GUIDELINES FOR ADVANCED DEGREES IN THE DEPARTMENT OF EARTH, ENVIRONMENTAL AND PLANETARY SCIENCES RICE UNIVERSITY

AUGUST 2026

Earth, Environmental and Planetary Sciences
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Dear Student,

Please read the following guidelines carefully and refer to them as needed. If there are any questions concerning any part of the guidelines, see the Graduate and Academic Program Administrator or the Director of Graduate Studies, the chair of the Graduate Committee. ***Refer to the Rice University General Announcements for more detailed explanations of University rules and regulations.*** *In the event of a conflict, Rice University General Announcements take precedent over departmental guidelines in this document.*

Keep this document for reference until you graduate.

The Faculty

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Relevant forms for the program can be found in the EEPS Guidelines and Forms folder on Box. This will be shared with students when they are starting the program.

A. INTRODUCTION

1. Purpose

This document describes the present guidelines for advanced degrees in the Department of Earth, Environmental and Planetary Sciences (EEPS). Although subject to change, the guidelines that are in place when a student enters the program remain in effect for that student until his or her degree is completed.

University regulations always have precedence over departmental guidelines. The Department cannot grant exemption from any University requirements. Please see the Rice General Announcements (http://ga.rice.edu) for further information.

2. Student Responsibilities

a. Guidelines

Students are responsible for following the present guidelines of the department and those of the University. If a student has any questions regarding that for which he or she is responsible, the student should consult with his or her Thesis Advisor, the Director of Graduate Studies, or the Academic Program Administrator. It is also the student's responsibility to know and follow the Student Code of Conduct (https://sjp.rice.edu/code-of-student-conduct).

b. New Student-Advisor Meeting

New students should arrange to meet with their faculty advisors at the beginning of the first semester, using the "Student Responsibilities and Expectations: A Student-Advisor Conversation Guide," found in the EEPS Guidelines and Forms folder on Box, as a guide for the discussion; the aim is to establish a clear understanding of expectations between student and advisor.

The student and advisor should complete and sign the "Advisor/Research Affiliation Agreement" (also located in the Box folder) only after this discussion is completed. The signed form should be turned in to the Graduate and Academic Program Administrator for the student's file by the last day of classes of the spring semester in which the student began the program. This provides the necessary paperwork to demonstrate responsibility for the student's summer stipend funding.

3. Administration

The Graduate Committee administers the graduate requirements.

4. Employment

Students receiving financial support through the department are expected to devote full-time to study, research, departmental responsibilities, and completing the degree requirements. Outside employment or consulting (part-time as well as full-time) may compromise these objectives. Therefore, students receiving financial support through the department are required to have the prior written consent of the Department Chair before accepting any other full- or part-time employment or consulting work during the period for which they are supported. Departmental support may come directly from the department/university or from scientific granting agencies.

Students are eligible to work internships, limited to either the summer or one semester, with prior approval from their Thesis Advisor. **Students forfeit their regular stipend during this time, as they are not working in the Department or enrolled in Full Time Study in accordance with the Rice General Announcements.**

a. Vacation Time

Please see the Natural Science's policy regarding paid time off:
https://naturalsciences.rice.edu/academics/graduate-programs/graduate-student-time

b. Travel Awards

Students are eligible for travel awards once annually when attending relevant conferences to support the department or present research. Permission to attend must be granted by the student's Thesis Advisor. The request form for travel awards can be found in the EEPS Guidelines and Forms folder on Box; permission is demonstrated by the Thesis Advisor's signature.

5. The Director of Graduate Studies and Graduate Committees

The main function of the Graduate Committee is to oversee the department guidelines and departmentally administered exams of all graduate students in the department. This includes:

- setting the Preliminary Exam
- appointing members for Thesis Committees and Ph.D. Exam Committees

The chair of the Graduate Committee is the Director of Graduate Studies. The Graduate Committee will meet with each student during Orientation Week to help plan a schedule of classes for the first semester. Incoming students are encouraged to consult with their assigned Thesis Advisors in order to work out a first semester schedule in advance. If a student does not have an advisor, he or she may receive academic advice from the Director of Graduate Studies or other faculty members until the advisor is determined.

6. Academic Petitions and Appeals

A petition regarding University requirements, regulations, or judgment must be submitted to the Office of Graduate and Postdoctoral Studies; such a petition must be accompanied by a recommendation from the program. University policy for Academic Petitions and Appeals can be found in the General Announcements (https://ga.rice.edu/graduate-students/rights-responsibilities/dispute-resolution/).

7. Policies on Acceptable Behavior and Conduct

According to the Rice Code of Student Conduct: "Students are expected to govern their conduct by standards of considerate and ethical behavior so as not to harm or discredit themselves, the University, or any other individual. Moreover, just as the learning environment does not end at the classroom door, neither is the exercise of individual responsibility, civility, and honor limited to the academic domain."

For more information regarding Rice's Policies for student conduct, please see the Student Handbook (https://dou.rice.edu/student-resources).

a. Policy on Sexual Harassment

Rice University is committed to providing an environment that is free from gender-based discrimination. Title IX of the Higher Education Amendments of 1972 prohibits discrimination on the basis of sex in education programs and activities. Consistent with Title IX, the University does not tolerate sex discrimination, including sexual misconduct and relationship violence. "Sexual misconduct" is the umbrella term federal regulators use to categorize behavior that includes sexual assault, unwanted sexual contact, and sexual harassment. While all these behaviors are abhorrent and damaging, Rice views sexual assault as particularly so and will sanction that behavior most severely. "Relationship violence" is the term federal regulators use to categorize behavior that includes intimate partner violence, stalking and similar behavior. All sex discrimination, including sexual misconduct and relationship violence, is harmful, violates the rights and dignity of those affected, and violates Rice standards, federal law, and possibly State of Texas criminal law.

In a manner respecting the dignity and intrinsic human worth of the individual, the University will address all occurrences of sex discrimination that are reported to Rice. Rice encourages students to seek all remedies to these behaviors that they choose, in each venue or process that they choose. Rice will investigate occurrences reported to it, stop and appropriately sanction anyone who has engaged or is engaging in prohibited behaviors, and prevent these behaviors from reoccurring. Rice is committed to recognizing the trauma these behaviors can induce, and addressing the needs of students reporting sexual misconduct and other forms of sexual discrimination. Rice has a zero-tolerance policy for harassment.

Students should be aware when seeking support on campus that most employees are required to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student. The therapists at the Rice Counseling Center and the doctors at Student Health Services are confidential, meaning that Rice will not be informed about the incident if a student discloses to one of these Rice staff members. Rice prioritizes student privacy and safety, and only shares disclosed information on a need-to-know basis. If you need assistance or simply would like to talk to someone, please call Rice Wellbeing and Counseling Center, which includes Title IX Support: 3311/ (713) 348-3311. Students are expected to take the required Sexual Harrassement training provided by the GPS office's new student orientation

Further information regarding Title IX, including the Sexual Misconduct Policy, can be found at on the Office of Sexual Violence Prevention and Title IX Support's website (https://safe.rice.edu).

8. Conflict Resolution

Always consult the Rice General Announcements for university policy concerning dispute resolutions, petitions, appeals, grievances and problem resolution (http://ga.rice.edu).

At times relationships can become strained between the student and advisor. Students are encouraged to keep an open dialogue with their Thesis Advisors and Committee members about issues they may be having. Other faculty in and outside of the department can also advise students informally on managing challenging workplace situations.

Resources for students on campus include The Rice Wellbeing and Counseling Center (https://wellbeing.rice.edu), and the Office of Sexual Violence Prevention & Title IX Support (https://safe.rice.edu).

Ombudspersons are a more formal option for counsel within the department; faculty members not part of the Graduate Committee serve in this role. The Department has two ombudspersons who are available to assist students involved in conflicts with faculty or other students. Please consult the department committee webpage for the current list of ombudspersons.

- What students can expect from a department ombudsperson*:* The ombudsperson will listen and make recommendations, and/or make referrals to other resources on campus. Although the recommendations from the ombudsperson are not binding, faculty and students are expected to make good faith efforts to implement the recommendations.

Department Chair: If the student does not believe the department ombudsperson's intervention can resolve a faculty-student or student-student conflict, either the faculty or the student can elevate concerns to their Department Chair.

Dean of Graduate Studies: If the ombudsperson and Department Chair do not resolve a conflict to the satisfaction of either the faculty or the student, either party can elevate their

complaint to the the Dean of Graduate Studies. Students can also reach out to Pia Byrd, the Student Support Manager in the GPS Office; her role is to provide "a safe and confidential environment for a graduate student to discuss concerns or grievances outside of formal channels."

For further information, please see the Dispute Resolution policies in Rice's General Announcements (https://ga.rice.edu/graduate-students/rights-responsibilities/dispute-resolution/).

B. THESIS COMMITTEES

1. Purpose

The Thesis Committee will oversee Master's or Ph.D. students' progress through their programs, guiding and evaluating each student through the process. The Thesis Committee will assist with the student's course of study, conduct the Annual Review, approve proposals and conduct the oral examinations of proposals, publications and the final written thesis and defense. Students should meet with his or her Thesis Committee as a group or individually throughout the year to report progress, discuss difficulties, etc., along with the Annual Review.

2. Master's Thesis Committee

The Master's thesis committee is composed of at least three members: the Thesis advisor, and two additional members of the department's faculty. These three members of the committee must meet one of the following requirements:

- Tenured or tenure-track members of the Rice faculty
- Rice research faculty holding the rank of assistant research professor, associate research professor, or research professor

The official admissions letter from the Chair of the Admissions Committee will specify who the Thesis Advisor will be for all Master's students. Students are asked to make recommendations to the Director of Graduate studies with four (4) committee member names to fill the role of the other two committee members. The final selections will be appointed by the Director of Graduate Studies.

If the Director of Graduate Studies is also the Thesis Advisor, or on the Thesis Committee, another member of the Graduate Committee (not already on the Thesis Committee) will appoint the other committee members.

Additional qualified members from within the department, outside the department, or outside of Rice are allowed on the committee at the discretion of the student and Thesis Advisor, along with approval of the Department Chair.

The Master's Thesis Committee Form found in the Forms Appendix should be used to track committee members as they are acquired, having each committee member initial the form to confirm participation. Students should expect to have all committee members assembled by

the beginning of the **third semester**.

If any committee member becomes unavailable at any stage, the student and the Thesis Advisor, subject to approval by the Director of Graduate Studies, will choose a replacement. The student should update the Graduate and Academic Program Administrator with any committee changes for the student's file as needed via email. If this occurs after the student files the Petition for Approval of Candidacy, the student will need to work with the Graduate and Academic Program Administrator to correct the Petition.

In the event that a member of a student's thesis committee leaves their position at Rice University, he or she may continue serve on the thesis committee if he or she continues to have the support of the Department Chair to serve in this capacity.

3. Ph.D. Thesis Committee

According to the General Announcements, The Ph.D. thesis committee is composed of at least three members. Two, including the committee chair, must be members of the department faculty; in doctoral thesis committees one member must have a primary appointment in another department within the university. The department requires a fourth committee member from within the department. All members of the committee must meet one of the following requirements:

- Tenured or tenure-track members of the Rice faculty
- Rice research faculty holding the rank of assistant research professor, associate research professor, or research professor

Qualified individuals who have been identified by the department chair and hold the highest degree in their field may serve as additional committee members, but may not substitute for the required members.

The official admissions letter from the Chair of the Admissions Committee will specify who the Thesis Advisor will be for all Ph.D. students.

The Ph.D. Thesis Committee will consist of at least four required members:

- the Thesis Advisor (Committee Chair)
- two faculty members appointed by the Director of Graduate Studies **from within** the Department; students are asked to make recommendations with five (5) potential committee member names.
- one Rice faculty member chosen by the student **from outside** the Department; this member should be selected within one semester of passing the Qualifying Exam.

If the Director of Graduate Studies is also the Thesis Advisor, or on the Thesis Committee, another member of the Graduate Committee (not already on the Thesis Committee) will appoint the Department committee members.

The student will appoint the committee member from outside the department and should do so within one (1) semester of passing the Qualifying Exam. Students are welcome to ask current members of the Thesis Committee for recommendations.

The Ph.D. Thesis Committee Form found in the EEPS Guidelines and Forms folder on Box should be used to track committee members as they are acquired, having each committee member initial the form to confirm participation. Students should expect to have all members from **within** the department assembled by the beginning of their **third (3rd) semester**. At this time, the form should be given to the Graduate and Academic Program Administrator to keep on record. When the student is later ready to appoint the committee member from **outside** the department, he or she should notify the Graduate and Academic Program Administrator to add to the student's records.

Additional qualified members from within the department, outside the department or outside of Rice are allowed on the committee at the discretion of the student and Thesis Advisor. If any committee member becomes unavailable at any stage, the student and the Thesis Advisor will choose a replacement, subject to approval by the Director of Graduate Studies or the Department Chair. The student should update the Graduate and Academic Program Administrator with any committee changes for the student's file as needed via email. If changes to the committee occur after the student files the Petition for Candidacy, the student will need to work with the Graduate and Academic Program Administrator to have this corrected.

In the event that a member of a students' thesis committee leaves their position at Rice University, he or she may continue serve on the thesis committee if he or she continues to have the support of the department chair to serve in this capacity.

C. DEGREE REQUIREMENTS - COMMON TO MASTER'S & Ph.D. PROGRAMS

1. Master's and Ph.D. Program Checklists

Students should use the Master's and Ph.D. Checklists found in the EEPS Guidelines and Forms folder on Box to document their progress through the following Degree Requirements. This document will be used later when submitting the Petition for Approval of Candidacy.

2. Course Work Requirements

a. University Requirements:

The University requires 30 hours beyond the Bachelor's degree for the Master's program and 60 additional hours for the Ph.D. program. If students are working for a Ph.D. directly after the Bachelor's degree, 90 credit hours are required.

In order for a graduate student to receive a stipend during the fall or spring semester, he or she must be registered as a full-time student, i.e., for a minimum of nine credit hours. Students not working an internship during the summer months, and therefore receiving stipends, must register for at least nine credit hours to be considered full time.

b. Department Requirements:

The department requires that at least 20 of the credit hours be lecture courses and/or seminars for both the Master's and Ph.D. degrees. Students working for a Ph.D. directly from the Bachelor's degree are required to complete 40 hours of lecture courses and/or seminars. The remainder of the credit hours may be research credit hours. For courses taken in the Department of Earth, Environmental and Planetary Sciences, only 400-level or higher courses count toward the required credit hours.

Incoming graduate students are required to take EEPS 603/604, Department Research and EEPS 605/606, Current Research in Earth, Environmental and Planetary Sciences Seminar, during their first academic year. Graduate students may also take either course each subsequent year for additional credit. **To gain full credit for both courses, enrolled students must attend all seminars that semester.**

A member of the faculty will oversee EEPS 603/604, with one sudent assigned as a teaching assistant to schedule speakers and take attendance. Participation in this class will include completing an electronic evaluation form after each presentation from the students' peers. This will be managed and distributed by the teaching assistant after each class meeting. All students are required to give an annual research talk in the seminar at least twice during their time in the program, as part of their annual presentation requirements (just **once** for Master's students). Faculty are strongly encouraged to attend and participate in the evaluation process to aid students in improving presentation skills.

For EEPS 605/606, the graduate students are allowed to select one of the speakers each semester. A teaching assistant will be assigned to coordinate the journal club, attendance for the course, and organize a diplomatic selection process for the student-chosen speaker.

c. Research Credit Hours:

Students can take **EEPS 800 (Thesis Research) only after passing the Preliminary Exam**, subject to approval of their Thesis Advisor. Students who have not passed the Preliminary Exam should take EEPS 501 (Special Studies for Graduate Students) for research work. Exceptions can be made for students receiving a stipend in the summer. Students who have not taken or passed the preliminary exam should request permission from the Director of Graduate Studies to take EEPS 800 in the summer to avoid tuition costs.

d. Courses at Other Institutions

Students are allowed to supplement their Rice education by taking courses at other institutions. The student must obtain the approval of her or her Thesis Advisor and the Director of Graduate Studies to do so.

Rice University has a reciprocal agreement with the University of Houston and the University of Texas Health Science Center so that graduate students from each institution may take courses not offered at their home school at the others' facilities at no cost. The forms for registering in this program are obtained from the Office of Graduate and Postdoctoral Studies.

e. Courses in Other Departments

With the prior approval of the Director of Graduate Studies, students may take courses numbered 300 and above in the other departments, and receive graduate credit for them.

3. Grade Requirements

It is a University requirement that each student maintain at least a 2.33 overall grade point average (GPA). Should a student fail to do so, he or she will be given one semester in a probationary status to bring his or her GPA to 2.33. It is also a University requirement that each student achieve at least an overall B- (2.67) GPA on courses counted toward the graduate degree.

However, the Department requires a cumulative GPA of at least 3.0 in all classes taken while a graduate student at Rice. Should a student's GPA drop below 3.0, the student's progress will be reviewed by the Graduate Committee. In the absence of extenuating circumstances, continued performance below a 3.0 GPA may lead to discontinuing financial support or dismissal.

EEPS 603/605/604/606 and 800 are taken on a "satisfactory/unsatisfactory" (i.e. pass/fail) basis and, therefore, do not affect a student's GPA.

4. Teaching Experience and Service Requirements

Every graduate student in the Department of Earth, Environmental and Planetary Sciences is required to perform a modest amount of service as a part of the degree program. The Teaching Assistant (T.A.) experience is considered to be an important component of graduate education in the Department of Earth, Environmental and Planetary Sciences. Primary T.A. duties are associated with large introductory courses, the introductory lab, core courses with labs, and upper-level lab courses at the undergraduate level. Secondary T.A. duties for other courses may include grading, copying course materials, and otherwise assisting the instructor.

Students who bring in their own external funding for the duration of their graduate studies are exempt from this requirement.

a. Teaching Assistant Policy

- All graduate students are expected to perform at least one semester of primary T.A. service for the department as a requirement to complete their degrees (Master's and Ph.D.).
- Continuing students supported by certain classes of department funding are in the T.A. pool, and may be called upon to serve additional semesters.
- Primary courses will be given priority during assignment of T.A.s; secondary courses will be assigned T.A.s if there are additional students in the T.A. pool, or student volunteers.
- T.A.s serving primary courses will be paid from university/department funds during the semesters they serve. Research funding, if available, will be deferred.
- The Graduate Committee and Department Chair reserve the right to request and assign T.A.s to other courses as needed. Faculty can request a T.A. for an upper-level graduate course with permission from the Department Chair.

5. Preliminary Exam

Each student must successfully pass a written Preliminary Exam before proceeding to his or her Thesis Proposal Defense (Master's) or Qualifying Exam (Ph.D.). The Preliminary Exam will be offered twice each year: near the beginning the spring semester and at the start of the fall semester. Students who begin at Rice in the fall semester must take the exam at the beginning of the spring semester, unless they petition the Director of Graduate Studies due to special circumstances. Students who begin at Rice in the spring semester will take the exam at the start of the fall semester.

The exam will test general Earth Science knowledge at the level of an undergraduate major, including a reasonable amount of breadth. Master's and Ph.D. students will take the same exam. The Graduate Committee will set the exam with questions provided by the entire faculty, and each time it is offered it will include different questions. Incoming students should contact the Graduate and Academic Program Administrator for the textbook from which exam questions will be taken. All questions related to the exam should be discussed with the Director of Graduate Studies.

The Graduate Committee will grade the exam. Each question is graded independently by multiple faculty on a pass/fail system. The results are pooled together and above 66% is considered a pass. If unsuccessful, students will be allowed to retake the exam one time when it is next offered. Students who fail the exam twice must leave at the end of the current semester. This exam is subject to the Rice Honor Code, and it is considered a violation to discuss the exam with other students or to share or gather information (questions or answers) about the exam with other students.

6. Annual Requirements

Students should use the checklist for their program (found in the EEPS Guidelines and Forms folder on Box) to track completion of their annual requirements. Failure to complete any one of the annual requirements will make the student ineligible for departmental support

(including stipends and travel awards).

a. Presentation

All students are required to make a presentation of their research each year, starting in their first year if entering the program with a Master's degree, or in their second year if entering with a Bachelor's degree. Students are required to give a research talk in EEPS 603/604 at least twice during their time in the program. In other years, alternative forms of presentation will be accepted with Thesis Advisor approval. Examples of alternative presentations include poster or formal presentations at major conferences such as AGU and GSA, and formal presentations at Rice such as Science in a Flash or IRESS. For alternative presentation approval, students should send an email to their advisors with the Graduate and Academic Program Administrator cc'd who will include the approval in the student's file.

b. Progress Report

Each student must electronically submit a written Annual Progress Report to the Director of Graduate Studies and the Graduate and Academic Program Administrator by the end of January, beginning in his or her first year of study. The precise format to follow for the annual progress report (provided in the form of a template) and exact due date will be sent to the student via email in the fall semester. Students beginning in the spring semester will be expected to submit their reports at the same time.

The report should describe the student's progress toward his or her degree over the past year, including research, presentations, publications, course work, fieldwork, teaching experience, service, and other work experience as appropriate. The student's Thesis Advisor and Committee will review the report for the student's progress and assess if it has been satisfactory.

c. Annual Thesis Committee Meeting

Once the Progress Report hast been turned in, each student is responsible for scheduling time to meet with his or her Thesis Committee for the purpose of reviewing the student's progress. This meeting must take place by the last business day in February. At this time, each committee member may provide comments or suggestions pertaining to the student's research project, and his or her general progress toward completing the thesis. Confirmation of this meeting should be recorded with the Annual Thesis Committee Meeting form in the EEPS Guidelines and Forms folder on Box. The form should be signed by all members of the Thesis Committee and returned to the Graduate and Academic Program Administrator for the student's file.

It is preferred the student meet with all committee members at one time; Zoom is acceptable for all parties if necessary. If the entire Thesis Committee is unable to meet at one time, students are permitted to schedule meetings with Thesis Committee members

individually. Efforts should be made to meet with as many members at one time as possible.

If progress has been unsatisfactory, the Thesis Advisor will provide a written commentary to be given to the Graduate Committee and copied to the Graduate and Academic Program Administrator for the student's file.

The Department Chair, with the benefit of the advice of the Thesis Advisor and Graduate Committee, may terminate the financial support of the graduate student. Alternatively, the Department Chair may elect to have the department continue the support of the student on a probationary basis to be re-evaluated each semester until the Graduate Committee and Thesis Advisor deem the student's progress satisfactory. In this case, the student should develop a written plan to bring his or her performance back to a satisfactory level. The plan should include specifics about the student's goals and deadlines and must be approved by the Thesis Advisor and Director of Graduate Studies.

7. Changing Thesis Advisors

Students are allowed to switch thesis advisors if their interests do not align with their current advisor. Changes are encouraged to happen as early as possible so as to give the student sufficient time to progress in his or her research. Changing advisors, however, will not change any of the timelines for graduate requirements, such as the timeline for the preliminary and qualifying exams. Any change of Thesis Advisor must be approved by the Graduate Committee.

8. Changing Programs

A student, in consultation with his or her Thesis Advisor and Thesis Committee, is allowed to change his or her intended degree from Master's to Ph.D., or vice versa. The student should declare no later than the start of his or her third semester which degree he or she is seeking, as a Master's student must defend his or her thesis proposal before the start of the third semester. Otherwise, a Petition to Extend Time Boundary for Approval of Candidacy or Defense will need to be filed, working with the Graduate and Academic Program Administrator. If a Master's student wishes to switch to the Ph.D. program, he or she must reapply as a doctoral applicant to be considered along with other applicants in a new academic year.

D. DEGREE REQUIREMENTS - MASTER'S PROGRAM

1. Master's Thesis Proposal

After successful completion of the Preliminary Exam, and before the start of the third semester, each Master's student will prepare and defend a thesis proposal describing the research that the student plans to carry out for his or her graduate degree.

a. Written Component (Proposal and Brief)

The written component of the Thesis Proposal consists of two parts: The Thesis

Proposal Brief and the Thesis Proposal Description. A form for the brief can be found in the EEPS Guidelines and Forms folder on Box.

The Brief should contain an abstract of the project. If approved, the Thesis committee sign the form showing approval; the student is then permitted to schedule the Thesis Proposal Defense. The Thesis Proposal Description cannot exceed ten (10) pages, excluding figures and references. The proposal description should include a statement of purpose, theoretical, experimental, and/or other basis for the work.

b. Oral Thesis Proposal Defense

The Thesis Proposal Brief, complete with proposal abstract, must be submitted to the student's Thesis Committee for unanimous approval before the oral exam (thesis proposal defense) can be scheduled. Each member of the Thesis Committee must sign the Thesis Proposal Brief as evidence of unanimous approval. This should then be sent to the Graduate and Academic Program Administrator for the student's file.

Once the Thesis Committee has approved the Thesis Proposal Brief, the student should work with his or her Thesis Committee members to schedule an agreed upon date and time for the Oral Exam, then contact the Graduate and Academic Program Administrator to reserve a conference room. Students and exam committee members should set aside **a minimum of two and a half hours (2.5) for the exam**. Due to other faculty commitments, students should avoid scheduling before the second week of classes or during the last week of classes. Up to one committee member may attend the oral exam via Zoom. If more than one committee member is unable to attend in person, another date must be found for the oral exam.

The Thesis Proposal should be sent to the Thesis Committee for review two weeks (14 days) in advance of the scheduled Oral Exam date. A copy should also be sent to the Graduate and Academic Program Administrator for the student's file at this time.

The Graduate and Academic Program Administrator will make an announcement to the department at least one week in advance of the scheduled defense.

c. Examining Committee

The role of this committee is to examine the Master's Thesis Proposal, both the written project and oral defense. This committee will consist of the student's Thesis Committee members.

The student's Thesis Committee will conduct the oral exam, but other faculty members are permitted to attend and will have full opportunity to ask questions. Determination of the outcome of the exam is the responsibility of the Thesis Committee. Other students may attend the presentation half of the oral defense, but not the questioning portion. The Thesis Advisor's main role during the exam is to moderate, which includes ensuring that every committee member has sufficient opportunity to ask questions, to clarify questions as needed, and to intervene if a question is inappropriate or

a discussion ceases to be relevant to an appropriate examination of the student. The committee, including the Thesis Advisor, should not answer or help to answer questions directed at the student from the committee.

d. Scope

The purpose of the defense is to determine whether the thesis topic is of appropriate scope for a Master's degree and whether the student is sufficiently prepared to pursue the research. The oral presentation should be no more than thirty (30) minutes in length, unless approved in advance by the Thesis Committee.

e. Result

The original signed copy of the Thesis Proposal, along with the signed Thesis Proposal Oral Exam Form, are given to the Graduate and Academic Program Administrator and placed in the student's file. If a student fails the exam for the first time, he or she will be permitted to retake it at a time determined by the Thesis Committee. A second failure will result in the student being terminated from the graduate program.

2. Petition for Approval of Candidacy

Students must file a Petition for Approval of Candidacy for the Master's Degree before the beginning of the fifth (5^{th}) semester of the student's residency at Rice. The petition can be filed at any time after completion of all degree requirements for graduation, excepting the thesis.

When ready to file, the student should meet with the Graduate and Academic Program Administrator to go over the Checklist (found in the EEPS Guidelines and Forms folder on Box) and verify all requirements have been met. Once filed, the student should refer to the Graduate and Postdoctoral Studies website for timeline planning towards their thesis defense (https://graduate.rice.edu/thesis).

3. Time to Defense

All Master's students must defend their thesis before the end of their eighth (8^{th}) semester of their residency at Rice. Students should follow closely the Graduate and Postdoctoral Studies guidelines for preparing to defend (https://graduate.rice.edu/current-students/defense).

4. Thesis

a. Thesis Format

The written Master's thesis will consist of at least one manuscript that has been submitted to a recognized peer-reviewed journal based on the thesis research, with the student as first author. This is required before a student can schedule his or her thesis defense. The student must receive the approval of his or her Thesis Advisor or Thesis Committee before a paper is submitted for publication. In addition, brief introductory or summary chapters, and/or appendices, will be included at the discretion of the Thesis

Committee.

With regards to the formatting of the thesis manuscript, students should refer to the Office of Graduate and Postdoctoral Studies (https://graduate.rice.edu/thesisformat).

b. Preparing to Defend

Once a student and his or her Thesis Advisor and Committee have decided the student is ready to defend, the student should coordinate with Committee members to schedule a date and time for the defense, and then the Graduate and Academic Program Administrator to reserve a conference room. A defense announcement must then be submitted to the Rice Events calendar at least **seven (7) days before the scheduled defense** (http://events.rice.edu/rgs/). Students may defend their thesis any time during the regular academic year, but should pay careful attention to the deadlines for the Office of Graduate and Postdoctoral Studies when doing so (https://graduate.rice.edu/current-students/defense).

Students should reach out to the Graduate and Academic Program Administrator when preparing to defend to request reference information and support.

The student must submit the thesis to each Thesis Committee member at least **two** weeks before the oral defense for review, although it is recommended to submit the thesis earlier in consultation with the committee to provide adequate time for evaluation. At this time, the student must also send an additional copy to the Graduate and Academic Program Administrator via email.

c. Defense

The thesis defense typically lasts about two to three hours, which students and committee members should plan for when scheduling. To proceed to candidacy, students must demonstrate independent thinking, the ability to develop a hypothesis, and outline a rigorous and realistic plan towards quantitatively testing the hypothesis within the timeframe of a typical graduate student career. The candidate must also demonstrate an ability to communicate effectively in the oral and written language. In addition to demonstrating proficiency in one's own field, the candidate is expected to have a reasonable, basic understanding of the Earth sciences.

Students may defend their thesis any time. They should pay attention to the graduation deadline for submission of their theses to the Office of Graduate and Postdoctoral Studies to be sure it aligns with their graduation plans. Students must submit the thesis to the Office of Graduate and Postdoctoral Studies no later than six months from the date of examination.

d. Acceptance

Acceptance of the student's thesis requires unanimous approval by the Thesis Committee, which will be demonstrated by the signatures of each member on the digital

Approval of Candidacy form and the thesis cover page.

The student must provide an electronic version of the written thesis to the Thesis Advisor before final submission to the Office of Graduate and Postdoctoral Studies. The files constituting the thesis must be provided in the final word processor and figure formats (e.g., Word and Illustrator documents), along with a complete PDF file.

Students must upload the defended version of the thesis, along with the signed Approval of Candidacy form, to the Office of Graduate and Postdoctoral Studies online and according to their guidelines, within **one (1) week** of the completed defense. The students must submit the final version of the thesis within **six (6) months** of the defense. Please see https://graduate.rice.edu/current-students/candidacy-defense/thesis-submission for exact instructions.

E. DEGREE REQUIREMENTS - Ph.D. PROGRAM

1. Ph.D. Qualifying Exam Proposals

The Ph.D. Qualifying Exam (both written and oral components) **must be completed no later than the end of the student's fourth (4th) semester**. Each Ph.D. student must prepare two distinct research projects and defend the primary project orally; typically, one of these projects will represent the core of the student's thesis research project. The second project will be developed independently from the student's Thesis Advisor. The student may ask questions of any faculty member regarding the second project, as long as the response does not entail supervision or guidance on the part of the Thesis Advisor. Students will use the second project to demonstrate their abilities in creative and independent thinking. Possible models for the second project include, but are not limited to:

- a research project devised independently by the student
- a research project carried out under the advisement of a faculty member who is not the student's Thesis Advisor (and may or may not be on the Thesis Committee)

After successful completion of the Ph.D. Qualifying Exam, the second project may or may not become part of the thesis research at the discretion of the Thesis Committee. Nonetheless, the second project should be designed in such a way that it likely can be completed, i.e., resulting in a first-author or co-authored publication for the student; whether or not such a first-author publication will constitute one of the three required papers for a Ph.D. thesis is at the discretion of the Thesis Committee.

a. Written Component (Proposals and Brief)

The written component of the Qualifying Exam will include the Qualifying Exam Brief and both written proposals. A form for the brief can be found in the EEPS Guidelines and Forms folder on Box.

The Brief should contain abstracts of the projects and will serve as the form the Thesis Committee will sign to approve the abstracts and scheduling the Oral Defense. The Qualifying Exam proposals may not exceed ten pages (excluding figures and references) for each project (20 pages total), however, the examining committee can set a lower limit. The project descriptions may be in a proposal or research paper format; the choice of proposal or paper style is left to the student, who may choose one of each type or both of the same type.

b. Approval of Abstracts and Written Component

The Qualifying Exam Brief must be submitted to the student's Ph.D. Exam Committee for unanimous approval before the oral exam can be scheduled. Once all Committee members have signed, the form should be sent to the Graduate and Academic Program Administrator for the student's file. The Oral Defense can be scheduled once this has been completed.

Once the Thesis Committee has approved the abstracts, the student should work with the Committee members to schedule an agreed upon date and time for the Oral Exam and then contact the Graduate and Academic Program Administrator to reserve a conference room. Students should schedule the exam for a **minimum of three hours**. If a committee member is unable to attend for the full three hours, another time should be found. Due to other faculty commitments, students should avoid scheduling their exam before the second week of classes or during the last week of classes. Up to one committee member may attend the oral exam via Zoom. If more than one committee member is not able to attend in person, another date must be found for the oral exam.

The Qualifying Exam Proposals should be sent to the Committee for review two weeks (14 days) in advance of the scheduled Oral Exam date. Copies should also be sent to the Graduate and Academic Program Administrator for the student's file at this time.

Once scheduled, the Graduate and Academic Program Administrator will make an announcement to the department at least one week in advance of the scheduled defense.

2. Ph.D. Qualifying Exam Oral Defense

To proceed to candidacy, students must demonstrate independent thinking, the ability to develop a hypothesis, and outline a rigorous and realistic plan towards quantitatively testing the hypothesis within the timeframe of a typical graduate student career. The candidate must also demonstrate an ability to communicate effectively in the oral and written language. In addition to demonstrating proficiency in one's own field, the candidate is expected to have a reasonable basic understanding of the Earth sciences.

a. Examination Committee

The role of this committee is to administer the Ph.D. Qualifying Exam, both the written and oral components. This committee will consist of the student's Thesis Advisor, the committee members from within the department plus one additional faculty member

chosen by the Director of Graduate Studies. **The student must ask the Director of Graduate Studies (by e-mail) no later than one month before the oral exam to appoint the additional faculty member to the examination committee**; this person is known as the known as the Qualifying Exam Committee Member of the examination committee. The Graduate and Academic Program Administrator should be notified for the student's record.

If the Director of Graduate Studies is also the Thesis Advisor, or on the examining committee, another member of the Graduate Committee (not already on the examining committee) will select the additional examination committee member. The Qualifying Exam committee member will normally be a tenured or tenure-track faculty member in this department. After successful completion of the Ph.D. Qualifying Exam, the Qualifying Exam committee member does not become a member of the Thesis Committee, unless invited by the student and Thesis Advisor.

The student's Ph.D. Qualifying Exam Committee will conduct the oral exam, but other faculty members are permitted to attend and will have full opportunity to ask questions. Determination of the outcome of the exam is the responsibility of the Qualifying Exam Committee. Other students may attend the presentation half of the oral defense, but not the questioning portion. The Thesis Advisor's main role during the exam is to moderate, which includes ensuring that every committee member has sufficient opportunity to ask questions, to clarify questions as needed, and to intervene if a question is inappropriate or a discussion gets out of hand. The examining committee, including the Thesis Advisor, is not supposed to answer or help to answer questions directed at the student from the committee.

b. Scope

Questioning may cover all areas relating to the research projects, including the relevant background material necessary to carry out the research. The purpose of the exam is to determine whether the student is sufficiently qualified to pursue high-quality, Ph.D.-level research. The oral presentations should be no more than 30 minutes in length for each project, unless approved in advance by the examining committee.

c. Result

The student should return a copy of the Qualifying Exam Results Form to the Graduate and Academic Program Administrator for the student's file.

The outcome of the exam may be one of the following:

- passing,
- failing with a permitted retake (once),
- or failing, which would include recommended removal of the student from the graduate program.

If a student fails the exam for the first time, the details of the student's future in the

department will be decided by the Qualifying Exam Committee and issued in a formal letter.

3. Thesis Planning Meeting

Shortly after successful completion of the Ph.D. Qualifying Exam, the student will arrange the Thesis Planning Meeting. The meeting will include all members of the student's Thesis Committee. The purpose of this meeting is to formalize the research plan and timeline, and to address any weaknesses encountered in the proposed research or the student's background as a result of the preliminary and qualifying exams. There is no formal documentation for this process, but students should make certain to communicate with their Thesis Advisor and Committee members regularly regarding the research plan.

4. Petition for Approval of Candidacy

Students must file a Petition for Approval of Candidacy for the Ph.D. Degree with the Office of Graduate Studies before the beginning of the ninth (9^{th}) semester of the student's residency at Rice. The petition can be filed at any time after completion of all degree requirements for graduation, excepting the thesis.

When ready to file, the student should meet with the Graduate and Academic Program Administrator to go over the Checklist (found in the EEPS Guidelines and Forms folder on Box) and verify all requirements have been met. Once filed, the student should refer to the Graduate and Postdoctoral Studies website for timeline planning towards his or her thesis defense (https://graduate.rice.edu/thesis).

This Petition should be filed before the Office of the Registrar's deadline for conferral if the student plans to graduate in the same semester. The student will not be allowed to graduate that year if this deadline is not met (for current dates: https://registrar.rice.edu/calendars).

5. Time to Defense

All Ph.D. students must defend their thesis before the end of the sixteenth (16^{th}) semester at Rice. Students should follow closely the Graduate and Postdoctoral Studies guidelines for preparing to defend (https://graduate.rice.edu/thesis).

6. Thesis

a. Thesis Format

The format of the written Ph.D. thesis will consist of at least three manuscripts that have been submitted to recognized peer-reviewed journals based on the thesis research, with the student as first author. Students cannot schedule the thesis defense until at least one paper is "in press" or published at the time of the Thesis Defense. The other two manuscripts must be submitted before the Approval of Candidacy form can be signed. The student must receive the approval of his or her Thesis Advisor or Thesis Committee before each paper is submitted for publication. In addition, brief introductory or summary

chapters, and/or appendices will be included at the discretion of the Thesis Committee.

With regards to the formatting of the thesis manuscript, students should refer to the Office of Graduate and Postdoctoral Studies (https://graduate.rice.edu/thesisformat).

b. Preparing to Defend

Once a student and his or her Thesis Advisor and Committee have decided the student is ready to defend, the student should coordinate with Committee members to schedule a date and time for the defense, and then the Graduate and Academic Program Administrator to reserve a conference room. Students and committee members should set aside a minimum of two and a half hours for the defense. A defense announcement must then be submitted to the Rice Events calendar at least **fourteen (14) days before the scheduled defense** (http://events.rice.edu/rgs/). Students may defend their thesis any time, but should pay careful attention to the deadlines for the Office of Graduate and Postdoctoral Studies when doing so (https://graduate.rice.edu/current-students/defense).

Students should reach out to the Graduate and Academic Program Administrator when preparing to defend to request reference information and support.

The student must submit his or her thesis to each Thesis Committee member at least **two (2) weeks** before the oral defense for review, although it is recommended to submit the thesis earlier to provide adequate time for evaluation. At this time, the student must also send an additional copy to the Graduate and Academic Program Administrator via email, who will make a formal announcement to the entire Department.

c. Defense

The thesis defense typically lasts about two to three hours. During this time, candidates are expected to orally present their research within 45-50 minutes to an audience made up of the Thesis Committee, fellow students, and any other interested parties. Candidates are expected to demonstrate mastery of the subject and thus be able to handle any questions relevant to the research. After the presentation, the audience is dismissed and further evaluations continue with the Thesis Committee only. During this time, the Thesis Committee will evaluate candidates' understanding of the subject matter and the rigor of their research. If candidates demonstrate true mastery of the subject, the thesis committee will recommend awarding the candidate the degree. The committee, however, has the right to suggest changes or edits to the thesis.

d. Acceptance

Acceptance of the student's thesis requires unanimous approval of the Thesis Committee, which will be demonstrated by the signatures of each member on the digital Approval of Candidacy form and the thesis cover page.

The student must provide an electronic version of the written thesis to the Thesis Advisor before final submission to the Office of Graduate and Postdoctoral Studies. The

files constituting the thesis must be provided in the final word processor and figure formats (e.g., Word and Illustrator documents), along with a complete PDF file.

Within **one (1) week** of the completed defense, students will upload the defended version of the thesis, along with the signed Approval of Candidacy form, to the Office of Graduate and Postdoctoral Studies online and according to their guidelines. Within **six (6) months**, the students must submit the final version of the thesis. Please see https://graduate.rice.edu/current-students/candidacy-defense/thesis-submission for exact instructions on their requirements.