

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

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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 Academic Program Coordinator or the Director of Graduate Studies, the chair of the Graduate Committee. **Refer to the Rice University General Announcements for more detailed explanation 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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## 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 Coordinator. 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 to go over the "Student Responsibilities and Expectations: A Student-Advisor Conversation Guide" found in the Forms Appendix. Once this meeting is completed, the student and advisor should complete and sign the "Advisor/Research Affiliation Agreement" (also located in the Forms Appendix). The student will then give the signed form to the Academic Program Coordinator for the student's file.

#### c. Sexual Harassment Prevention Training

The Department will host The Office of Sexual Violence Prevention and Title IX Support for an annual Sexual Harassment Prevention Training. An announcement will be made in advance to all students to allow opportunity for sign-up. All students are required to attend this training each year before they are eligible for travel awards.

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.

a. Vacation Time

Graduate students do not automatically receive paid vacation time aside from designated staff holidays, including winter break when the university is officially closed. Students do not automatically receive Spring Break as time off, as the university is not officially closed during this time. Vacation time can only be taken with the advance permission of a student's advisor. Moreover, if a graduate student has teaching responsibilities, permission must also be obtained from all relevant course instructors and the Department Chair. If students are working in the department during the summer, they should coordinate any planned vacations with their advisor.

b. Travel Awards

Students are eligible for support in the form of travel awards 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 Forms Appendix; 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:



- overseeing ESCI 603/604 Department Research
- 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/>).

Graduate students may petition for exceptions to academic requirements, regulations, and judgments. A course requirement is an example of an academic requirement. Allowed time to degree is an example of an academic regulation. Course grades and dismissals from programs are examples of academic judgments. Academic petitions and appeals should be approached first through the informal options or the ombudsperson in the department. When the program's recommendation is negative, or when the petition requests a major exception—for example, an extension of allowed time to degree by more than half of a semester—the Graduate Council and the Office of Graduate and Postdoctoral Studies may also obtain the recommendation of the school overseeing the program (when relevant).

#### 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>).

b. 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.

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>), the Office of Sexual Violence Prevention & Title IX Support (<https://safe.rice.edu>).

Ombudspersons are a more formal option for counsel within the department; a faculty member who is not a member of the Graduate Committee serves 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 Office of the Dean of Graduate Studies.

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 publications, and conduct the oral examinations of proposals and the final thesis defense. Students should also 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

For a Master's student, the Thesis Committee will oversee the student's progress, the thesis proposal, and the final thesis defense. The official admissions letter from the Chair of the Admissions Committee will specify who the Thesis Advisor will be for all Master's students. He or she is the chair of the student's Thesis Committee. This committee consists of at least three members, two of whom must be tenured or tenure-track faculty at Rice:

- the Thesis Advisor,
- one faculty member chosen by the student
- one faculty member appointed by the Director of Graduate Studies, selected after the remainder of the committee has been chosen and the student confers with 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 third committee member; two members, including the Thesis Advisor, must be from the Department. 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.

If any committee member becomes unavailable at any stage, the student and the Thesis Advisor, subject to approval by the Department Chair, will choose a replacement. The student should obtain the signature of any committee member who is dropped or added using the Master's Thesis Committee Form found in the Forms Appendix. If this occurs after the student files the Petition for Approval of Candidacy, the student will need to reach out to the Academic Program Coordinator to correct the Petition.

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.

Candidates are responsible for keeping the members of their committee informed about the nature and progress of their research. They also must establish a schedule for thesis completion and review. The members of the committee, in turn, should review the thesis in a timely manner, approving a preliminary form of the thesis before scheduling the oral examination.

### 3. Ph.D. Thesis Committee

For a Ph.D. student, the Thesis Committee will oversee the student's progress, the Qualifying Exam, and the final thesis defense. The official admissions letter from the Chair of the Admissions Committee will specify who the Thesis Advisor will be for all Ph.D. students. He or she is the chair of the student's Thesis Committee.

The Ph.D. Thesis Committee consists of at least four members, three of whom must be tenured or tenure- track faculty at Rice:

- the Thesis Advisor
- one faculty member chosen by the student **from** the Department
- one faculty member chosen by the student **from outside** the Department
- one faculty member appointed by the Director of Graduate Studies **from** the Department, selected after the remainder of the committee has been chosen and the student confers with 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 fourth committee member. Three members, including the Thesis Advisor, must be from the Department of Earth, Environmental and Planetary Sciences, and at least one must be from outside this department.

The student chooses the outside committee member, since the member appointed by the Director of Graduate Studies will always come from within this department. Students may wait until after passing the Ph.D. Qualifying exam to choose the outside committee member, as this person will not be on the committee for the Qualifying Exam. Students are welcome to ask current members of their Thesis Committee for recommendations.

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, with approval from the Department Chair. If any committee member becomes unavailable at any stage, the student and the Thesis Advisor, subject to approval by the Department Chair, will choose a replacement. The student should obtain the signature of any committee member who is dropped or added using the Ph.D. Thesis Committee form found in the Forms Appendix. If this occurs after the student files the Petition for Candidacy, the student will need to work with the Academic Program Coordinator to have this corrected.

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

Candidates are responsible for keeping the members of their committee informed about the nature and progress of their research. They also must establish a schedule for thesis completion and review. The members of the committee, in turn, should review the thesis in a timely manner, approving a preliminary form of the thesis before scheduling the oral examination.

## **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 Forms Appendix 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 9 credit hours. Students not working an internship during the summer months, and therefore receiving stipends, must register for at least 6 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.

Several Earth Science courses are required of all graduate students. In principle, incoming students are expected to complete the department's undergraduate requirements in math, physics, and chemistry.

Incoming graduate students are required to take ESCI 603/604, Department Research and ESCI 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 Graduate Committee will oversee ESCI 603/604, with one student 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 ESCI 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 **ESCI 800 (Thesis Research) only after passing the Preliminary Exam**, subject to approval of their Thesis Committee. In the semester in which a Master's student prepares for the thesis proposal defense, or a Ph.D. student prepares for the Ph.D. Qualifying Exam, they may especially wish to take ESCI 800 to account for the time

required for preparation in that semester. Students who have not passed the Preliminary Exam should take ESCI 501 (Special Studies for Graduate Students) for research work.

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 Postdoctoral and Graduate 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 of Earth, Environmental and Planetary Sciences has a more stringent standard, requiring 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.

The GPA is a straightforward weighted average, which uses the numerical grade equivalents given below. The total number of grade points is the summation of the numerical grade equivalent multiplied by the number of credit hours, for each course. The grade point average is simply this sum divided by the total number of graded credit hours a student has completed.



A+ = 4.00	B+ = 3.33	C+ = 2.33
A = 4.00	B = 3.00	C = 2.00
A- = 3.67	B- = 2.67	C- = 1.67

ESCI 603/604/605/606 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 1 semester of primary T.A. service for the department as a requirement to complete their degree (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 reserves the right to request and assign T.A.s to the primary courses as needed.

#### 5. Preliminary Exam

Each student must successfully pass a written Preliminary Exam before proceeding to his or her Thesis Proposal (Master's) or Qualifying Exam (Ph.D.). The Preliminary Exam will be offered twice each year: near the beginning and end of the spring 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 end of the spring 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 Academic Program Coordinator 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 Forms Appendix, 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 ESCI 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 Academic Program Coordinator 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 Academic Program Coordinator in 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 at the beginning of the fall semester.

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 has 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 day of the spring semester (for current dates: <https://registrar.rice.edu/calendars>). 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 Forms Appendix. The form should be signed by all members of the Thesis Committee and returned to the Academic Program Coordinator for the student's file. If the entire Thesis Committee is unable to meet at one time, students are permitted to schedule meetings with Thesis Committee members individually.

If progress has been unsatisfactory, the Thesis Advisor will provide a written commentary to be returned to the student, and copied to the Director of Graduate Studies and the Academic Program Coordinator 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 on 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 (acquired from Academic Program Coordinator). 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. 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.

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 obtained from the Department's website. (See the Forms tab: <https://earthscience.rice.edu/academics/graduate-thesis-programs/>).

The Brief will contain a summary of the proposal and will serve as the approval form for the Thesis Committee. 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.

## 2. Oral Thesis Proposal Defense

The written component must be submitted to the student's Thesis Committee for

unanimous approval before the oral exam (thesis proposal defense) can be conducted. Each member of the Thesis Committee must sign the Thesis Proposal Brief as evidence of unanimous approval.

Once the Thesis Committee has approved the written component, the student should work with his or her Thesis Committee members to schedule an agreed upon date and time for the Oral Exam, and then contact the Academic Program Coordinator to reserve the conference room. Due to other faculty commitments, students should avoid scheduling their exam before the second week of classes or during the last week of classes.

After scheduling, students should send their signed Thesis Proposal Brief to the Academic Program Coordinator. The time and place of the student's oral proposal defense and a copy of the Thesis Proposal Brief will then be sent via email by the Academic Program Coordinator to the department at least one week in advance of the scheduled defense.

a. Examining Committee

The student's Thesis Committee will conduct the oral defense; however, other faculty members are permitted to attend and will have full opportunity to ask questions. Determination of the outcome of the defense 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 oral defense 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

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 30 minutes in length, unless approved in advance by the Thesis Committee.

c. Result

The original signed copy of the Thesis Proposal, along with the signed Thesis Proposal Oral Exam Form, are given to the Academic Program Coordinator 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.

3. 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 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 Academic Program Coordinator to go over the Checklist 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>).

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>).

4. Time to Defense

All Master's students must defend their thesis before the end of their eighth semester of their residency at Rice. The defense may take place any time during the regular academic year, except during official examination periods. Students should follow closely the Graduate and Postdoctoral Studies guidelines for preparing to defend (<https://graduate.rice.edu/current-students/defense>).

5. 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 Academic Coordinator to reserve a conference room. A defense announcement must then be submitted to the Rice Events calendar at least **seven days before the scheduled defense** (<http://events.rice.edu/rgs/>). Students may defend their thesis any time during the regular academic year, except during official examination periods, 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>).

The student must submit his or her 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 Academic Program Coordinator via email.

c. Defense

Thesis Committee members will use the Thesis Defense Rubric, found in the Forms Appendix, to evaluate students' Defense performance.

The thesis defense typically lasts about 2-3 hours. 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 during the regular academic year, except during official examination periods. However, students must abide by the deadline for submission of their theses to the Office of Graduate and Postdoctoral Studies to ensure that they will be eligible to graduate as planned. 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 of the Thesis Committee. This is demonstrated by their signatures on the Approval of Candidacy form,

along with two copies of 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 week of the completed defense, students will scan and upload the defended version of the thesis, along with the signed Approval of Candidacy form, to the Office of Graduate and Postdoctoral Studies online, according to their guidelines. Within six months, the students must submit the final version of the thesis online and physically take the original Approval of Candidacy Form and the two original signed copies of the thesis title page to the Office of Graduate and Postdoctoral Studies. Please see <https://graduate.rice.edu/current-students/candidacy-defense/thesis-submission> for exact instructions and requirements.

## E. DEGREE REQUIREMENTS - Ph.D. PROGRAM

### 1. Ph.D. Qualifying Exam Proposals

#### a. Written Component (Proposals and Brief)

The Ph.D. Qualifying Exam (both written and oral components) **must be completed no later than the end of the student's fourth 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.

The written component of the Qualifying Exam will also include the Qualifying Exam Brief. A form for the brief can be obtained from the Department's website. (See the Forms tab here: <https://earthscience.rice.edu/academics/graduate-thesis-programs>).

The Brief should contain a summary of the projects and will serve as the approval form for the Thesis Committee in approving the written proposals. The Qualifying Exam proposals may not exceed ten (10) 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 Written Component

The written portion of each project must be submitted to the student's Ph.D. Exam Committee for unanimous approval before the oral exam on the primary proposal can be conducted. The student must submit the projects to his or her committee **no less than two weeks before the oral exam**. Each member of the Thesis Committee must sign the Qualifying Exam Brief as evidence of unanimous approval.

Once the Thesis Committee has approved the written portion of the Qualifying Exam, the student should work with the Committee members to schedule an agreed upon date and time for the Oral Exam, and then contact the Academic Program Coordinator to reserve the conference room. Due to other faculty commitments, students should avoid scheduling their exam before the second week of classes or during the last week of classes.

After scheduling, students should send their signed Qualifying Exam Brief to the Academic Program Coordinator. The time and place of the student's oral exam defense and a copy of the Qualifying Exam Brief will then be sent via email by the Academic Program Coordinator 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.

Students should reference the Qualifying Exam Rubric in the Forms Appendix for formal evaluation details. If further questions arise, students should consult with members of the Thesis Committee.

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 Committee, 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 "External" member of the examination committee.

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 External examination 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 External committee member does not become a member of the Thesis Committee, unless invited by the student and Thesis Advisor.

The member of the regular Thesis Committee from outside the department is not required to participate in the Qualifying Exam, but can at the discretion of 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 defenses, 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 original signed copy of the Qualifying Exam Brief is given to the Academic Program Coordinator and placed in the student's file. Once completed, the Thesis Committee members will return the Qualifying Exam Rubric and Results Form to the Academic Program Coordinator, who will send copies to the student.

Possible outcomes of the exam are:

- 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 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 Academic Program Coordinator to go over the Checklist 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 semester at Rice. The defense may take place any time during the regular academic year, except during official examination periods. 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. 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 Academic Coordinator to reserve a conference

room. A defense announcement must then be submitted to the Rice Events calendar at least **fourteen days before the scheduled defense** (<http://events.rice.edu/rgs/>). Students may defend their thesis any time during the regular academic year, except during official examination periods, but should pay careful attention to the deadlines for the Office of Graduate and Postdoctoral Studies when doing so.

The student must submit his or her 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 to provide adequate time for evaluation. At this time, the student must also send an additional copy to the Academic Program Coordinator via email, who will make a formal announcement to the entire Department.

c. Defense

Thesis Committee members will use the Thesis Defense Rubric, found in the Forms Appendix, to evaluate students' Defense performance.

The thesis defense typically lasts about 2-3 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.

Students may defend their thesis any time during the regular academic year, except during official examination periods. However, students must abide by the deadline for submission of their thesis to the Office of Graduate and Postdoctoral Studies to ensure that they will be eligible to graduate as planned. Students must submit their 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 of the Thesis Committee, which will be demonstrated by the signatures of each member on the Approval of candidacy form and two original copies of 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, on CD (or equivalent); two copies should be provided.

Within **one 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 months**, the students must submit the final version of the thesis online and physically take the original Approval of Candidacy Form and the two original signed copies of the thesis title page to the Office of Graduate and Postdoctoral Studies. Please see <https://graduate.rice.edu/current-students/candidacy-defense/thesis-submission> for exact instructions on their requirements.