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This document supersedes previous Graduate Student Handbooks
# Table of Contents

I. **INTRODUCTION** ........................................................................................................... 2

II. **ACADEMIC AFFAIRS** .................................................................................................. 2
    A. Advisors and Advisory Committees ................................................................. 2
    B. Coursework ................................................................................................... 5
    C. Academic Honesty ....................................................................................... 7
    D. Research ...................................................................................................... 7
    E. Teaching as a Learning Experience ............................................................ 8
    F. The Portfolio ................................................................................................. 9
    G. Graduate Review Sessions .......................................................................... 10
    H. Graduate Review Letters ............................................................................... 10
    I. Leaves of Absence ......................................................................................... 11
    J. Requirements for the 5th-Year Master’s Degree ....................................... 12
    K. Requirements for the Master’s Degree ......................................................... 13
    L. Requirements for the Ph.D. ........................................................................... 13
        • Preliminary Examination (see also Appendix B) .................................... 13
        • Coursework ............................................................................................. 14
        • Teaching ................................................................................................. 14
        • Ph.D. Thesis Research and the Thesis Advisory Committee .................. 14
        • Writing the Thesis .................................................................................. 14
        • Final Examination ..................................................................................... 15
        • Binding of Dissertation ........................................................................... 16

III. **GENERAL** ............................................................................................................... 16
    A. Guidelines for Faculty-Graduate Student Mentoring .................................. 16
    B. Policies Concerning Gender/Ethnic Relations ........................................... 18
    C. Care and Use of Department Facilities ....................................................... 19
    D. Administrative Staff and Department Offices ............................................. 19
    E. Communication Facilities ............................................................................ 20
    F. Equipment .................................................................................................... 20
    G. Miscellaneous ............................................................................................... 21
        • Taxes ........................................................................................................ 21
        • Travel ........................................................................................................ 21
        • Technicians ............................................................................................... 21
        • Security ...................................................................................................... 21
        • Health Insurance ...................................................................................... 22
        • Safety and Safety Training ....................................................................... 22
        • Responsible Conduct in Research Training ............................................ 22
        • Injuries - Workman’s Compensation .......................................................... 22
        • Letters of Reference .................................................................................. 22
        • Career Planning ......................................................................................... 22
        • University Grievance Protocol .................................................................. 22
        • Financial Support Policies ........................................................................ 23

APPENDIX A: Chronological Summary of Department Procedures ............................... 24

Leading to the Ph.D. Degree

APPENDIX B: Preliminary Examination Procedure .................................................. 25
APPENDIX C: Typical Research Committee Agenda ............................................ 29
APPENDIX D: Department Faculty Committees ..................................................... 31
APPENDIX E: Campus Map ....................................................................................... 33
APPENDIX F: Photo Sheet of Faculty *(as of 09/17)* ............................................. 34
APPENDIX G: Photo Sheet of Graduate Students *(as of 09/17)* ......................... 35
APPENDIX H: Graduate Student Leadership .......................................................... 37
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 a grasp 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. 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, but 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 committee structure is detailed below. At first glance the structure may appear daunting, involving a succession of committees. However, 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 with a Bachelor’s degree is provided in Appendix A. Please note that, as a professional, the graduate student retains responsibility for the accomplishment of various 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. The DGS is available for individual meetings with students to discuss course selections, departmental guidelines concerning depth and breadth of coursework, and other curricular matters. 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, a 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:** By the end of the first semester of graduate study, a student entering with a Bachelor’s degree should have selected a faculty member as a Research Advisor for counseling. Normally, the Research Advisor becomes the Ph.D. Thesis Advisor.

**Advisory Committee (AC):** Formed no later than the beginning of the second semester of graduate study and in consultation with the Research Advisor (and Director of Graduate Study, if different from the Research Advisor), the student should choose two other departmental faculty, one of whom must be from a sub-field outside the student’s primary area of interest. These three faculty constitute the student’s Advisory Committee, which serves to guide the student’s graduate program until the Preliminary Examination is passed. The committee’s purpose is to advise the student on curricular matters, to provide perspectives that complement those of the Research Advisor, and to advise in any other appropriate matters useful to the student. 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 seeing 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.

The Advisory Committee meets shortly after formation and should meet once each semester thereafter. **It is the responsibility of the student to schedule these meetings.** For more information on advisory committee meetings, see Appendix C.

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 student and Advisory Committee will consider and, if necessary, revise committee membership to ensure that it represents areas appropriate to the student’s proposed research. Further, the topical areas to receive emphasis in the Preliminary Examination are discussed and clarified at this
time, as is the means by which you will fulfill the research requirement (see page 13 for the section on the Preliminary Examination Committee and Appendix B, Preliminary Examination Procedure).

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 (entering with a Bachelor’s degree) or 4th semester (entering with a Master’s degree). Students who do not complete the Preliminary Examination by the end of their 5th semester, without proper cause, will be automatically put on probation until the examination is successfully completed. Detailed procedures and information concerning the Preliminary Exam are given in Appendix B. The Preliminary Examination Committee usually consists of the student’s Research Advisor, Advisory Committee members, and other departmental faculty, at least one of who is from outside the student’s primary area of interest, to make a total of 5.

The student should request one of the proposed Prelim 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. She 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. She will process the appropriate paperwork, including ensuring the faculty Director of Graduate Study signs the approval form. NOTE: the student’s application to take his or her prelim 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):** (also see “Requirements for the Ph.D.” p.13) After passing the Preliminary Examination, the Ph.D. Thesis Advisory Committee is formed by the student in consultation with the Ph.D. Thesis Advisor. Typically, 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 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. A subsequent change in the direction of the student’s research may require a committee change. 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.
Advisory Committee Purpose

It is departmental policy that Advisory Committees meet at least once a semester, but more often if appropriate. 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.

At your committee meeting, you should address career, educational, and research goals. To get the most out of each meeting, it is important for you to identify, prior to the meeting itself, your objectives. Keep in mind that the topics covered at a meeting will vary during your graduate student career, according to your needs and your research trajectory. Generally, faculty come to an Advisory Committee meeting with an open mind and a desire to provide whatever helpful advice they can.

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. You will not necessarily know everything you need to know about these issues, particularly initially, so an important role of your committee is to give you the broad-based guidance and commentary that will help you address them.

To schedule a committee meeting students 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. 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.

Notify the Manager of Academic Programs & Outreach every time you have a committee meeting so s/he can update your files.

B. Coursework

Overview – In the first three years of graduate study, students register for four (4) credits each semester. 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 obviously 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. A student is 
encouraged to develop the ability to take a course in the way that is most productive for his/her 
overall development. In this regard, a student 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. This practice is generally not appropriate for graduate 
students in core courses in Earth, Environmental and Planetary Sciences and is therefore strongly 
discouraged. This option may be appropriate, however, with regard to notoriously 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, he/she 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 
partial course should be taken for a grade rather than S/NC, failure to do so may negatively 
influence the student’s evaluation.

*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 (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 a broadly-based knowledge in scientific disciplines related to the 
area of the proposed research. One means of accomplishing this goal is to take an appropriate 
combination of courses. Listed below is an example of some courses identified by the faculty that 
may be appropriate for this purpose. Speak to your Advisory Committee members for guidance.
Some “Core” course Banner listings

GEOL 1240 - - - Sedimentation and Stratigraphy
GEOL 1350 - - - Weather and Climate
GEOL 1420 - - - Petrology
GEOL 1450 - - - Structural Geology
GEOL 1560 - - - Global Tectonics
GEOL 1610 - - - Solid Earth Geophysics
GEOL 1810 - - - Physics of Planetary Evolution
GEOL 2430 - - - Igneous Petrology
GEOL 2510 - - - Advanced Structural Geology
GEOL 2730 - - - Geochemistry
GEOL 2870 - - - Planetary Evolution

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 it is imperative that TAs be able to effectively convey course material in understandable 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 EFL office before being assigned to teach. If the evaluation reveals a need for supplementary training in oral English, the EFL office will help the student choose the most effective method to achieve competency. The EFL office formally notifies the department when students have been certified. (see ‘Teaching’ p.8).

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.

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 are cautioned to 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. Whether the commitment is limited or substantial, no one appreciates or benefits much from a halfhearted effort. Enthusiasm and energy go a long way in research success.

**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 normally entail a minimum of 20 hours per week on the research project.

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. Tentative assignments are to be 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 set of assignments.

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.

Normally students are expected to meet the teaching requirement within their first three years. Although not always possible financially, the department attempts to find fellowship or RA support for each student for at least one semester in their first 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.

Faculty expect graduate students to participate regularly in other teaching and presentation opportunities, particularly the weekly “lunch bunches” in the various research areas and presentation of research results at conferences. From time to time graduate students may have the opportunity to participate in undergraduate 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 Masters 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.

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.

The Research Advisor or Ph.D. Thesis Advisory Committee Chair presents either an oral or a written report on the student’s progress at the evaluation session. 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).

A student is encouraged to place a memo in their portfolio 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 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 on-line at [http://www.brown.edu/academics/gradschool/leaves-absence](http://www.brown.edu/academics/gradschool/leaves-absence). Below we include some additional discussion and guidance on leaves.

**Categories of Leave**
1. Medical
2. Childbirth Accommodation/Family Leave
3. Academic Leave
4. Personal Leave

**Leave Procedures**
A leave requires a written request for a leave of a specific period (one semester or a maximum of one year). The student who is contemplating a leave should first discuss the matter with their Research Advisor and with their Advisory Committee. In addition to providing advice and support to the student, these discussions will address 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.

A student’s written request for a leave is submitted to the departmental Director of Graduate Study for approval (the Manager of Academic Programs & Outreach, G/C 105, can assist with the leave procedure paperwork). If the intent of the department is to approve the request, a letter will be sent to the student and the student’s file detailing the length of leave and any conditions (identified in the preceding discussions with the Research Advisor and Advisory Committee) that must be met prior to readmission. The Director of Graduate Study and/or the Manager of Academic Programs & Outreach will forward the request for a leave to the Graduate School for final approval.

**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, and should notify their advisor and the Director of Graduate Study of their intent to be readmitted well before their leave expires. They should also discuss the possibilities for financial aid at this time.

For its part, the department continues to review students on leave at its graduate student evaluation sessions each semester. A semester evaluation letter will be prepared and mailed to the student to help in maintaining contact.

**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 by May 1st for a fall-semester return or November 1st for a spring-semester return. 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. 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.

**J. Requirements for 5th-Year Master’s Degree**

The 5th-year master’s degree program allows Brown undergraduates to continue at Brown for a master’s degree after completing their bachelor’s degree.

- Up to two (2) courses taken as an undergraduate but not counted toward the undergraduate concentration may be counted toward the master’s…
- … leaving six (6) courses to be taken in the postgraduate year and only six (6) tuition units to be paid for the usual eight-course degree.

Students must apply for this program before they complete their undergraduate studies, and admission may be approved by the department and by the Graduate School. Admission can be
deferred for up to two years with the approval of the department. Interested students must talk to their advisor to start the admissions process.

K. 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,

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

• completion of an integrated program including a minimum of eight (8) courses, no more than two of which shall be research courses, and
• demonstration of candidate's competence at research (for example, the submission of a manuscript).

For the Master of Science, research competence shall be demonstrated through: (1) written work such as 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. In exceptional circumstances, the requirement of oral presentation may be waived by majority vote of the faculty upon recommendation of the Research Advisor.

Anytime 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’s Research Advisor reports in writing on departmental letterhead to the Director of Graduate Study who then files departmental recommendation with the Registrar for the awarding of the degree. The student will then need to apply on-line 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.

L. Requirements for the Ph.D.

*The Preliminary Examination (see details in Appendix B):* 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).

Students entering with the Bachelor’s degree will normally take the Preliminary Examination by the end of the fifth semester; students entering with a Master’s will normally take it by the end of the fourth semester.

The Manager of Academic Programs & Outreach in G/C 105 can assist with putting together the paperwork for a student’s prelim 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 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 formal "coursework" requirement for the Ph.D. at Brown is substantially a tuition requirement. The appropriate blend of lecture, seminar, and research courses is negotiable with the faculty.

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: After the Prelim is passed, the student should promptly form the PhD Thesis Advisory Committee, with the PhD Thesis Advisor serving as Chair. In most cases, this simply represents a continuation of the Advisory Committee. 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.

The purpose of the PhD Thesis Advisory Committee is to 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.

The PhD Thesis Advisory Committee should meet at least once a semester with the student to discuss research progress. The first meeting should be held shortly after the committee is formed. While responsibility for scheduling meetings rests with the student, any member may call for a meeting.

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 another research group. 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.

• Oral Presentation: As part of the Final Examination for a Ph.D., the candidate is required to give a one-hour presentation before a general (usually Departmental) audience describing some aspect(s) of his or her thesis research. The hour lecture is normally given prior to the Final Examination (often during Lunch Bunch). This presentation serves the dual purpose of keeping the full Department informed of the research and accomplishments of one of its graduating scientists and of demonstrating the ability of the candidate to lecture effectively to
members of the earth, environmental and planetary sciences community outside his or her specialty.

- **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 an ~30 min 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. 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:

*I 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.

*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.*

*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.

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

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.
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, e-mails, 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.

Additional Resources and Path of Recourse
If there are aspects of these guidelines that are not being met, then faculty and graduate students should consider first consulting with their mentoring networks and committee members, then the Department Director of Graduate Studies and Department Chair. A Brown University ombudsperson, Ruthy Kohorn Rosenberg, J.D., is also available for consultation. Additional extradepartmental resources include the following people:
  - Associate Provost for Academic Development and Diversity - Liza Cariaga-Lo
  - Associate Dean of the Graduate School and Director of Student Support Services- Maria Suarez
  - Associate Dean of the Graduate School - Jabbar Bennett

B. Gender/Ethnic Relations

As a community of scholars, members of the Department strongly support mutual respect of colleagues and peers irrespective of race, ethnicity, or gender. The Department strongly adheres to the following statement taken from the Brown University Graduate School Handbook, page 13 http://www.brown.edu/gradschool/academics-research/rules-regulations/forms/grad-school-handbook
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 community dimensions of academic life. A socially responsible community provides a structure within which individual freedoms may flourish without threatening the privileges or freedoms of other individuals or groups. 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 feeling discrimination or witnessing discrimination against others should bring this to the attention of the Chair and DGS. Such concerns could also be communicated to Chair and DGS through another faculty member chosen by the student. It is to our benefit if concerns like those described above can be addressed 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 E-mail: Each graduate student has a department mail box in his/her research section, and access to e-mail services through the University. Students are urged to check their mail boxes and e-mail 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 (see Brown Payroll Office for
forms). Stipends for teaching assistantships or research assistantships are subject to income tax
and withholdings. Fellowship stipends are paid with no withholdings, but are subject to federal
income tax. Foreign 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 Brown Ethics And Responsible Conduct of Research Education (BREACORE) 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](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 (x3-3535). 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:
http://careerdevelopment.brown.edu/index.php

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.

Research and Teaching Assistantships (or combination) have a work commitment not to
exceed 20 hours per week.

If you are interested in a master’s program and have questions about financial aid, please
contact the program’s director of graduate study.

For more information about Financial Support, go to:
http://www.brown.edu/academics/gradschool/financial-support
## Appendix A

**Chronological Summary of Department Procedures Leading to the Ph.D.**

<table>
<thead>
<tr>
<th>TIMING</th>
<th>EVENT</th>
</tr>
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<tbody>
<tr>
<td>On arrival:</td>
<td>Select <em>Director of Graduate Study</em> (preliminary) or Research Advisor (RA).</td>
</tr>
</tbody>
</table>
| By end of first semester:   | Select RA and form Advisory Committee (AC).  
AC = RA + two faculty (one must be from dept. sub-field outside the student’s primary area of interest). |
| Each semester:              | Student calls AC meeting at least once each semester and updates departmental file.                                                     |
| > 6 mo. before Prelim:      | Student + AC meet to formally clarify nature/content of Prelim.                                                                        |
| > 3 weeks before Prelim:    | 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                      |
| 5th semester:               | Student takes Preliminary Examination.                                                                                                 |
| (or 4th semester if entered with Masters) |                                                                                                                                 |
| 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.

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.

Although 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 can 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 session in front of their fellow students to gain some experience with the exam format, and to get feedback on their research proposal and presentation skills.

Timing and Application Procedure
Students entering with the Bachelor’s degree normally take the Preliminary Examination in their fifth semester. Students entering with a Master’s normally take the examination in their fourth 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 his/her advisor in determining the best time to take the exam. Upon request of the student and with the approval of the Advisory Committee, the Prelim can be postponed beyond the normal semester, but any postponement beyond the sixth semester requires the additional approval of both the Director of Graduate Study and the Chair. Such a postponement should be requested only in extraordinary circumstances.
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. The PEC members are nominated by the student in consultation with the Ph.D. Thesis Advisor, subject to the approval of the Director of Graduate Study. At least two research areas within the department should be represented to insure breadth. 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

In arriving at a decision on the student’s admission to degree candidacy, the PEC takes into consideration the following kinds of evidence:

a. **Research potential as evaluated by performance in an oral examination.** At least 10 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, approximately 5 text pages in length, posing an original research problem and a course of action which can be used to study the problem. NSF or NASA proposal guidelines on file in the Department should be referred to for general preparation style. Although the student is encouraged to discuss the written proposal with others prior to the oral exam, the proposal should be largely his/her own work - both the ideas and the written statement. A preface should be attached to the proposal briefly describing those areas that have been identified previously in consultation with the Advisory Committee as being the focus of the exam.

Questioning during the oral exam normally begins with items 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. Although questioning may not be totally confined to the identified areas, 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. An example would be a paper produced in meeting the requirements for a Master’s degree.

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 to the exam the student’s academic record folder, Portfolio, and the Graduate School form to be filled in at the completion of the exam. 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 (10 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:

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 your 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**
  - 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

Department of Earth Environmental and Planetary Sciences
FACULTY COMMITTEE ASSIGNMENTS – 2017-2018

Awards Committee DWF, WLP
BEARCORE (Ethics) RFC
Chair's Advisory Committee GH*, KMF, JWH (fall), JFM (spring), YL, JMR
Computer Committee CAD, BFK, YL, Dave Blair*
Curriculum Committee AES, CAD, BFK, REM*, JAT
Director of Graduate Studies MH
Electron Probe SP (even while on sabbatical)
Graduate Admissions and Awards MH
Library Representatives MJR, TW
MacMillan Liaison TDH
Outside lecturers CH (Fall ’17), BCJ (Spring ’18)
Physical Facilities JWH (fall), JFM (spring), JMR, Joe Boesenberg, Dave Murray, Melissa DeAugustinis
Safety Committee YH, Dave Murray
TA Orientation/Sheridan Liaison JAT
Undergraduate Fall Field Trip CH
Undergraduate Program JAT*, KMF, JMR,
XRF Facility TDH, Dave Murray

2017-2018 sabbaticals and leaves:
SP: Sabbatical (semester I, II)
JFM: Sabbatical (semester I)
BCJ: Teaching Relief (semester I)

*Chair of Committee
Graduate Students 2017
Appendix H
Earth Environmental and Planetary Grad Student Leadership

• Presidents:
  o Brendan Anzures
  o Jordyn Cloud
  o Adeene Denton

• Treasurers:
  o Mengxi Wu
  o Elizabeth Fisher

• Faculty Reps:
  o C&E: Yinsui Zheng
  o GMP & Geophysics: Ben Parks, Leif Tokle
  o Planetary: Erica Jawin

• First Year Mentoring Reps:
  o James Cassanelli
  o Leif Tokle

• GSC Reps:
  o Jack Krantz
  o Ningli Zhao

• Sheridan Center Reps:
  o Ashley Palumbo
  o Ben Parks

• GWISE Reps:
  o Ariel Deutsch
  o Karen Godfrey
  o Hannah Kaplan
  o Rachel Lupien

• Professional Development Reps:
  o Mike Bramble
  o Sydney Clark
  o Karen Godfrey

• Vartan Reps:
  o Alyssa Pascuzzo
  o Nora Richter
  o Richard Vachula

• Int'l Student Mentors:
  o Abbi Bodner
  o Jenna Palmer
  o Majid Rashtbehesht