

**Department of Earth
Environmental and Planetary
Sciences**

**GRADUATE PROGRAM
HANDBOOK**

2020 – 2021

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This document supersedes previous Graduate Student Handbooks

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I. INTRODUCTION

Welcome to the Department of Earth, Environmental and Planetary Sciences and to the start of a new academic year. The goal of the graduate program in the Earth, Environmental and Planetary Sciences at Brown is to develop scientists with an understanding of significant scientific problems and the strong academic backgrounds and technical skills needed to solve them. We seek to instill the motivation for continued learning that will enable new problems to be defined and explored at the frontiers of our field. We hope that you have chosen Brown with the feeling that our research programs are well suited to your educational and professional objectives. The experiences and training you will participate in while at Brown can launch you on a scientific adventure, and guide you towards a satisfying professional career.

Graduate education differs from undergraduate studies in several ways. Foremost is an increasing emphasis on research. Indeed, the essence of graduate education is the creation of new knowledge, knowledge that you will generate from your own work. It is important for you to recognize this difference and act accordingly through the transition period. Graduate education also entails a transition to professional life. Developing the skills to carry out independent research and teaching informs much of what you will do as a graduate student; understanding this guide is key to making sure you understand your responsibilities and rights as a developing independent scientist. You are not simply a student here, but an important part of an educational and research enterprise in which you will enjoy many privileges and responsibilities. Accordingly, we have expectations of our graduate students in terms of their professional and community behavior and their performance in courses and research.

In the year ahead, all of us will be working hard as we pursue important scientific problems and seek to expand our knowledge. Our departmental community greatly values scholarship, and we strive to provide an atmosphere conducive to personal as well as professional growth. We hope that you find yourself comfortable and enjoy working here. If you should find that this is not the case, you are encouraged to discuss your feelings or concerns about your personal best course of action with any faculty members you consider appropriate. Open communication keeps small problems from growing into large ones, and keeps you on track towards achieving your objectives.

This handbook has been prepared to aid you during your tenure as a graduate student. It serves as a guide to the department and its functions and facilities, and to important policy and procedural matters that govern the graduate program. The information and timetables contained herein will aid you in navigating the course of actions that graduate study and degree completion entail. This handbook also contains useful reference material about the department. Please keep it handy and refer to it often; many of the questions and concerns that you will have in the weeks and months ahead are addressed here.

II. ACADEMIC AFFAIRS

A. Advisors and Advisory Committees

In the coming several years, you will undergo tremendous growth. Through this period, you will be guided by a number of faculty in venues ranging from the classroom, your advisor's office and laboratory, and the research committee meetings that you will arrange. In recognition of the importance of academic advising and research advising to your professional development, the department has established an advisory committee structure for the graduate program to ensure

that each graduate student receives frequent and broadly based guidance. The student, advisor, and committee work together to make sure that useful support and feedback is provided at each stage in the student's development; inherent in the committee structure are checks and cross-checks on progress and developing relationships so that as problems arise there are multiple pathways to address them.

The committee structure is detailed below. The guiding principle is that each graduate student should have timely and periodic access to advice from a collection of faculty most interested in and most appropriate to the student's research interests. An additional benefit of this structure is that the influence of any one advisor can be tempered, if necessary, by the wisdom of the committee as a whole.

To guide you through the process, a timetable has been established by the department detailing the proper time to form committees and schedule meetings and examinations. A typical timetable for a student entering the graduate program is provided in [Appendix A: Timeline to the Ph.D.](#) The graduate student retains responsibility for the accomplishment of tasks at the appropriate times.

Director of Graduate Study (DGS):

The Director of Graduate Study oversees many internal academic affairs of the departmental graduate program. On the Graduate School website the role of the DGS is defined as the primary liaison between graduate students and the Graduate School. As such, the DGS is the main point of contact for all graduate-related issues in DEEPS, including coordinating student evaluations and communication between faculty and graduate students regarding academic standing and expected progress. The DGS tasks include, but are not limited to:

- Helping incoming students understand and navigate the structure of our Graduate program.
- Organizing and coordinating procedures related to leaves of absence and readmission.
- Coordinating (in concert with the faculty) department funding for graduate student fellowships and teaching assistantship positions.
- Organizing and managing evaluation of all graduate students each semester.
- Acting, following to the guidelines and rules of the Graduate School, on potential issues that may arise among graduate students or between graduate students and faculty.

The DGS is available for individual meetings with students to discuss course selection, departmental guidelines concerning coursework, and other curricular matters. However, it remains the responsibility of each graduate student to fulfill departmental curricular guidelines, and to discuss their course selections with their advisor and their Advisory Committee.

The DGS is available to advise graduate students on a variety of academic matters at group and individual meetings. You are encouraged to consult with him on any appropriate matters.

At the time of initial enrollment for graduate study, if a student does not already have a research advisor the student should work with the DGS until a *Research Advisor* is chosen. Affiliation with a particular faculty member at this stage carries no obligation on the part of the student or the faculty member to continue working together.

Research Advisor:

The role of the Research Advisor is to offer guidance and support to the graduate student and help them develop competence and the academic skills necessary for the student to advance professionally in the career path of their choosing. The mentoring offered by the RA includes help the student work through challenges and achieve academic excellence.

By the end of the first semester of graduate study, each student should have selected a faculty member as a Research Advisor for mentoring. Normally, the Research Advisor becomes the Ph.D. Thesis Advisor.

Advisory Committee (AC):

The student's Advisory Committee serves to guide the student's graduate program until the Preliminary Examination is passed. Formed no later than the end of the first semester of graduate study and in consultation with the Research Advisor (and Director of Graduate Study, if different from the Research Advisor). The Advisory Committee consists of three faculty members, and the student should choose two departmental faculty other than the Research Advisor, one of whom must be from a sub-field outside the student's primary area of interest. The Advisory Committee membership may be changed as the interests of the student develop. A current list of Advisory Committee members should be filed in the student's portfolio, which can be accomplished by contacting the Manager of Academic Programs & Outreach (Patricia Davey, patricia_davey@brown.edu, 3-2449, GC 105) or any staff member in the Department front office.

It is departmental policy that students schedule meetings with their Advisory Committees at least once a semester, starting in the first semester, but more often if appropriate. **It is the responsibility of the student to schedule these meetings each semester.** It is important to remember that **these meetings are student run. They are for the benefit of the student, and as such, you have primary control over the agenda and will run the meeting.** For more information on advisory committee meetings, see [Appendix C: Typical Advisory Committee Meeting Agenda](#).

One of the most important functions of the Advisory Committee is to meet with the student at least 6 months prior to the Preliminary Examination. At this meeting, the topical areas to receive emphasis in the Preliminary Examination are discussed and clarified at this time, as is the means by which the student will fulfill the research requirement (see

Appendix B: Preliminary Examination Procedure). Furthermore, the student and Advisory Committee will consider and, if necessary, revise committee membership to ensure that it represents areas appropriate to span the student's proposed research, particularly as outlined in the topical areas, and recommend adding or substituting committee members to arrive at the composition of the Preliminary Examination Committee.

The Advisory Committee is disbanded after the Preliminary Exam. Its members may or may not continue on the Ph.D. Thesis Advisory Committee.

Preliminary Examination Committee (PEC):

Graduate students generally take the Preliminary Examination by the end of the 5th semester. Students who do not complete the Preliminary Examination by the end of their 5th semester, without proper cause (e.g. family or medical leave, research setback caused by problems with analytical facilities), will be put on probation until the examination is successfully completed. Proper cause should be determined in discussion with the student and their Advisory Committee. Academic probation is determined on a semester basis, is internally documented in the Department and with the Graduate School and is not indicated as part of the student's transcript.

Detailed procedures and information concerning the Preliminary Exam are given in

Appendix B: Preliminary Examination Procedure. The Preliminary Examination Committee usually consists of the student's Research Advisor, Advisory Committee members, and other departmental faculty, at least one of whom is from outside the student's primary area of interest, to make a total of 5. Under special circumstances an additional committee member from outside the department or university can be added to the PEC. This decision requires the agreement of the Research Advisor, the Advisory Committee and the DGS.

The student should request one of the proposed Preliminary Exam Committee members to be Chair (the chair may not be the student's Ph.D. Thesis Advisor, and usually is a faculty member from outside the student's research area).

For help submitting the application to take the Preliminary Examination, the student needs to see the Manager of Academic Programs & Outreach in GC 105. The manager will need to know the names of the student's proposed Preliminary Exam Committee, as well as the date, time and location of the meeting. The manager will process the appropriate paperwork, including ensuring the Director of Graduate Study signs the approval form. NOTE: the student's application to take his or her exam must be submitted at least 3 weeks prior to the Preliminary Examination. Hard copies of the proposal must be submitted to the PEC and the Manager of Academic Programs & Outreach no later than 10 business days prior to the Preliminary Exam.

Ph.D. Thesis Advisory Committee (PTAC):

The PhD Thesis Advisory Committee assure supervision and critique of the student's thesis research as it progresses, so that questions and constructive criticisms may be raised in a timely manner rather than at a later date when adjustments may be more difficult and time-limited. A well-informed thesis committee can be an immense help in identifying problems and pitfalls, pointing out opportunities that might not be apparent to the student or the thesis advisor, and giving advice on the structure of the dissertation as writing commences and progresses. Therefore a student should make a special effort to involve the PhD Thesis Advisory Committee very early in the project and to consult with it and its individual members often. Responsibility for keeping the PhD Thesis Advisory Committee well informed rests with the Ph.D. candidate and is essential to smooth progress toward successful defense of the final thesis.

After passing the Preliminary Examination, the Ph.D. Thesis Advisory Committee is formed by the student in consultation with the Ph.D. Thesis Advisor. Often, PTAC members have been members of the Preliminary Examination Committee. The PTAC is composed of the Ph.D. Thesis Advisor as Chair and as many other persons as necessary, but at least three should be departmental faculty, including one departmental member from a sub-field outside the student's primary area of interest. The composition of the PTAC is submitted for approval to the Director of Graduate Study. If the research proposal written for the Preliminary Examination does not serve as an outline of the PhD thesis research, the candidate should discuss a new plan for thesis research with the PhD Thesis Advisory Committee. There are circumstances where the written research requirement for the Master of Science degree can be incorporated as a chapter in the PhD thesis of the candidate (e.g. an important stepping stone for the other chapters). This decision is at the discretion of the PhD Thesis Advisory Committee. Any change in the composition of the committee requires the prior approval of the Director of Graduate Study.

The Ph.D. Thesis Advisory Committee has two primary functions: (1) to advise and assist the student in research matters through the completion of the Ph.D., and (2) to monitor the student's progress at PTAC meetings.

Meetings of the PTAC are convened by the student. The first meeting of the committee will be

held in the semester following the Preliminary Examination. Thereafter, the committee will meet as often as necessary, but at least once each semester. Students are encouraged to talk individually with members of their PTAC (and any other faculty member) at any time.

Purpose of the Advisory Committee (AC and PTAC)

The purpose of your Advisory Committee or Ph.D. Thesis Advisory Committee is to provide you with an advising structure that complements the more frequent and specific advising you receive directly from your thesis or research advisor. The members of this committee therefore will want to be informed about your academic background prior to coming to Brown, your scientific and career objectives (which will likely evolve during your time here), and how your curricular and research programs are designed to achieve those objectives. The Advisory Committee also oversees that the advisor(s)-advisee working environment remains positive and constructive.

At the committee meeting, you should address career, educational, research goals and possibly the content of the previous graduate student evaluation letter (H. Graduate Review Letters). To get the most out of each meeting, it is important to identify your objectives prior to the meeting itself. The topics covered at a meeting will vary during your graduate student career, according to your needs and research trajectory. These meetings Generally, faculty come to an Advisory Committee meeting with an open mind and a desire to provide whatever helpful advice they can. Before your committee meeting, you should provide recently submitted publications, proposals or abstracts, as well as any special agenda items, to the Advisory Committee so that they may prepare.

To schedule a committee meeting you should contact their committees early in the semester. This meeting should occur before the end of each semester. For each meeting, you should prepare an agenda and circulate it to committee members, either at the meeting or before. A suggested outline for an agenda is provided in [Appendix C: Typical Advisory Committee Meeting Agenda](#). Seeking advice on planning effective meetings from more senior students, committee members, the Sheridan Center ([link](#)), or academic career books (Greene, 2013; Fiske, 2013; Snieder and Lerner, 2010) is recommended. Normally the agenda would include a list of items to be covered, but should be supplemented with appropriate background information (e.g., a listing of completed courses) as well as other current information as appropriate. The appropriate yearly expectation sheet ([Appendix D: Graduate Student Expectation Sheets](#)) also provides important examples of topics that you may want to add to your agenda.

Notify the Manager of Academic Programs & Outreach every time you have a committee meeting so that your files can be updated.

B. Coursework

Overview – You should register for four (4) credits each semester of graduate study. Each course counts for one credit. In the first three years, students generally register for three (3) courses per semester and one research credit with their Research Advisor (total of 4 credits). In the following years, course load decreases as time spent on research increases. Courses in the first year usually provide necessary background in the areas most likely to be the student's main interest, and exposure to other areas of potential or related interest. The particular background of the student and the degree to which the field of specialty is known will influence the choice of courses. Courses in the second and following years are used to provide breadth outside the main area of interest, and to further strengthen knowledge in the main area of interest.

Are grades important? - Yes, but only to a degree. Grades are obviously a factor in evaluating overall student performance, particularly in the first year, and we generally expect that students will do well in coursework. However, grades are neither considered alone nor without an understanding of the role of each course in the individual student's program. The faculty recognize that different students need and want different things out of a given course. Students are encouraged to develop the ability to take a course in the way (balance between course work and research) that is most productive for your overall development. In this regard, students should not be overly grade-conscious.

Satisfactory/No Credit option. - Brown University offers all students the option of taking courses on a Satisfactory/No Credit basis as part of the recommendations from the Magaziner-Maxwell Report that inspired Brown's undergraduate Open Curriculum (and its graduate school variant). This practice is not recommended for most courses in Earth, Environmental and Planetary Sciences. This option may be appropriate, however, with regard to notably difficult (and/or advanced) courses in other departments, or for advanced seminars in the department that are of peripheral interest to the graduate student. Research courses (**GEOL 2980: Research in Earth, Environmental and Planetary Sciences**) are normally taken S/NC. If a student is considering taking some other course under the S/NC option, they must first discuss the matter with the Research Advisor to seek agreement as to the appropriateness of this choice. Similarly, any proposals to change a letter grade option to S/NC during the semester should be reviewed with the Research Advisor and the Director of Graduate Study. If the student is advised that a particular course should be taken for a grade rather than S/NC, failure to do so may negatively influence the student's evaluation.

Auditing courses - From time to time a student might find it useful to formally audit a course. In this case, the student must discuss and agree with the instructor of the course what merits an audit. Note that an audit does not count towards formal course credits, and must be done in addition to the regular 4 credits each semester. The utility of auditing a course should be discussed with the student's Research Advisor and Advisory Committee.

Oversight concerning course program - In many instances, a graduate student's course program is straightforward and agreed on by the student, Research Advisor, and the Director of Graduate Study. However, if any of the three have concerns and wish to discuss the program, a meeting should be arranged. It can be helpful to consult the course instructor on the appropriateness of a given course for a particular student's program. Usually the plan of courses for the next year or two should be discussed with the student's Advisory Committee.

Undergraduate courses - Graduate students normally take courses within the department at the 1000- and 2000-levels, but may be advised to take undergraduate-level courses if appropriate to broaden a student's background. For example, a student without geology training as an undergraduate major might take **GEOL 0220: Physical Processes in Geology** and/or **0230: Geochemistry** or without computational or quantitative training might take **GEOL0250: Modelling in Natural Science** and/or **GEOL0350: Mathematical Methods of Fluid and Solid Geophysics and Geology** (to receive graduate credit for such a course, the student should register for GEOL 2980 with the instructor of the course). There should be a clear understanding between student and instructor on the exact requirements (e.g., participation in laboratory exercises, homework, etc.), and this should be discussed at meetings with the Director of Graduate Study and the Research Advisor, and recorded in the student's file. It is noted that graduate students in some sub-fields may need more courses outside their specialty than do others.

Permission to drop courses - It sometimes occurs that a course is not as appropriate as initially expected. It may make sense to drop such a course and apply efforts elsewhere. However, it is departmental policy that no course may be dropped without first obtaining permission from the Research Advisor, and then from the Director of Graduate Study. This procedure avoids confusion at a later date, such as at the graduate evaluation session. The DROP/ADD process can be completed via Banner.

"Core" courses - Students are strongly urged to design academic programs that will achieve general breadth within the Earth, Environmental and Planetary Sciences and depth within their field of concentration. It should be noted that in the Preliminary Examination a student is expected to give evidence of broadly-based knowledge in scientific disciplines related to the area of the proposed research as well as provide context for the proposed research niche within the scientific disciplines. One means of accomplishing this goal is to take an appropriate combination of courses, another is through serving as a teaching assistant. Seek guidance from your Advisory Committee members.

Languages - No general foreign language requirement exists for Master's or the Ph.D. degrees. Foreign language courses may be included in the academic programs of graduate students if needed to successfully develop and complete a particular line of study and research.

English as a Foreign Language (EFL) - Ph.D. students in Earth, Environmental and Planetary Sciences are required to teach at least one semester. The University and department agree that TAs should be able to effectively convey course material in English. University policy dictates that when an entering graduate student's primary language is not English, he/she must be certified as competent in oral English by the CLS (Center for Language Studies, <https://www.brown.edu/academics/language-studies/english-international-teaching-assistants-program>) office before being assigned to teach. If the evaluation reveals a need for supplementary training in oral English, the CLS office will help the student receive training through English for Internationals (EINT) courses. The CLS office formally notifies the department when students have been certified. (see 'Teaching' p.9).

Other Departmental Learning Activities - Coursework is one of many ways that graduate students can gain a strong foundation in Earth, Environmental, and Planetary Sciences. Our department offers a number of other learning opportunities, including departmental field trips, weekly department-wide colloquia (normally Thursdays at 4 PM), and lunchtime seminars within each curricular group (the so-called lunchbunches). Faculty expect graduate students to participate regularly in colloquia as well as the weekly "lunch bunches" in the various research areas and presentation of research results at conferences. Students are encouraged to take advantage of any other activities that would benefit their learning.

C. Academic Honesty

Cheating and other forms of dishonesty are not tolerated by the department or by the University. Dismissal and/or a permanent notation on departmental records are possible actions in clear-cut and serious cases of dishonesty. Faculty, teaching assistants, and all graduate students must be vigilant to circumstances where academic honesty is being or has been compromised. Brown's Graduate School adheres to an Academic Code ([link](#)).

Aside from clear-cut cases of dishonesty, there can be gray areas concerning use of the work of others, or even the re-use of your own work to fulfill class assignments. For example, writing a much improved version of a paper on a topic that you have written on previously might be acceptable in certain instances, but turning in substantially the same paper in two courses without written comment is a very different matter and probably dishonest. Students should state clearly if

previously written or published work is used in connection with their written work. If in doubt, review such questions or intentions with the professor well ahead of any deadlines.

D. Research

Getting involved - Conducting original research is the most important component of graduate study. Students may arrive here with a specific advisor and research project in mind, or they may have varied interests they have yet to explore or prioritize. In either case, it is important that students get involved with an advisor or advisors and a research project as soon as possible within their first year.

Since most research in the department is externally funded, a student's first research experience is often within the context of existing and/or on-going projects. Students are therefore encouraged to discuss their interests with one or more faculty members. First projects generally allow the student to explore working in an area and with an advisor without necessarily making a long-term commitment. A later switch in faculty supervisor or subject area is not uncommon, and of itself does not negatively affect the faculty's assessment of a student's performance or progress. However, students should be aware that research support (stipend and research expenses) must be arranged beforehand if they choose to switch advisors. Such matters obviously require discussion with affected faculty.

Once a student identifies a research project and a faculty member to supervise it, research can begin. It is possible for one or more "trial projects" to fulfill a Master's or Preliminary Examination research requirement. If a trial project is chosen, it is only fair to both the faculty and student that they be mutually forthright about their intended level of investment in time and effort. Without this, it is difficult to outline a project that can be successfully concluded. Students should also recognize that some research areas are more suitable for subdivision into small projects; others may require a more substantial commitment.

Although there are guidelines for student progress based on coursework and exams within the program, **publication in the peer-reviewed literature is the primary endpoint for all scientific research.** Thus, students should be thoughtful about how their progress and activities are leading toward publication, who the authors of the publication may be, what they need to deliver to participate in publications, and they should discuss publication plans with their Research Advisor and Academic Committee regularly.

Research funding - Most research carried out in this Department is funded by grants and contracts obtained by individual faculty. Research Assistantships funded by these grants constitute an important form of support for graduate students and an important means of accomplishing the research objectives of the faculty. Research Assistantships in the department are generally related to the Research Assistant's dissertation research; if not, the Assistantship should not exceed a maximum of 20 hours per week. Students may apply for fellowships to support their work in consultation with the Research Advisor: these are both laudatory and may extend the reach of available research topics.

The development of research skills is a primary objective of graduate education. The work performed by students under RA support is commonly thesis-related and therefore is an investment in one's own professional development. Minimum efforts typically do not result in adequate performance in the fast-paced and competitive research environment, so it is our expectation (and should be your own) that a student generally devotes more than the minimum effort towards their research. Involvement in some type of research project is necessary to obtain summer support from Department funds.

Vacations - Teaching and Research Assistantships for graduate students are half-time professional appointments. Vacation periods for graduate students are treated as they are for other professionals, which is normally two weeks of vacation time per year. Please be aware that the

instructional holidays listed in the University Calendar apply to class-related meetings, not to research and other work-related activities. Note, for example, that faculty and staff use most of the break period covering Christmas, intersession, and summer to make progress on their research and scholarship. As a professional, you should consider taking advantage of this period to work on similar goals.

Research normally involves the close collaboration of faculty and research assistants. Both faculty and graduate students have academic and other commitments during the semester. It is common, therefore, for faculty and graduate student researchers to look to periods when classes are in recess to devote substantial uninterrupted time to research. If you are participating or involved in a research project, vacation periods should be planned in consultation with the supervising faculty member and with the requirements of your on-going research in mind.

E. Teaching as a Learning Experience

The University and department recognize teaching as an important component of the experiences that make up a graduate education. Therefore, **the Department requires all candidates for a Ph.D. degree to serve at least one semester as a Teaching Assistant. Most students will serve as a TA several times during their tenure as a graduate student.** Teaching Assistantships are an important opportunity for gaining experience teaching and for improving communication skills, which will be in constant use throughout your career as a professional scientist.

In assigning TAs to courses, the Department's objective is to achieve the best possible match between the knowledge and interests of individuals in the pool of TA candidates and the teaching obligations of the Department. Graduate students should communicate their teaching interests to their Research Advisor and the Advisory Committee. TA assignments are generally suggested by the Research Advisor, faculty teaching the course and/or the Director of Graduate Study and communicated to the whole faculty prior to tentative assignments being made. **Tentative assignments are then communicated to graduate students at least one month before the beginning of each semester**, and sooner if possible, allowing time for students and the Department to work together to achieve the best alignment for all involved. Any concern caused by TA assignments that poorly match the expertise of the student or that may conflict with important landmarks such as the Preliminary Examination should be raised as early as possible to the Research Advisor, the Advisory Committee and the DGS to find a suitable resolution.

Since we view the TA experience as a part of graduate education, it is a reasonable expectation that a student should not serve repeatedly as a TA for the same course. Therefore, a student should not be asked to serve as a TA in the same course more than twice, without some special justification and the agreement of the student.

Effective teaching is a learned skill for most of us and is greatly improved through training and experience. Consequently, students are expected to participate in the training opportunities offered by the Department and by the Harriet W. Sheridan Center for Teaching and Learning. Participation in these training opportunities, according to the Sheridan Center's requirements, can result in the awarding of a Teaching Certificate, which may be useful in documenting teaching ability and training to future employers. Although not always possible financially, the department attempts to find fellowship or RA support for each student during their first academic year.

TAs are expected to work 20 hours per week for the full 14 weeks of a semester. More or less than the required time may be needed in any given week, but the average over the term should not exceed 20 hours per week. TAs should keep a record of time spent working for a course. If the average time departs significantly from the above, notify the supervising faculty and the Director of Graduate Studies.

Teaching Assistants are assigned specific duties under the supervising faculty. In addition to the typical duties of grading homework, running laboratories, assisting the professor in lecture presentations, and holding office hours, many students welcome actual teaching/lecturing

opportunities. For example, the short introductory lecture for laboratory sessions is a good place to begin to develop lecturing skills. Priority will be given to enhancing the quality of the TA teaching experience where possible by giving the graduate student the opportunity to prepare and deliver lectures. As a Department, we encourage faculty to give TAs as much teaching responsibility as the faculty member in charge of the course deems appropriate. Graduate students are encouraged to discuss any ideas they have for expanding their teaching skills with the supervising faculty member.

From time to time graduate students may have the opportunity to participate in instructional activities outside the role of Teaching Assistant. These can be valuable experiences, and students are encouraged to participate in these activities in the spirit of learning and interacting with others.

F. The Portfolio

A portfolio folder is established in the departmental files for each incoming student. Students should give pertinent items (see list below) to the Manager of Academic Programs & Outreach or any staff in the GeoChem main office (G/C 101) for filing. The portfolio file will allow interested faculty members to refresh their understanding of the student's status, qualifications, and accomplishments. With this in mind, a student should assemble documentation in his/her portfolio that shows satisfaction of Department requirements in a timely manner. For example, the paper prepared by the student for publication that fulfills the research requirement for the Preliminary Examination should be included in the portfolio for review by faculty members on the examination committee. Other materials deemed as desirable to establish the student's various qualifications might include:

- lists of advisors and committee members as they are formed
- dates of committee meetings
- work submitted for the Master's degree (e.g., thesis research)
- figures, maps, and other research materials
- papers written for any course
- abstracts, manuscripts, proposals submitted for presentation, publication, or external funding
- reports of special activities (e.g. off-campus summer research, teaching, being a reviewer)
- items that demonstrate development as a scientist or contributions to departmental life (e.g., initiatives taken to organize Geo Club activities or a research meeting, participation as a graduate student representative to campus groups and committees)

Students have access to their own portfolio by simply making a request to the main office staff during normal business hours. Portfolios are examined by faculty as needed at Advisory Committee meetings and at the Preliminary Examination. They may also be consulted in end-of-semester evaluations. After the Preliminary Examination, maintenance of the portfolio is not required but it remains part of a student's file for 5 years. Upon graduation, the student's portfolio file is destroyed.

As of summer 2019, **the University requires students to create and maintain a [Graduate Student Digital CV \(GSDCV\)](#)** where achievements and accomplishments can be archived. The GSDCV will also be used to streamline any application submitted through UFunds.

G. Graduate Review Sessions

At the end of each semester, departmental faculty meet to review the performance and accomplishments of each student, including any teaching activities. The purpose of this review is to allow all faculty who have had dealings with a student to interactively discuss the student's

performance and contribute to their evaluation, to ensure a level of uniformity in standards and practices across the Department, and to make sure no student gets “lost” in the system.

During the Review Session, comments from each student’s instructors (if applicable), the Advisory Committee and the Research Advisor are solicited. Any faculty who have also interacted with the student via other activities (e.g. outreach, university activities or committees, etc.) are also asked to comment on the student participation. The Research Advisor then presents either an oral or a written report on the student’s research progress. From this presentation and subsequent discussion by the faculty, the general consensus of each review is conveyed to the student by letter from the department Chair and the student’s advisor (see below). The discussion serves as the basis to establish the status of the student for the next semester: *good, satisfactory or not satisfactory*, the latter status signifying that the student is on academic probation for the next semester. In this case, the faculty will discuss a path (set of goals and timelines) for the student to return to a *good* academic status.

A student is encouraged to place a memo in their portfolio with a copy to the DGS prior to each Review Session with information on division of time to coursework, research, TA duties, etc., or opinions which might be germane to the faculty’s evaluation. For example, questions sometimes arise concerning poor grades in courses taken outside of the department, or about unusual course programs (such as a student taking a number of independent study courses at a time when fundamental or core courses remain to be taken). A memo in the portfolio can ensure that the student’s view on such a matter is known and unusual situations are clarified for the faculty.

H. Graduate Review Letters

Based in part on discussion of a student’s progress in the Graduate Review Session (see above), the Faculty Advisor or Research Advisor is responsible for conveying the results of this review to the student in a letter signed by the Department Chair. Each review letter should document a student’s progress toward their degree requirements and offer helpful constructive criticism toward reaching that goal. The letter should also document service to the Department, the University, and the community. As the letter is meant to reflect progress and provide constructive criticism to help you along as a student, **you are encouraged to discuss the contents of your letter with your advisers and/or committee members to clarify any questions or concerns you may have regarding your letter.**

Review letters will also reflect, in part, a written statement of accomplishments during the previous semester that each student will have provided to their Research Adviser and Advisory Committee. The student should also add work completed to their Portfolio. **If you as a student want certain points addressed in your letter, you should update your portfolio and add a written statement for the faculty to discuss at the Graduate Review Session.**

Students and faculty should recognize that, in addition to providing a faculty summary on a student’s progress, the review letter becomes an important part of the student’s permanent file.

Template for review letter

Course work:

- Statement of general progress in coursework
- Specific praise or constructive suggestions based on performance in courses
- Suggestions for future courses based on this evaluation

Research:

- Statement of general progress in research and significant achievements since last review
- Note meetings attended, papers presented
- Progress on research publication and expectations for coming year

Service to the Department and the community:

- Teaching contributions during the previous semester
- Community contributions such as K-12 teaching, University committees, paper reviews

Overall summary:

- Goals and objectives for the coming year
- Identify upcoming milestones

I. Leaves of Absence

The University policy on leaves is given by the Graduate School, located online at <http://www.brown.edu/academics/gradschool/leaves-absence>. Below we include some additional discussion and guidance on leaves.

Categories of Leave

1. Medical
2. Family Leave
3. Academic Leave
4. Personal Leave

University policy has it that the Director of Graduate Study must approve all leave of absence applications before the request is transferred to the Graduate School for approval by the Dean.

Leave Procedures

A leave requires a written request for a leave of a specific period (normally one semester or one year, though extensions are possible in exceptional circumstances). The student who is contemplating a leave should first discuss the matter with their Research Advisor, or with their Advisory Committee, or with the DGS. Students who have gone through the Leave procedure recently have noted that guidance from the Associate Dean of Student Support (Dean Maria Suarez, Maria_Suarez@brown.edu) has been very helpful, especially given that the procedure is frequently updated. It is recommended to work in concert with the Research Advisor, the Advisory Committee, DGS and the Graduate School to establish matters such as conditions that must be met for readmission to the graduate program, the expectations of the Advisory Committee concerning the leave, and the state of financial support upon readmission. Student should also note that degrees cannot be conferred to a student on leave. However, the University has adopted a second yearly conferral date (October and February), even if commencement is held only once a year (<https://www.brown.edu/about/administration/registrar/degree-guidelines-0/graduate-school>).

A student's written request for a leave is submitted to Graduate School at least 4 weeks prior to the beginning of the semester in which the leave is to be taken. The Graduate School then informs the Director of Graduate Study for approval. The Graduate School sends a formal response to the student that includes the terms of readmission.

Maintaining Contact

Students are advised to pay particular attention to the duration and conditions of their leave. The student should maintain contact with their Research Advisor, the DGS and should notify their advisor and the DGS of their intent to be readmitted well before their leave expires. It is encouraged that the student periodically reach out to the Graduate School, specifically to the Dean of Student Support to clarify the timeline and procedure for readmission ahead of time. They should also discuss the possibilities for financial aid at this time.

Extensions

As noted in the Graduate School's written policy, students may request an extension of their leave by writing to the Director of Graduate Study (the Manager of Academic Programs & Outreach, G/C 105 can assist with this process). This should be done in consultation with the student's Research Advisor. Please note that a leave exceeding one year in aggregate may require formal reapplication to the program.

Readmission after a Leave

To return to active status, and to be eligible for funding in the next academic term, students must notify the Graduate School in writing. Readmission for graduate students is on a rolling basis, however applications are reviewed twice a year on May 1st for a fall-semester return or November 1st for a spring-semester return. The procedure for readmission is different and generally more flexible than for undergraduate students, but it is imperative to reach out to the Research Advisor, Director of Graduate Study and Graduate School. Readmission of a student from a leave of absence does not require a complete formal application, unless the program faculty request one, and then only in the case of an academic or personal leave, but the student should have satisfied any requirements or conditions for readmission prior to applying. A student who has taken a leave of absence should write to his or her program requesting readmission; if the request is supported by the program, the Director of Graduate Study will endorse and forward the request to the Graduate School for approval by the Dean. Students readmitted to the program after a leave of absence should discuss their timeline (timing of preliminary examination, completion of the PhD, etc.) with their Research Advisor, Advisory Committee and the DGS.

The Graduate School has specific policies in place for Parental Relief. The University policy states that Graduate students in good or satisfactory academic standing are eligible to parental relief for the care of a newly born infant or adopted child (< 16 yrs of age) if they are not beyond year 6 of their doctoral studies. Parental relief does not constitute an academic leave; it provides a stipend for a semester or the summer (a graduate student may request two times at most). The student requesting Parental relief needs to contact the Research Advisor and DGS prior to the request and file the application form

(<https://www.brown.edu/academics/gradschool/sites/brown.edu/academics/gradschool/files/uploads/ParentalReliefRequestFormv3.1.pdf>) to the Dean of the Graduate School. More detailed information related to health insurance of the dependent child and child care subsidy options are listed at <https://www.brown.edu/academics/gradschool/living-resources/family-resources/family-resources-brown-policies-resources>.

J. Requirements for the Master of Arts and Master of Science Degree

A student is entitled to be awarded the degree of *Master of Arts* upon:

- completion of an integrated program including a minimum of eight (8) courses, no more than two of which shall be research courses,

For the Master of Science, in addition to the requirement for a Master of Arts, research competence shall be demonstrated through: (1) written work such as, for example, a thesis or a manuscript prepared for publication (placed in the portfolio), and (2) oral presentation of research results before an audience of faculty and graduate students. **The format of the written work should be discussed with the student's Advisory Committee by early in the third semester, and documented and agreed upon by the Research Advisor(s) and student (see second year expectation letter in *Appendix D: Graduate Student Expectation Sheets*).** The expectation is that the document could be submitted for peer-review with minimal extra work at the time it is filed in the student portfolio (before the appropriate degree conferral date). The objective with the written work is to demonstrate the ability to finalize a research project. In exceptional

circumstances, the requirement of oral presentation may be waived by majority vote of the Advisory Committee upon recommendation of the Research Advisor.

Any time after the first year of graduate study, a student may submit the contents of his/her portfolio to the Advisory Committee, indicating a desire to be a candidate for the Master's degree. Following discussion with the Advisory Committee, the candidate for the Master of Science degree shall schedule an oral presentation of research results before an audience of faculty and graduate students. Such a forum might be one of the various seminars (e.g., lunch bunch) regularly scheduled by research groups. Such presentations should be announced (including listing on the Department calendar of events).

Following satisfactory completion of the research requirements for the degree, the student reports back to the DGS and Manager of Academic Programs (Pat Davey, Patricia_Davey@Brown.edu) to file their intention of seeking a Master's degree. The DGS then files departmental recommendation with the Registrar for the awarding of the degree. The student will then need to apply online via the Registrar's Office to "graduate" with a Master's Degree. The Registrar's Office typically sends a notification regarding this application deadline to all graduate students before the end of the academic year. The candidate is responsible for completing the above requirements by the deadlines set by the Graduate School.

K. Requirements for the Ph.D.

The Preliminary Examination (see details in

Appendix B: Preliminary Examination Procedure): The main purpose of the Preliminary Examination (an admission-to-candidacy exam) is to determine formally whether a student should continue for a Ph.D. degree and, if so, to determine whether any areas of weakness exist which should be strengthened by taking specified courses or completing other requirements. This evaluation considers (1) knowledge in fields directly related to the student's research interests; (2) ability to communicate in written and verbal forms; and (3) ability to integrate knowledge from broader areas of earth and planetary sciences, as well as relevant basic sciences, to place the proposed research in proper context.

The Preliminary Examination is a milestone in the student's academic life at Brown, a significant step in the continuing educational process. As with other steps in this process, the Preliminary Examination is most effective when the student, the advisor, and other members of the faculty have had prior exchanges of ideas and information. Hence, a student should become familiar with the purposes and structure of the examination early in graduate study and discuss the exam with his/her advisors.

The student and the Advisory Committee shall meet at least 6 months prior to the expected date of the examination to consider and, if necessary, revise the committee membership to ensure that it is appropriate for the student's proposed research. Further, the topical areas to receive emphasis in the Preliminary Examination should be discussed and clarified at this time. This meeting is also the time to make a determination of how the research requirement for the Preliminary Examination will be fulfilled. This is normally a paper prepared for publication, based on the student's work since entering Brown. The determinations made at this meeting shall be recorded in a letter to the student and filed in the department (the semester evaluation letter may be used for this purpose, if timing is appropriate).

The Manager of Academic Programs & Outreach in G/C 105 can assist with putting together the paperwork for a student's preliminary exam application. The paperwork needs to be submitted, with her help, to the Director of Graduate Study three weeks prior to the desired examination date [**so please plan ahead**] The application information given to the Manager of Academic Programs & Outreach should include a list of the student's proposed Preliminary Examination Committee and a proposed Chair (may not be the student's Ph.D. Thesis Advisor).

Coursework: The appropriate blend of lecture, seminar, and research courses is negotiable with the faculty. Although not all coursework requires writing assignments, the Ph.D. dissertation will. Thus, taking improved academic writing seriously through coursework and reading (e.g., Montgomery, 2017) is an important preparation for the Ph.D., especially for EFL students (Glasman-Deal, 2010).

Teaching: The department requires all candidates for a Ph.D. degree to serve at least one semester as a Teaching Assistant. See Section E "*Teaching as a Learning Experience*" (page 8).

Ph.D. Thesis Research and the PhD/Thesis Advisory Committee: follow link to Ph.D. Thesis Advisory Committee (PTAC):.

Writing the Thesis: Before final completion of the thesis, the student should locate the Dissertation Guidelines on the Graduate School website at:

<http://www.brown.edu/academics/gradschool/dissertation-guidelines>

There is additional dissertation information in their Forms section (<http://www.brown.edu/academics/gradschool/gateway/for-graduate-students>). If students have further questions, they can contact Barbara Bennett at the Graduate School, 863-2843 or ETD@brown.edu.

Registrar's Requirements: The Registrar's Office will require anyone expecting a degree during May's commencement ceremony (ScM or PhD) to complete an "Application to Graduate" on-line. An e-mail notification regarding the deadline for this will be sent to all eligible candidates prior to commencement.

Final Examination:

- *Final Examination Committee (FEC):* The student and PhD Thesis Advisor nominate members of the Final Examination Committee and set an acceptable date, time and place for the final examination. The Final Examination Committee includes the PhD Thesis Advisor as Presiding Officer, two Readers, and at least two additional departmental faculty members. Readers are a formal university requirement, but all members of the Final Examination Committee are expected to formally read and comment on the thesis. One of the two readers should be from outside the department, either from another department at Brown or another institution or organization. Two members of the Final Examination Committee are normally members of the PhD Thesis Advisory Committee other than the PhD Thesis Advisor. At least one of the departmental members should be from a sub-field outside the student's research area. Additional members may be added to the Final Examination Committee if desired, but it normally will not exceed a total of eight.
- *Application:* The Manager of Academic Programs & Outreach can assist with the final exam paperwork. The student should submit the names of Final Examination Committee members, exam date, time and place to her, as well as the Ph.D. thesis title page signed by the PhD Thesis Advisor. The Manager of Academic Programs & Outreach will ensure everything is in order for the Director of Graduate Study to approve. She will then submit the appropriate paperwork to the Graduate School. The student should get all information to the Manager of Academic Programs & Outreach approximately one month before the Final Exam (N.B.: submissions less than 2 weeks before the scheduled date of the exam likely will result in a pushing back of the exam date). The Graduate School returns to the Manager of Academic Programs & Outreach (a) the official notice of the Exam which must be posted throughout the Department at least 2 weeks before the examination, and (b) the Graduate School approval form to be signed following the examination. The student should check with the Manager of Academic Programs & Outreach or the Graduate School to determine deadlines, which must be met to receive a degree in any given semester (this is particularly important if the degree is expected to be awarded at Commencement ceremonies).
- *Ph.D. Thesis:* Must be submitted to the Final Exam Committee at least 10 days before the exam.
- *Final Examination:* Prior to the examination, the candidate and Final Exam Committee will decide how much of it will be open to the general audience. The candidate begins the exam with a ~45 minute presentation of research results which is open to a general audience; the audience may also be given the opportunity to participate in part or all of the rest of the exam, as decided previously. The Final Exam Committee then conducts the examination of the student's Ph.D. thesis and research. Following the examination, the student is excused and the Final Exam Committee votes whether the presentation, thesis, and research warrant receipt of the Ph.D. If approved, Final Exam Committee members sign both the Graduate School form and the signature pages for the Ph.D. thesis (prepared by the student) and inform the student of their decision. The Final Exam Committee may require approval of modifications in the thesis before the final copy may be submitted to the Graduate School.

- *Final Paperwork:* The student's departmental file should contain a signed copy of the Graduate School final defense form, and the student must provide the Manager of Academic Programs & Outreach an unbound, final version hard-copy of the Ph.D. thesis (the department will cover the reproduction cost of its own copy). Before the degree can be granted, the Graduate School must receive the signed final defense form (processed by the Manager of Academic Programs & Outreach in G/C 105 in cooperation with the PhD Thesis Advisor).

The formal, final approval of all dissertations is handled by the Graduate School's Academic Manager (Barbara Bennett). In addition to the hard-copy given to the Manager of Academic Programs & Outreach, candidates must also submit two final copies of their final dissertations electronically. For more information, go to:

<https://www.brown.edu/academics/gradschool/dissertation-guidelines>

Binding of Dissertation:

Dissertation Binding: The Rockefeller Library's Preservation Services will bind personal copies of dissertations. Students need to bring them to the "B" level of the library's basement. They accept credit cards, declining balances, or personal check payments upon pick up of all bound copies. Students have one standard choice for thesis binding: black cloth with gold lettering on the spine only, and one standard price of \$20 per copy. For more information, go to:

<http://dl.lib.brown.edu/libweb/forgs/thesisbinding.php>

III. GENERAL

A. Guidelines for Faculty-Graduate Student Mentoring

An effective faculty-graduate student mentoring relationship develops and evolves over time. Navigating graduate school can be challenging at times (see <https://www.chronicle.com/article/Graduate-School-Should-Be/245028>). Students expect to benefit from the mentor's support, skills, wisdom, and coaching. Just as each graduate student brings to her/his work individual skills and personality, each faculty research advisor mentors students differently; this is partially an expression of the academic freedom that is fundamental to creative scholarship. However, even given these expected differences, certain broad expectations need to be followed to establish an effective mentoring relationship, and certain commitments are implied in such relationships.

Joint Commitments:

We recognize that communication is fundamental to a productive mentor-mentee relationship. Establishing regular meetings that include well-prepared updates and thoughtful discussion on research progress is a key aspect of communication. The yearly expectation sheet ([Appendix D: Graduate Student Expectation Sheets](#)) serves as a pointer for topics that need to be brought up during my meetings between mentor and mentee. The expectation sheet should be completed and signed by both party before being sent to the Director of Graduate Study.

We will work together to design course work for the student that aligns with the student's research interest and career goals. Course work breadth and depth appropriate to a student's research will be encouraged.

We will establish agreed upon expectations for work hours, leaves of absence, and vacation time.

We will be knowledgeable of and comply with all departmental and institutional policies. We will comply with both the letter and spirit of all institutional research policies (e.g., proper laboratory practices, harassment policies, and academic honesty). We will be respectful of all people within the department and university. We will work to avoid ethical conflicts of interest between private sector pursuits and the larger research program of the laboratory.

Co-advising joint Commitments:

In addition to the guidelines listed above, we will establish regular (at least once a semester) meetings between both mentors and the mentee to communicate research progress and goals. The yearly expectation sheets (see [Appendix D: Graduate Student Expectation Sheets](#)) need to be agreed upon by all parties.

Faculty Commitments:

I will create a fair, stimulating, and emotionally supportive research environment that is free from harassment or discrimination.

I will mentor graduate students to become future members of the scientific community. This includes encouraging critical thinking, creativity, and development of a student's independent contributions to research, while also keeping in mind the student's career goals.

I will help to plan and guide the student's research project. This includes helping the student to set reasonable and attainable research goals, setting reasonable guidelines for project completion, and providing constructive and timely feedback on student work.

I will provide timely feedback on drafts of research papers and related materials. I will carefully explain my rationale for suggested revisions.

I will work with the student to identify pathways for obtaining desired resources and financial support. I will identify research directions consistent with both funding objectives and interests of the student.

I commit to professional development of the student. Professional development includes helping to improve written and oral communication, proposal writing, and research paper publication. Professional development also includes facilitating participation in scientific meetings and student-led collaborations within and outside of the Department.

I will provide frank advice and feedback on career goals. I will assist the student in finding career opportunities suited to her/his skills and interests. I recognize that providing honest, supportive, and timely letters of recommendation is my responsibility. It is also understood that I will honor my commitment to Advisory Committee meetings and provide constructive and open-minded feedback to students.

Graduate Student Commitments:

I acknowledge primary responsibility for the successful completion of my degree.

I acknowledge that I have primary responsibility for the development of my career following the completion of my doctoral degree. I will seek guidance from my research advisor, career counseling services, thesis committee, other mentors, and any other resources available for advice on career plans and professional development.

I will regularly communicate progress to my advisor. Communication may include letters, emails, informal meetings, or committee meetings. During committee meetings, I am the one responsible for leading the discussion and directing the agenda.

I will work with my research advisor to develop a thesis project. I will communicate to my advisor and research committee my desire to incorporate fieldwork, laboratory work, and/or modeling into my thesis.

I will work with my research advisor to select Advisory, Preliminary Exam, and Thesis committees. I commit to meeting with the relevant committee at least once a semester. I will be responsive to the advice and constructive criticism from my committee. I will also utilize my committee members in support of short-term and long-term goals.

I will discuss the nature of my funding and the research expectations associated with the funding source. I will work with my advisor to balance grant-defined research with research directed by my own creativity and interests.

I will work with my advisor to submit all relevant research results that are ready for publication in a timely manner. This includes the development of concrete timelines for publishing research both during the pursuit of and after the completion of my degree.

I recognize that my advisor may not fulfill all of my mentoring needs. I will seek out additional reinforcement (i.e., committee members, peers, family, or professionals), when needed, for emotional support, intellectual community, and professional development.

I will attend and participate in relevant group meetings and seminars. This includes the Departmental Colloquium, my research group's lunch bunch, and other groups' lunch bunches when interests align.

Faculty Sabbatical Leave

During a sabbatical leave, Research Advisors commit to provide continued mentorship through periodic discussions with their graduate students. The terms (periodicity and modes of communication) best suited to fulfill the mentorship needs have to be agreed upon before the sabbatical. Members of the students' Advisory Committee, Preliminary Examination Committee or PhD thesis Advisory Committee may act as a Research Advisor replacement during a sabbatical leave. It is the responsibility of the Research Advisor to raise the question of replacement the semester before the sabbatical and the responsibility of the student, with the help of the Research Advisor, to find a replacement if necessary. The student is required to inform by email the Director of Graduate Study about any committee changes.

Grievance Procedures within the Department

If there are aspects of these guidelines that are not being met, then faculty and graduate students should consider first resolving the issue through discussion with the other person(s) involved. Students and faculty are also encouraged to consult with their mentoring networks, committee members (AC) and the Department Director of Graduate Studies (DGS). If necessary, consulting the Department Chair is also appropriate. If no satisfactory resolution is achieved, the complainant has the option to follow the [University Guidelines \(https://www.brown.edu/academics/gradschool/graduate-student-grievance-procedures#program\)](https://www.brown.edu/academics/gradschool/graduate-student-grievance-procedures#program), see *Appendix E: Formal Grievance Procedure*. Students have the option of pursuing a formal grievance. At the Department level, the formal grievance includes a written complaint (email or hard copy) submitted to the Director of Graduate Study or, if the DGS is an involved party, to the Department Chair, with a copy sent by the complainant to the Dean of the Graduate School. A written complaint must include *a clear statement of the grievance, evidence that supports the claim, indication of efforts pursued to address the problem and a proposed resolution*. The Director of Graduate Study will provide a written preliminary response within 10 working days of the receipt of the claim. The procedures that follow are outlined in detail in *Appendix E: Formal Grievance Procedure* and follow the guidelines outlined in <https://www.brown.edu/academics/gradschool/graduate-student-grievance-procedures - program>

The grievance procedure outlined here should be followed when none of the more specialized procedures are appropriate. These specialized procedures include:

- Title IX misconduct (sexual and gender-based harassment, discrimination). Link to the University portal: <https://www.brown.edu/about/administration/title-ix/>
- Affairs pertaining to the Student Conduct process, <https://www.brown.edu/academics/gradschool/academic-code>
- Discrimination and Harassment Policy Incident Reporting process, <https://www.brown.edu/about/administration/institutional-diversity/incident-reporting/discrimination-harassment-policy>

Grievance Procedures within the Graduate School, resources and path of recourse

If a complainant or respondent seeks to appeal the finding at the department level or contends the process was not followed appropriately, a written appeal needs to be filed to the Dean of the Graduate School within 20 business days. Additional extradepartmental resources include the following people:

- The Ombuds Office (<https://www.brown.edu/about/administration/ombudsperson/>) - *Ruthy Kohorn Rosenberg, J.D.*
- Associate Dean of Student Support - *Maria Suarez*
- Associate Dean of Academic Affairs – *Thomas Lewis*

B. Our Diverse Community

Our department is a community of scholars that is enriched by the diversity of its members, including diversity of race, ethnicity, national origin, gender and gender identity, sexuality, religion, and all the myriad ways in which we are different. The department expects that all of its members will interact with each other with respect and support. We adhere to the Principles of the Brown Community:

<https://www.brown.edu/about/administration/policies/code-conduct>.

Two sections of the Principles are highlighted here.

Respect for the Freedoms and Privileges of Others

We strive for a sense of community in which the individual growth of all members is advanced through the cultivation of mutual respect, tolerance and understanding. Brown University values and encourages individuality while also affirming the need to maintain a climate in which the activities of academic and community life may be freely pursued. A socially responsible community provides a structure within which individual freedoms may flourish without threatening the privileges or freedoms of other individuals or groups.

Statement of Non-Discrimination

Brown University does not discriminate on the basis of sex, race, color, religion, age, disability, status as a veteran, national or ethnic origin, sexual orientation, gender identity, gender expression or any other category protected by applicable law, in the administration of its educational policies, admission policies, scholarship and loan programs, or other school-administered programs. The University is committed to honest, open and equitable engagement with racial, religious, gender, ethnic, sexual orientation and other differences. The University seeks to promote an environment that in its diversity is integral to the academic, educational and community purposes of the institution.

Students who experience discrimination or witness discrimination against others should bring this to the attention of the Chair and DGS. Such concerns could also be communicated to the Chair and DGS through another faculty member chosen by the student. We encourage community members to first address these concerns within the Department; but if this is not successful, a student should contact the Associate Dean of Student Life in the Graduate School who is available to assist graduate students with a wide range of personal, family, medical, or mental health concerns that may be barriers to their academic success.

C. Care and Use of Department Facilities

To maintain the professional appearance of our work environment, avoid actions that might be destructive to the facilities, research activities, or be personally offensive or disruptive to others. Also be aware that visitors or University administrators may be present within the Department at any time.

Self-evident guidelines for use of facilities include the following:

- Individuals should not undertake ad hoc display or storage of materials in hallways. Please negotiate with the Chair or his/her designate.
- Do not use staples, tacks, or tape (other than "Post-It" note tape) on walls.
- Do not degrade the appearance of offices and labs with junk furniture.
- Hold down the clutter. Keep things off the floors of offices and labs so that the custodians can clean effectively. Notify the custodian if large items need removal or special cleaning is needed. Notify the main office if routine cleaning is not being done.
- Radios, stereos, etc. should be used in a way that they are not disruptive to others. Use headphones or at least keep doors closed.
- No smoking is permitted in Department buildings.

D. Administrative Support

Administrative support is available to graduate students for academic and research related issues. Administrative staff is housed in the Main Office, Room 101 in GeoChem and in LF

Rooms 106 and 205. Personal and research needs of graduate students do not normally receive administrative support such as typing papers, data entry, copying, etc. Check with your faculty advisor for approval and coordination in situations not covered in this handbook.

E. Communication Facilities

Telephones: The telephones in the Department are intended for the transaction of University-related business.

Each graduate student office is equipped with a shared phone number. Students' incoming calls should be addressed to this extension. Students generally answer these shared phones and take messages for one another. That failing, administrative staff will also take messages during normal office hours.

Laboratory and common area phones are not programmed for outgoing long distance calls. Outgoing business-related long distance calls should be placed from faculty or administrative offices.

Mail and Email: Each graduate student has a department mail box in his/her research section, and access to email services through the University. Students are urged to check their mail boxes and email regularly, as meetings and special events may be announced on short notice. The University Mail Room does not handle personal mail as a rule (outgoing or incoming), so direct personal mail and packages to a home address, not the department.

Department listservs: there are several listservs maintained through the Department of Earth Environmental and Planetary Sciences. If you are not receiving regular departmental notices or are unsure how the listservs should be used, please contact the Manager of Academic Programs & Outreach (G/C 105).

Copy and Computer Printing Facilities: The principal high-speed copy units for the Department are in G/C 106, the ground floor stairwell in G/C and in LF 116. These units receive heavy use serving departmental business needs. Administrative staff can provide assistance in learning to use the copiers.

Department administrative offices are "off limits" to students after normal business hours. In general, administrative professionals work-stations are not intended for graduate student use.

Supplies: Department supplies are available to graduate students for use in their duties as Research and/or Teaching Assistants. Students are expected to furnish their own supplies for their coursework and/or personal communications.

F. Equipment

The department maintains many items of equipment used in conducting its varied research programs, and students are encouraged to become familiar with equipment necessary for their work. In order to ensure that the equipment is used and maintained properly, certain guidelines must be followed. **Anyone working in a laboratory must enroll in a lab-safety class (see p. 19).**

The use of any item of equipment in the department is restricted to members of the department (students and faculty) and is permitted only for activities directly related to research work with the knowledge of a departmental faculty member. In addition, departmental laboratories contain many items of highly specialized and sophisticated research instrumentation, such as mass spectrometers and an electron microprobe. Such instrumentation requires extensive training before use can be contemplated, and is only available through specific arrangement with the supervising faculty member. Many of these instruments are subject to use charges.

In general, one faculty or staff member is in charge of a given piece of equipment or special services facility (such as computing, photography, etc.). Permission must be secured from this person before use. Persons unfamiliar with the equipment or procedures must be vetted prior to use, and should contact the faculty member in charge to arrange for this. Any equipment and its environs used by a student must be left in good working order - clean, with the student's materials removed. If this is not possible, special arrangements must be made with the faculty or staff member beforehand.

G. Miscellaneous

Taxes: All students should file W-4 forms to avoid penalties. Federal and State W4 tax elections should be completed online in [Workday](#). Stipends for teaching assistantships or research assistantships are subject to income tax and withholdings. Fellowship stipends are paid with no withholdings during the academic year, but are subject to OASDI and Medicare taxes during the summer. International students should check with the Director of the Office of International Student and Scholar Services (currently Elke C. Breker, x3-2427) as they may be exempt from tax payments in this country due to tax agreements their country may have with the USA. Also see their website for more info: <http://www.brown.edu/Administration/OISSS>.

Travel: Check policies *before making arrangements or traveling!* Graduate students who travel on department/faculty funding may apply for a travel advance (with backup documentation) or submit a pre-trip report after ticketing/registration. A final Travel Expense Report, for additional travel expenses, must be submitted within 2 weeks after the travel. Support staff is available to help prepare travel advances and expense reports. See the Main Office staff (G/C 101) for details on travel reimbursement and on University travel policies. **Submit RECEIPTS for ALL expenses you want reimbursed.**

Technicians: At present, all technicians in this Department are paid either in part or fully out of research grants and contracts held by various faculty. These technicians perform special duties connected with research grants and contracts and are not available for the general convenience of graduate students. Check with relevant faculty as to whether a problem is appropriate to be worked into the normal work schedule of a technician.

Security: Keys for the various offices and labs may be obtained through the Manager of Academic Programs & Outreach, G/C 105. The University has "swipe-card access" to department buildings. Your Brown University ID card will allow you to enter departmental buildings after hours and on weekends. The Manager of Academic Programs & Outreach is also the card access officer for the Department.

In past years, a number of thefts have occurred in University buildings, including Earth, Environmental and Planetary Sciences. There is every reason to expect that further thefts will be attempted. All building doors and accessible windows must be kept locked after hours and on weekends and holidays. It is prudent to lock offices when not occupied. People with no legitimate reason for being in departmental buildings should not be admitted (e.g., do not permit unknown individuals to gain access to the buildings after hours when you enter or leave).

Take action with regard to any suspicious activity by calling Public Safety at x3-3322 (or 4111 for emergencies) at once and/or notifying department personnel.

Health Insurance: All Brown students are required to show proof of health insurance while enrolled at the University. All registered students are automatically enrolled in the

University's Student Health Insurance Plan (SHIP). Doctoral students who are financially supported by the University will automatically be granted a health insurance subsidy and do not need to submit an application for one unless the subsidy does not appear on their University bill as a Health Insurance Fee Credit. Students may waive SHIP coverage by presenting proof of adequate outside coverage to the University.

University Health Services: Students should make every effort to address health problems through University Health Services before consulting with a private physician. Full-time students are billed for a University Health Services fee, which covers usage of this facility and its services during the academic year. This fee is paid along with tuition as part of the appointment that supports each full-time graduate student.

Safety and Safety Training: **All incoming graduate students must attend at least one of the Laboratory Safety Training Sessions provided by the University**, held during fall orientation and limited other times each year.

See faculty for the appropriate safety procedures to be followed in his/her laboratories. Faculty members or their designates will provide instruction on the use of laboratory equipment and precautions concerning the handling of any hazardous chemicals, and procedures for their disposal. Many procedures and issues are discussed in the blue-covered Brown University Laboratory Safety Manual, copies of which are kept in most laboratories and in the Main Office. Furthermore, familiarize yourself with the location of first-aid kits, fire extinguishers, and other safety equipment in the laboratories and hallways. Bring any safety issues to the attention of the appropriate faculty member.

In case of serious injury, call or go to the University Health Services in Andrews House (NE corner of Brown and Charlesfield Streets; x3-3953) or call 4111. A trained EMT may be dispatched in cases of serious injury. The supervising faculty advisor should be informed of all accidents and injuries so that procedures may be reviewed and appropriate University accident forms filed (Workman's Compensation may be applicable).

Responsible Conduct in Research Training: All National Science Foundation supported graduate students (and undergraduate and postdocs) must complete training in Responsible Conduct in Research. The Office of the Vice President for Research (OVPR) at Brown offers several RCR courses throughout the year under the Brown Ethics And Responsible Conduct of Research Education (BEARCORE) program. Departmental faculty have decided that such training would be beneficial to our students and that it should be a requirement for everyone in our Graduate Program. Course dates and syllabi are available at <https://www.brown.edu/research/conducting-research-brown/preparing-proposal/research-integrity/ori-staff-directory/bearcore>. Students are strongly encouraged to sign up for a session during their first year at Brown. Any questions should be directed to the Office of Research Integrity, which is currently directed by Jules Blyth (401-863-3295, juliane_blyth@brown.edu).

Injuries: Any injury occurring in a laboratory, office, on University grounds or while otherwise carrying out one's employment responsibilities should be reported to the Office of Environmental Health and Safety (x3-3353). Each incident will be thoroughly reviewed on an individual basis.

Letters of Reference: Students may ask faculty members who are familiar with their work to write letters of recommendation or reference for jobs or other graduate schools. The student is advised to discuss the position in question, giving the faculty member an opportunity to discuss the appropriateness of the student's preparation for the position and to indicate how strong a letter he/she would be willing to write.

Career Planning: Most advice on professional opportunities in the field of earth, environmental and planetary sciences at the graduate level will come from personal interaction with faculty members or professionals, and sometimes through contacts made with department alumni. To aid in résumé preparation and navigating the interview process, the department office maintains a file with résumés from recent graduate students and a sampling of reference books on career planning. Suggestions for other useful resources are always accepted.

Brown's Career Development Center (167 Angell Street) has been expanding its services for graduate students; check out their services at: <http://careerdevelopment.brown.edu/index.php>.

Departmental faculty also offer a series of Professional Development Seminars throughout the academic year to discuss many aspects of professional life, including career planning issues.

University Policies Concerning Grievances and Sexual Harassment: Brown University observes strict guidelines in dealing with grievances or sexual harassment (see above) issues. Please visit the appropriate University web site for grievances:

<https://www.brown.edu/academics/gradschool/grievance-procedures>

Financial Support Policies: Students who are admitted to any of Brown's doctoral programs are guaranteed five years of support, including a stipend, tuition remission, health-services fee, and health-insurance subsidy. These allotments are tied to a wide complex of needs within these units, including undergraduate enrollments and the professional development of graduate students as future faculty (in the case of teaching assistantships), technical and programmatic support (proctorships), and graduate students' research and scholarship (research assistantships and fellowships). Upon recommendations from academic programs and other units at Brown, student appointments are then processed by the Graduate School according to the original allotments and to these criteria, among others.

Bibliography

The Harriet W. Sheridan Center for Teaching and Learning, *Tips on Facilitating Effective Group Discussions*, <https://www.brown.edu/sheridan/teaching-learning-resources/teaching-resources/classroom-practices/learning-contexts/discussions/tips>.

Greene, A.E., 2013. *Writing science in plain English*. University of Chicago Press.

Fiske, P.S., 2013. *Put your science to work: the take-charge career guide for scientists*. John Wiley & Sons.

Glasman-Deal, H., 2010. *Science research writing for non-native speakers of English*. World Scientific.

Magaziner, I. et al, 2011. *The Magaziner-Maxwell Report: the Seed of a Curricular Revolution at Brown*, Open Jar Foundation, <https://library.brown.edu/libweb/papers/BrownCurriculum.pdf>.

Montgomery, S.L., 2017. *The Chicago guide to communicating science*. University of Chicago Press.

Snieder, R. and Larner, K., 2009. *The art of being a scientist: A guide for graduate students and their mentors*. Cambridge University Press.

Vick, J.M., Furlong, J.S. and Lurie, R., 2016. *The academic job search handbook*. University of Pennsylvania Press.

Appendix A: Timeline to the Ph.D.

TIMING	EVENT
On arrival:	Select <i>Director of Graduate Study</i> (preliminary) or Research Advisor (RA).
By end of first semester:	Select RA and form Advisory Committee (AC). <i>AC = RA + two faculty (one must be from dept. sub-field outside the student's primary area of interest).</i>
Each semester:	Student calls AC meeting <u>at least once each semester and updates departmental file.</u>
> 6 mo. before Prelim: (by end of 4th semester)	Student + AC meet to formally clarify nature/content of Prelim.
> 3 weeks before Prelim: (5 th semester)	Student + RA submit Preliminary Examination Committee (PEC) names & prelim date, time, place to Graduate Program Representative for approval. PEC = RA+AC + other faculty to bring total to 5. (PEC Chair may not be student's RA.). See Manager of Academic Programs & Outreach for assistance with paperwork and scheduling.
> 10 days before Prelim:	Student submits written research proposal to PEC. Preliminary Examination will be based in part on this proposal
5 th semester:	Student takes Preliminary Examination.
<hr/>	
After passing Prelim:	Student + RA submit Ph.D. Thesis Advisory Committee (PTAC) names to Grad Program Representative for approval. PTAC = RA (now PTA) + at least two dept. faculty (one must be from dept. sub-field outside the student's primary interest area).
Each semester:	Student calls PTAC meeting at least once each semester and updates departmental file.
On completion of thesis:	Student takes Final Exam. See p.15 for details & deadlines.

Appendix B: Preliminary Examination Procedure

Purpose

The purpose of the Preliminary Examination is to formally determine whether a student should continue for a Ph.D., and, if so, to determine whether some areas of weakness exist that should be strengthened by taking specific courses or completing other requirements. This evaluation considers (1) knowledge in fields directly related to the student's research interests; (2) ability to communicate in written and verbal forms; and (3) ability to integrate knowledge from broader areas of earth and planetary sciences, as well as relevant basic sciences, to place the proposed research in proper context. The goal of a PhD is to gain **independence** in all aspects of research, including framing and motivating research questions, testable hypotheses and the development of a logical and feasible work plan to address the stated research questions. The input from the Research Advisor on the proposed research should therefore be limited.

Preparation

Preparation for the Preliminary Examination offers the student an excellent opportunity to review material covered in courses and to develop an integrated understanding that cuts across boundaries of knowledge defined by individual courses.

The Preliminary Examination is clearly a milestone in the student's academic life at Brown, it should be considered as only one step in a continuing educational process. As with other steps in this process, the Preliminary Examination is most effective when the student, the advisor, and other members of the staff have had prior exchanges of ideas and information.

Advisory Committee meetings are useful in preparing for the Preliminary Examination because they serve as a forum where the student gains practice in presenting research results and in answering questions from scientists with different research backgrounds. In these meetings the student should take the initiative in asking for advice on research plans. The student should also take the initiative in asking his/her committee members to make recommendations about classes that should be taken. The student and the Advisory Committee should meet at least 6 months prior to the Prelim to consider and, if necessary, revise committee membership to make certain the faculty involved represent areas that will be emphasized in the student's exam and research. This meeting should also be used to formally clarify the nature and content of the areas that will be emphasized in the exam, and to specify how the student will fulfill the research requirement (see *Components of the Examination* below).

Each year the *Director of Graduate Study* will hold a meeting to discuss the Preliminary Examination with students planning to take it that year. In addition, even though the Prelim is tailored to the individual student's background and experience, it is helpful for the student to talk with other graduate students about their exam experiences. It is common practice for students to conduct a mock examination several weeks prior to the scheduled examination date in front of their fellow students to gain some experience with the exam format and get feedback on their research proposal and presentation skills.

Timing and Application Procedure

Students normally take the Preliminary Examination in their fifth semester. Any student in good standing who has fulfilled the research requirements specified by the Advisory Committee may apply to take the Preliminary Examination, but it is in the best interest of the student to work closely with their advisor in determining the best time to take the exam. If the Preliminary Examination has not been completed by the fifth semester without proper cause (e.g., medical/personal leaves; failure of equipment; postponement of fieldwork; etc.), the student will automatically be placed on academic probation for the following semester. Proper cause should be determined in discussion with the student and their Advisory Committee. Academic probation is determined on a semester basis, is

internally documented in the Department and with the Graduate School and is not indicated as part of the students' transcript.

Application for the Preliminary Examination should be submitted by the student to the Director of Graduate Study three weeks prior to the desired examination date (see the Manager of Academic Programs & Outreach in GC 105 to get started). The application should request a specific date, time, and place for the exam (agreed to in advance by the Preliminary Examination Committee [PEC] members), list the proposed PEC members, and propose a Chair of the PEC (normally not the student's Ph.D. Thesis Advisor). Upon approval of the application, the Manager of Academic Programs & Outreach will provide the PEC Chair with the form to be submitted to the Graduate School at the completion of the Preliminary Exam.

Preliminary Examination Committee (PEC) Composition

The PEC should consist of the Ph.D. Thesis Advisor (PTA), the student's Advisory Committee members, and other department faculty, one of whom is from outside the student's primary area of interest, to make a total of 5. One member of the Committee may be from outside the department. PEC members are generally composed of faculty from Brown. In exceptional circumstances, a student may apply to the DGS to include a PEC member from outside the University. The faculty selected should provide expertise in the areas that have previously been identified during Advisory Committee meetings as being appropriate for examination.

Components of the Examination

The PEC takes into consideration the following evidence to decide on the student's admission to degree candidacy:

- a. *Research potential as evaluated by performance in an oral examination.* At least 10 calendar days prior to the oral examination, the student shall provide the Manager of Academic Programs & Outreach in GC 105 and the PEC members a written research proposal, 6 text pages in length (including figures, but not references; minimum fontsize of 11pts and single spacing). The student proposal should pose an original research problem and a course of action that can be used to study the problem. The proposal should include: background information to motivate the research goals and discuss the current state of knowledge in the field; specific objectives or research questions to be addressed that include testable hypotheses; methods appropriate (or needed to develop) to address the objectives/research questions; and an overall plan of action to achieve the proposal's goal (e.g., a timeline, plan for manuscripts or the like). Be mindful that the background and motivation discussions should be at the appropriate level for anyone to understand it within our department (not only specialists). **Although the student is encouraged to discuss the written proposal with others prior to the oral exam, the proposal ideas and written work should be largely their own work (and not that of the Research Advisor).** A preface should be attached to the proposal briefly describing three subject areas that have been identified previously in consultation with the Advisory Committee as being the focus of the exam. The choice of the three topics is motivated by knowledge areas that are relevant to the proposed research. The PEC and student should clearly define the scope of these focus areas. For example, the scope for each subject area could match a landmark graduate student-level textbook in the field.

Questioning during the oral exam normally begins with topics directly related to the proposal but will expand to general knowledge in the focus areas and the relationship of the proposal research to the field as a whole. Topics are not confined to the focus areas, and evaluation of the student's performance will consider how closely the topic is to these areas or to the student's research proposal. The purpose of the oral exam is to test the student's knowledge and ability to integrate the scientific disciplines related to his/her area(s) of interest. While it is expected that

the written proposal will be carefully prepared, the success or failure of the oral exam is based only in part on whether the written proposal is a defensible research problem. It is understood that the proposal may or may not eventually become the student's actual Ph.D. thesis research.

- b. *Evaluation of research ability based on research accomplishments.* Because the preparation of a Ph.D. thesis requires the ability to do independent research, perhaps the most important component in the PEC's evaluation of a student is the demonstration of research ability by prior accomplishments. At the time of the Preliminary Examination, the candidate is expected to have completed a draft of a scientific paper that is being prepared for publication describing research carried out at Brown. This requirement ensures that the student has participated in the research process of developing new concepts and ideas, interpreting scientific data, integrating new results with existing knowledge, and writing scientific papers. In contrast with the research proposal described above, this would normally involve significant interaction with the student's research advisor.

At least 6 months prior to the expected date of the Preliminary Examination, the Advisory Committee will determine and explicitly state verbally and in a memo to the student's file (may be part of a graduate student evaluation letter) the research requirements to be satisfied before the student will be permitted to take the Preliminary Examination. The student shall place a copy of the paper submitted in fulfillment of these requirements into their Portfolio (staff in G/C 101 can help) no later than the time they distribute their Research Proposal to their committee (minimum of 10 days before the exam).

- c. *Overall evaluation of accomplishments including academic record.* Prior to the Preliminary Examination, the student should update his/her Portfolio with any materials which are relevant to his/her overall graduate student performance. The PEC reviews evidence of the student's academic record, research, and other accomplishments, including items in the student's Portfolio and statements made by members of the PEC.
- d. *Performance on an optional written examination.* At the request of the student, the PEC shall prepare, administer and evaluate the student's performance on a written examination lasting no longer than 5 hours, given at least two days prior to the oral examination.

Administration of the Preliminary Examination

The Chair of the PEC shall bring the student's academic record folder, Portfolio, and the Graduate School form to the examination. The oral examination is usually about 2 hours long, and is conducted by the Chair as follows:

- a. *Chair's introductory statement (5 minutes).* The Chair shall begin the examination with a review of its purpose and organization.
- b. *Student's summary statement (15 minutes).* The student shall briefly summarize the main points of his/her research proposal and may present maps, diagrams, or other pertinent reference material.
- c. *Thesis Advisor's question period (15 minutes).* The Thesis Advisor shall take up to fifteen minutes to question the student on the research proposal and related scientific subjects. Although other members of the committee may interrupt briefly to seek clarification or definition of certain points, they should obtain the Advisor's permission before undertaking separate lines of questioning. In the event the Advisor does not use up the time allotted, the unused time will be added to the open question period.

- d. *Question period of other committee members (15 minutes each)*. Each of the remaining committee members, in turn, shall conduct a 15 min. question period with the same provisions as specified for the Advisor.
- e. *Open question period (30 minutes)*. A final question period (approximately 30 min. plus the balance of time not used in the earlier question periods) shall be open to all members of the committee. If need arises, the PEC Chair shall determine how the question time shall be shared by committee members.
- f. *Evaluation and voting period*. After the student has left the room, each PEC member shall present his/her evaluation of the student's research potential, academic record, Portfolio, and accomplishments based on the oral exam. The Ph.D. Thesis Advisor's presentation shall include a discussion of the background and origin of the written research proposal. Following these presentations, the PEC shall decide on the student's admission to degree candidacy by majority vote. (At the discretion of the PEC Chair, other faculty members present during the examination may at this time present opinions but shall not vote). Four voting options are available:
- (1) Unqualified Pass.
 - (2) Qualified Pass. Student is admitted to candidacy but required to complete additional courses or reading or to undertake specified research activity.
 - (3) Failure with permission to retake the examination. Student may be required to take additional coursework or undertake other specified actions before application can be made for re-examination.
 - (4) Failure without permission to retake the examination.
- g. *Reporting*. After the vote is taken, the student shall be invited back into the room and informed of the examination results by the Chair of the PEC. An oral summary to the candidate will be made at this time. The candidate shall be encouraged to discuss topics arising from the exam with individual committee members and to hold a meeting of his/her Ph.D. Thesis Advisory Committee soon after the Preliminary Examination. The PEC Chair shall also be responsible for sending to the student (and to the student's Department file) a summary letter within two weeks after the Preliminary Examination. This summary letter shall be made in consultation with the PEC members and should be signed by all PEC members.

The PEC Chair shall also fill out the Preliminary Exam form, and return the form to the Dept. Coordinator for copies to the student's file and forwarding of the original to the Graduate School and Registrar. This form should state which option was voted by the Committee and, in the case of a Qualified Pass, what requirements must be completed by the student to change the Qualified Pass to an Unqualified Pass, and the time frame in which those requirements are expected.

Re-examination

The procedure for a re-examination is identical to that described above for the first examination except that (a) the PEC Committee members may decide to adjust the time allotment among examiners to give more time to the student's weakest fields as identified in the first examination, and (b) the results can only be #1, #2, or #4.

Appeal

Any "failure" final decisions may be appealed to the full staff by the student (at a closed faculty meeting). In such cases an appeal is requested of the Department Chair and a final decision rests on a majority vote of the eligible voting faculty.

Appendix C: Typical Advisory Committee Meeting Agenda

Purpose of Advisory Committee meetings:

Purpose of Advisory Committee meetings:

Members of your Advisory Committee are there to help you with career development and goals. The Advisory Committee meeting provides you with the opportunity to seek advice on research, guidance on curricular matters, perspectives on your graduate program, and advice in any other appropriate matters that may be of concern. In preparation for the Advisory Committee meeting, the student should prepare a statement of goals and accomplishments. The meeting provides Advisory Committee members with perspectives on your progress that they will carry forward to the Graduate Review Session that occurs at the end of each semester. Remember, these meetings are **student run**, and as such, they should **focus on information you want to talk about**.

A typical Advisory Committee meeting should generally include the following:

- Goals
 - Outline your career and semester goals
 - Discuss what steps need to be taken to achieve those goals
 - Solicit help from you committee members to enable you to achieve these goals
- Highlight achievements from the previous semester
 - Research papers completed, meetings attended, talks presented
 - Review and discuss most recent evaluation letter (if appropriate) along with concerns and/or constructive criticism expressed in the letter
- Research:
 - Broad objectives of your research, including a **brief** summary of recent research progress
 - This is NOT expected to be a Lunch Bunch style presentation, but can be if you feel it is helpful
 - Outline of future research directions and anticipated timelines
 - Discussion of any outstanding research difficulties (if needed)
- Coursework:
 - Review past and present courses taken and plan future courses (there should be elements of depth and breadth in your transcript)
 - Discuss relationship of coursework to research and career interests
- General Progress:
 - Discussion of yearly expectation sheet
 - Preparations and expectations for the Preliminary Examination
 - Expected timeline for fulfilling degree requirements

The relative importance of each of these topics will change with time. Below is a general outline of primary topics that should be discussed during committee meetings as your graduate student career progresses:

- ***First Meeting:*** In your first Advisory Committee Meeting, you should focus on introducing yourself to your committee. Discuss general professional goals (**why are you in graduate school?**) and where you are coming from. Include previous academic institutions, courses taken at these institutions, professional experience (if applicable), and previous research projects. Much of this meeting will likely focus on current and future course work
- ***Subsequent meetings before prelims:*** These meetings are typically focused on coursework and progress on preliminary research projects, and will generally become

- more research heavy as you advance towards prelims. Goals and semester highlights should also be included.
- ***Last meeting before prelims (should be 6 months in advance):*** Discuss anticipated date of prelims, additional members to be added to your examination committee, the three general examination topics for prelims.
 - ***Post prelims to one year before graduation:*** Most of these meetings will be focused on goals, achievements, and research, with little discussion of coursework, unless you feel more coursework is necessary to help you achieve your career and research goals. You should discuss how many chapters your committee expects you to have in your dissertation and which projects will make up each chapter. You may also want to start discussions on post-graduation plans.
 - ***Final year of committee meetings:*** Outline each chapter of your dissertation and your progress on each of those. Discuss your anticipated date of graduation, who will be on your Final Examination Committee, and post-graduation plans.

Appendix D: Graduate Student Expectation Sheets

Expectation sheets should be filled each year of graduate school. They include questions/topics that should be discussed between advisors and advisees at least on a yearly basis. These expectation sheets must be filled and signed by the Research Advisor and student, and in the case of co-advising, by each Research Advisor. The student is then responsible for sending the signed form to the Director of Graduate Study and to add a copy to the digital portfolio. The forms are different for different years into our program. **Forms should filled up every Fall semester prior to the student's advisory committee meeting.**

First year students: Expectation sheet to be filled and signed by Research Advisor(s) and student before the end of the Fall semester. *Discussion items include organization of Advisory Committee and setting goals and expectations for our graduate program.*

Second year students: Filled and signed by the Research Advisor(s) and student before the end of the second Fall semester. *Discussion items include organization and requirements for Preliminary examination.*

Third year students: Filled and signed by the Research Advisor(s) and student before the end of the third Fall semester. *Discussion items include debrief of Preliminary examination or preparation for it (if not completed).*

Fourth year students and beyond: Filled and signed by the Research Advisor(s) and student before the end of the third Fall semester. *Discussion items include path to PhD defense and post-graduation plans.*

The word document files can be accessed at this address <https://www.brown.edu/academics/earth-environmental-planetary-sciences/graduate-program/graduate-student-handbook>

*First Year (to be completed **before** the end of the first semester)*

Student:

Advisor(s):

1. Career/goals

- a. What are your long-term goals?
- b. What are your goals for this academic year?
- c. What courses do you plan to take this academic year?
- d. What are your professional development goals for this academic year?
- e. Will you participate in any service and outreach activities this year?

2. Research

- a. What are your research goals for the year?
- b. Is there any particular (laboratory, computational or theoretical) technique that you need to learn this year? How will it help your research?
- c. What are your plans to build concurrently literature background and technical skills within your field of research?
- d. What are your plans to build scientific breadth?

3. Advising

- a. Who would you like to serve on your advisory committee (AC)? How/why were these people selected?
- b. How often should you and your advisor(s) be meeting? How will you prepare for the meetings?
- c. If co-advised, will you meet regularly with both advisors or separately with each?
- d. What can your advisor do to best support your goals this academic year?
- e. Do you have any accommodations you have or need to seek out?

4. Expectations

- a. Have you completed lab safety training? Ethics training?
- b. What are the expectations for work hours, leaves of absence, and vacation time that you established with your advisor(s)?

5. Other

- a. Are there any concerns or difficulties of which both advisor and advisee should be made aware?

Second Year

Student:

Advisor(s):

1. Career/goals

- a. What are your long-term goals?
- b. What are your goals for this academic year?
- c. What courses do you plan to take this academic year and next academic year?
- d. Do you have planned outreach activities this academic year?
- e. Do you plan to attend conferences this academic year?
- f. What are your professional development goals for this academic year?
- g. Do you plan on being a TA this year? If so, have you discussed possible courses to TA for ?

2. Research

- a. Briefly describe your research progress since last Expectations sheet.
- b. What are your research goals for the next year?
- c. Describe the motivation behind your (/one of your) current research project(s).
- d. What manuscripts do you have in prep and what author order are you anticipating – which author will play the role of corresponding author?
- e. What are your plans to build scientific breadth this year?

3. Advising

- a. Have you discussed the contents of your review letter with your advisor(s) and committee members? Are there any points of disagreement? How do you plan to address the feedback in your review letter?
- b. What can your advisor do to best support your goals this academic year?
- c. How often will you and your advisor(s) be meeting? If co-advised, will you meet regularly with both advisors or separately with each? How will you prepare for the meetings?
- d. Do you have any accommodations you have or need to seek out?

4. Funding

a. How will you be funded next year? What course would you like to TA next year (if applicable)?

5. Master of Science

a. Do you plan to obtain a transitional Master of Science? If so, what are the terms that you agreed upon with your Advisory Committee to fulfill the degree requirements? When do you plan on having met these terms?

6. Preliminary Exam

a. What do you need to do before being able to take your Preliminary Exam?

b. When during the 5th semester you plan to take your Preliminary Exam?

c. What do you anticipate the subject areas of your Preliminary Exam to be?

d. Who will serve on your Preliminary Exam Committee? How/why were those members chosen?

7. Other

a. Are there any concerns or difficulties of which both advisor and advisee should be made aware?

Third Year

Student:

Advisor(s):

1. Career/goals

- a. What are your long-term goals?
- b. What are your goals for this academic year?
- c. What courses do you plan to take this academic year and next academic year?
- d. Do you have planned outreach activities this academic year?
- e. Do you plan to attend conferences this academic year?
- f. What are your professional development goals for this academic year?

2. Research

- a. Briefly describe your research progress since last Expectations sheet.
- b. What are your research goals for the next year?
- c. What manuscripts do you have in prep and what author order are you anticipating – which author will play the role of corresponding author?

3. Advising

- a. Have you discussed the contents of your review letter with your advisor(s) and committee members? Are there any points of disagreement?
- b. How do you plan to address feedback in your review letter?
- c. How often will you and your advisor(s) be meeting? If co-advised, will you meet regularly with both advisors or separately with each? How will you prepare for the meetings?
- d. What can your advisor do to best support your goals this academic year?
- e. Do you have any accommodations you have or need to seek out?

4. Funding

- a. How will you be funded next year? What courses would you like to TA next year (if applicable)?

5. Preliminary Exam

- a. What do you need to do before being able to take your Preliminary Exam?
- b. When do you plan to take your Preliminary Exam?
- c. What are the subject areas of your Preliminary Exam to be?
- d. Who will serve on your Preliminary Exam Committee?
- e. If you have completed your Preliminary Exam, how do you plan on addressing the feedback you received during the exam?

6. Thesis

- a. What does the structure of your thesis look like (e.g. timeline until graduation, draft list of chapters)?
- b. Who would you like to serve on your thesis committee?

7. Other

- a. Are there any concerns or difficulties of which both advisor and advisee should be made aware?

Fourth year and beyond

Student:

Advisor(s):

1. Career/goals

- a. What are your goals for this academic year? What are your long-term goals?
- b. Do you plan to take courses this academic year? What grade options?
- c. Do you have planned outreach activities this academic year?
- d. Do you plan to attend conferences this academic year?
- e. What are your career plans and goals for after graduation?
- f. How will you be funded next year? What courses would you like to TA next year (if applicable)?
- g. How will you begin to prepare for your post-graduation career goals and plans this summer?

2. Research

- a. Briefly describe your research progress since last Expectations sheet.
- b. What are your research targets to complete the PhD?
- c. What manuscripts do you have in prep and what author order are you anticipating – which author will play the role of corresponding author?

3. Advising

- a. What can your advisor do to best support your goals this academic year?
- b. How often will you be meeting?
- c. Do you have any accommodations you have or need to seek out?

4. Thesis

a. Have you discussed a list of thesis chapters with your committee? What are they? What are their completion timelines?

b. Who would you like to serve on your thesis committee? Who would the outside reader be? How/why were these members chosen?

5. Funding

a. How will you be funded next year?

6. Other

a. Are there any concerns or difficulties of which both advisor and advisee should be made aware?

Appendix E: Formal Grievance Procedure

At the Department level:

If no satisfactory resolution is achieved students have the option of pursuing a formal grievance. At the department level, the formal grievance includes a written complaint (email or hard copy) submitted to the Director of Graduate Study, or if the DGS is an involved party to the Department Chair, with a copy sent by the complainant to the Dean of the Graduate School. A written complaint must include *a clear statement of the grievance, evidence that supports the claim, indication of efforts pursued to address the problem and a proposed resolution*. The Director of Graduate Study will provide a written preliminary response within 10 working days of the reception of the claim. The procedures that follow are outlined in details at

<https://www.brown.edu/academics/gradschool/graduate-student-grievance-procedures-program>

The procedure at the department level for a formal grievance claim follows:

- The Director of Graduate Study or Department Chair shall refer the complaint to a review committee within 15 business days.
- The review committee is named by the DGS or Chair and must include the Chair (if not one of the involved party) and at least two other faculty members and one graduate student member.
- Within 30 business days, the committee should hear the student and respondent and prepare a report of findings. This report includes a summary of the process and a determination regarding the grievance that will be shared with the complainant and respondent. Committee decisions are made by vote. The DGS then acts on the resolution of the grievance following the recommendation of the committee. Findings and documentation need to be filed with the Graduate School.
- A student who believes that the procedure was not conducted appropriately or within a reasonable period of time may appeal to the Dean of the Graduate School.

At the Graduate School level:

If a complainant or respondent contends with the process or seeks appeal, a written appeal needs to be issued to the Dean of the Graduate School within 20 business days. The appeal must include documentation of the department level process and an explanation for the basis of the appeal.

Further information about the Grievance procedure at the Graduate School level is provided in <https://www.brown.edu/academics/gradschool/graduate-student-grievance-procedures-program>

Appendix F: Faculty Committee Assignments

Our committee assignments are updated regularly and you can find the most up to date version online at <https://bit.ly/2lHuTya>

Appendix G: Graduate Student Leadership

Presidents:

- Danny Anderson
- Matt Jones
- Bryce Mitsunaga

Graduate council Reps:

- Brendan Anzures
- Imani Guest

Treasurers:

- Darien Florez
- Joel Wilner

Sheridan center Reps:

- Emily Joyce
- Richard Vachula

Faculty Reps:

- Rachel Sheppard (Planetary)
- Jordyn Babikoff (Geophysics)
- Joseph Cukjati (Geochemistry)
- Richard Vachula (C & E)

Professional Development Reps:

- Sierra Kaufman
- Erica Nathan

GWISE Reps:

- Isabella Gama
- Jenna Pearson

International Student Mentors:

- Isabella Gama
- Chris Kremer

First year mentoring Reps:

- Sydney Clark
- Jordyn Babikoff

DWG Reps:

- Em Bjonnes
- Imani Guest
- Isabella Gama