requirements. A student may be placed on departmental probation when:

- Failure to earn at least a B- in all formal coursework
- Failure to make satisfactory progress in research
- Failure to pass all written exams on the timeline prescribed by the department
- A committee of program faculty, chaired by the Director of Graduate Studies, make a decision to place the student on probation.

Additional criteria for placement on departmental probation include, but are not limited to, a persistent and substantial pattern of:

- inconsistent attendance of classes or departmental seminars
- insufficient participation in classes designated by instructors as requiring such participation

- discourteous or inconsiderate behavior toward faculty, staff, peers, research participants, or clients
- behavior that interferes with effective functioning as a student, research scientist, or professional in training, including: unreceptiveness to supervisory feedback, difficulties in working collaboratively with supervisors, supervisees, or colleagues, and chronic tardiness in meeting academic and professional responsibilities
- performance in professional activities that is below expectation for the student's level of training.
- Unethical conduct of any kind, including academic dishonesty or misconduct involving scientific or professional behavior.

In placing a student on departmental probation the faculty will provide the student and the AS&E GEPA office with a statement of the reasons for probation and the steps to be taken to have the probation status removed, including the dates by which such steps must be completed.

The consequences of being on departmental probation will be determined by a committee of program faculty, chaired by the Director of Graduate Studies, based on probation circumstances, and may include (but are not limited to) being ineligible to receive departmental travel and research funds, not being allowed to proceed with qualifying exams or not being allowed to proceed to PhD defense.

A student will be removed from academic probation once a committee of program faculty, chaired by the Director of Graduate Studies, determines that the deficiency that triggered the probation has been adequately addressed.

### **Exclusion (Dismissal from graduate program)**

A student who fails to resume satisfactory academic standing during an AS&E probationary period after being notified of placement on probation will be excluded from the program. In such cases, there is no process for appeal, and the exclusion will take effect immediately.

Additionally, a student who has failed to make satisfactory academic progress according to the Departmental criteria or failed to remediate during the Departmental probation period will be excluded by the program. In these cases, a committee of program faculty, chaired by the Director of Graduate Studies, will make the decision to exclude the student.

Funding will cease on the effective date of the exclusion unless other arrangements are made. When a student is excluded by the program, the student has an opportunity to appeal the exclusion decision to the AS&E GEPA office. When a student appeals the program's exclusion decision, the exclusion becomes effective after the appeal process has concluded if the appeal is denied.

### **Notification of Exclusion**

When the AS&E GEPA office determines that a student is to be excluded both our program and the student will be informed in writing (email communication is considered to be "in writing") within 10 business days of the determination. Similarly, when a decision to exclude a student is made by the Department, both the student and the AS&E GEPA office will be informed in writing within 10 business days of the decision.

The exclusion (dismissal) notification will include the effective date of the exclusion and a clear statement of the reason(s) for exclusion.

### **Appeal Process for Exclusions by the Department**

Students wishing to appeal a **program's** exclusion decision may appeal the final program exclusion decision to the AS&E GEPA office. To appeal a program decision, students should submit a request in writing to the attention of the Dean of Graduate Education within 10 calendar days of the date of the program's final written determination of exclusion and include any supporting materials at that time.

If no appeal is filed within the 10-day appeal period, the program's decision becomes final and is not subject to appeal.

Grounds for appeal of a program's exclusion decision are as follows:

- Procedural errors in the exclusion process
- New information discovered after the exclusion that was not available at the time of the exclusion and could impact the outcome
- Program's decision to exclude was manifestly contrary to the weight of the information available at the time of the decision (i.e., exclusion is obviously unreasonable and unsupported by the great weight of information)

Appeals of program exclusions are reviewed by the AS&E dean of graduate education and postdoctoral affairs (or the dean's designee) who may request additional information from, or a meeting with, the student and/or program before making a final decision.

If the dean (or the dean's designee) does not find that any of the aforementioned grounds for appeal are present, the dean will uphold the outcome of the program. If the dean (or the dean's designee) finds that grounds for appeal are valid, they may amend the decision of the program.

## **DEPARTMENT LOGISTICS, EQUIPMENT ETC.**

### **ROOM ASSIGNMENTS**

In general, we try to provide all research and teaching assistants with office space in which they can do their work, meet with students, etc. To get your room assignment and keys, contact Marissa Sette.

### **TELEPHONE AND FAX**

Student offices generally do not have phone service. There are telephones located in each research laboratory. The phones in the laboratories are for use by persons associated with that particular lab. Fax usage is only for business purposes; use of the fax machine to conduct personal business is prohibited. The department fax # is 585-244-5689.

### **COMPUTERS, E-MAIL ACCOUNTS, ETC.**

There are computers (with some graphics and word processing software) and a laser-printer located in the department computer room (227A Hutchison Hall). You may use these for general typing purposes, e-mail, etc. However, do not save ANY files to the hard drives, as the computers will be cleaned regularly and non-essential files will be deleted. Bring your own flash drive / external storage drive to save your files when you work on these computers. The computers are all virus free – please try to keep them that way. You may use the computers in 227A at any time, as long as there are no classes being held in the room. You can also use any library computer. The university provides Outlook 365 e-mail accounts for graduate students. You will be notified when your account has been set up.

*Please make sure that you provide Marissa Sette (Hutchison Hall 227; msette@ur.rochester.edu) with your e-mail address, local address and phone number.*

### **MAILBOXES**

Each graduate student is assigned a mailbox in the department office (Hutchison Hall 227). Outgoing mail (USPS) can be put into the blue mailbag near the mailboxes. Mail is delivered and picked up once a day (at approximately 11:00 a.m.)

### **COPYING**

The department copier is meant for copying material related to teaching or research. It is not to be used for personal copying. For copying related to teaching classes, teaching assistants should obtain a copy code from the instructor who is teaching the course. These codes are to be used only for department related copying. For copying related to research obtain a copy code from your research supervisor.

For personal copying, use the copiers at the River Campus Libraries. There are black and white copiers in most river campus libraries and a color copier in Rush Rhees. Black and white copies cost 10 cents/side and color copies are 25 cents/side and can be paid for with a UR ID with Flex Account or you can purchase a visitor card at Value Transfer Station (VTS) machines located in Rush Rhees, Carlson and the ITS center. There is also coin-operated photocopying available in Rush-Rhees library. Printers are also located in all river campus libraries. Costs are the same as with photocopying and can be paid for by the same methods listed above.

### **LIBRARIES**

Geoscience materials (books, journals, maps) are housed in Carlson Library, located in the Computer Sciences Building next door to Hutchison. Their phone number is 275-4488. Hours for the River Campus libraries can be found at <http://www.library.rochester.edu/> The Carlson Library also houses chemistry, biology, mathematics, statistics and engineering collections. Anyone there can help you with using the online catalog (Voyager), interlibrary loans, finding journals, etc. We strongly recommend that incoming students sign up for the library's informational classes. Our librarian is Sarah Siddiqui. Her phone number is 275-7659 and email address is [ssiddiqui@library.rochester.edu](mailto:ssiddiqui@library.rochester.edu). During the course of your studies/research you may need to visit one or more of several other libraries on campus, such as the main Rush Rhees Library or the Physics-Astronomy Library in Bausch and Lomb Hall.

### ROCK STORAGE

The department has rock cases available for graduate students whose research involves collecting significant volumes of rock. In general, cases will be provided to students when they need them. Students in need of rock cases should see Gerry Kloc (Hutchison 508). The case(s) will be yours until you finish your graduate program at the U of R. After you have finished your degree, you are expected to remove any materials which you feel are valuable – either to you or to posterity. If you want your rocks saved, but cannot take them with you when you leave the University, you will have to make special arrangements to have them saved. In any event, all unlabeled specimens go!

### ROCK CUTTING ROOM

The department rock cutting room (Hutchison 109) is equipped with rock-cutting saws, a drill press, a band-saw, a rock-splitter and a vibro-lap. Check with Gerry Kloc (Hutchison 508) before using this room to make sure you are familiar with this equipment. Students will be held responsible for broken saws, bent blades, etc. -- so please make sure that you know what you are doing. Keys can be signed out from the department office on an as needed basis.

### MICROSCOPES

Research microscopes are available through your advisor. In addition, teaching microscopes are housed in the Optical Mineralogy Lab (Hutchison 205) – these microscopes should not be removed from this room. Talk to Rory Cottrell if you wish to use one of these microscopes.



## **DEPARTMENTAL GET-TOGETHERS**

### DEPARTMENT COLLOQUIA

The department has a weekly Seminar Series (Frontiers in Earth and Environmental Sciences –EES 499, 1 cr. hr. each semester) where speakers are invited from other universities to present lectures. Please make sure that you are registered for EES 499 every semester that you are here (except when you are registered EES 490). ALL students must attend at least 75% these lectures. A reception normally follows the lecture, and gives students a chance to meet scientists from other universities and research labs and learn of their research interests.

### PICNICS AND GET-TOGETHERS

The Department, with the help of the Undergraduate Student Geology Organization (USGO), holds picnics in the Fall and Spring – all are invited, including families and significant others.

There are also sometimes happy hours on Fridays in the lounge for faculty/staff/graduate students. These get-togethers are a good place to get to know everyone in the department – so don't stay away!

## **DISCLAIMER**

This handbook is intended to cover general information and regulations which are of particular interest to the graduate students in the Department of Earth and Environmental Sciences. However, we have neither the space nor the inclination to include all regulations which may be pertinent to you during your tenure at the University. If a question arises which is not dealt with in this handbook, then consult the current issue of the Graduate Bulletin that is on-line at <http://www.rochester.edu/GradBulletin/>. It is the official “law” of the university, and as such, except for department requirements, its contents take precedence over any other source of information within this institution.

**Rubric for evaluation of first year PhD student performance**

Research and Courses categories are weighted equally for the overall evaluation

	<b>Good</b>	<b>Satisfactory</b>	<b>Unsatisfactory</b>
<b>Research</b>	Shows good progress in learning the necessary background for the assigned research project(s). Shows good progress with learning skills associated with the project(s) (e.g., lab or field techniques, coding, mathematical analysis, etc). Good progress with moving forward with the project(s) (student background, difficulty of tasks, unexpected issues such as instrument problems etc would be taken into consideration).	Progress is slower than expected in one or more areas highlighted in the “Good” column to the left.	Slow progress in learning and tasks as compared to what is expected.
<b>Courses</b>	Good performance across the board (B or higher) in all courses. The student is clearly motivated and making a very good effort. Student background / preparation for a given course would be taken into consideration.	Good performance in most courses, but marginal (B-) in one or more course.	Received a grade below a B- in one or more courses.

### Rubric for evaluation of PhD qualifying exams

Note that a fail in any of the categories below will trigger a “Fail” for the overall exam

	Pass	Follow-up required	Fail
Written Proposal (15%)	Proposal is clearly written and organized, well formatted and fits within the length limit (15 pages of text max), with correct grammar, spelling and reference / citation formats	Proposal is overall in a satisfactory shape, but some aspects need improvement as compared to the “Pass” description on the left.	Proposal is seriously deficient or completely lacking in some components as per exam guidelines and “Pass” description on the left
Oral presentation (10%)	Presentation is clearly structured, with effective graphics and easy-to-read slides, and delivered clearly. Fits within the 20-30 min guideline.	Presentation is satisfactory, but some aspects need improvement as compared to the “Pass” description on the left.	Presentation is seriously deficient in multiple aspects as compared to “Pass” description on the left
Background knowledge (25%)	In the proposal, presentation and answering questions, demonstrates good mastery of relevant background knowledge, both with regards to knowledge specific to the project(s) and knowledge in the broader fields associated with the project(s)	Some significant gaps in knowledge as compared to the “Pass” description, and / or some key questions answered incorrectly	The proposal, presentation and answers to questions reveal many gaps in knowledge and understanding of key concepts
Research progress (30%)	Good progress in learning of skills relevant to the project(s) (e.g., laboratory or field skills, coding, mathematical analyses, etc) and applying these skills to progress through some significant tasks associated with the project(s). Student background, difficulty of tasks, unexpected issues such as instrument problems etc would be taken into consideration.	Progress is overall satisfactory but slower than expected in one or more areas highlighted in the “Pass” column to the left.	Slow progress in learning and applying skills to progress through research tasks as compared to what is expected.
Research plan (20%)	A clear, well-explained research plan that includes a timeline. The proposed research is scientifically compelling, and the plan is feasible considering available resources and duration of a PhD.	Plan is overall sound, but with some gaps / shortcomings (e.g., scientific motivation, feasibility, etc)	No clear plan and / or lack of scientific motivation for the proposed project and / or serious flaws in project design (scientific approach, feasibility, etc)