

GUIDELINES FOR ADVANCED DEGREES IN
THE
DEPARTMENT OF EARTH SCIENCE
RICE UNIVERSITY

AUGUST 2011

Dear Student,

*Read the following guidelines carefully and refer to them as needed. If there are any questions concerning any part of this, see the Staff Assistant for Graduate Students or the Graduate Advisor (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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DEPARTMENT OF EARTH SCIENCE

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SUGGESTED CHRONOLOGY

First Year

- O-week: Meet with (prospective) Thesis Advisor, and then meet with the Graduate Committee to plan first semester courses.
- August: Register for classes. If needed, take courses to catch up with Rice undergraduate requirements.
- Fall Semester: By mutual agreement, select Thesis Advisor (if not already assigned to you), and determine thesis topic and Thesis Committee. Study for Prelim Exam.
- January: Take Prelim Exam.

Second Year

- September 15: Submit Annual Progress Report to Graduate Committee; within 30 days of receiving Graduate Committee comments, arrange to meet with Thesis Committee.
- Master's Student: Submit written Thesis Proposal and defend orally (before start of third semester).
- Ph.D. Student: Submit two projects for Ph.D. Qualifying Exam and defend orally, followed by Thesis Planning Meeting (no later than fourth semester).

Subsequent Years.

- September 15: Submit Annual Progress Report to Graduate Committee; within 30 days of receiving Graduate Committee comments, arrange to meet with Thesis Committee.
- Ph.D. Student: Submit first paper for publication (end of second year); submit second paper for publication (end of third year); submit third paper (end of fourth year).

Year of Graduation: May conferral

- February 1: Deadline for filing Petition for Approval of Candidacy for May conferral. *[M.S. must file before 5th semester; Ph.D. must file before 9th semester]*
- March-April: Submit written thesis to Thesis Committee, thesis approved, Thesis Defense.
- Last Day, Spring semester: Written thesis turned in to the Office of Research and Graduate Studies, **before NOON.**

Year of Graduation: January conferral (refer to relative timing of events for May conferral).

- November 1: Deadline for filing Petition for Approval of Candidacy for January conferral. *[M.S. must file before 5th semester; Ph.D. must file before 9th semester]*
- Last Day, Fall semester: Written thesis turned in to the Office of Research and Graduate Studies, **before NOON.**

A. INTRODUCTION

1. Purpose

This document describes the present guidelines for advanced degrees in the Department of Earth Science. Although subject to change, the guidelines that are in place when you enter normally remain in effect until you complete your degree.

University regulations (see General Announcements) always have precedence over departmental ones. Therefore, the Department cannot grant exemption from any University requirements.

The Department Chair has final authority over all decisions involving departmental regulations. Graduate students have the right to petition the Department Chair for special consideration concerning any departmental regulation, including those in this document.

2. Your Responsibilities

You are responsible for following the present guidelines of the department and those of the University. If you have any questions regarding what you are responsible for, you should consult with the Graduate Advisor or the staff assistant for graduate students. It is also your responsibility to know and follow the Rice Honor Code. Copies of the Code will be made available to you.

3. Administration

Graduate requirements are administered by the Graduate Committee.

4. Employment

Students receiving University fellowships are expected to devote full-time to study and research, completing the requirements for their degree. Outside employment or consulting (part-time as well as full-time) may compromise these objectives. Students receiving financial support are, therefore, required to have the prior written consent of the Chair of the Department before accepting any other full- or part-time employment or consulting work during the period for which they are supported.

5. Committees and Graduate Ombudsman

a. Graduate Committee and Graduate Advisor

The main function of the Graduate Committee is to oversee the annual review and departmentally-administered exams of all graduate students in the department. This includes (i) evaluating student progress reports each year, and providing a written response to the students and their advisors, (ii) overseeing the seminar series (ESCI 403/404) in which students give a talk each year, (iii) setting the Preliminary Exam, (iv) and selecting committee members for Theses Committees and Ph.D. Exam Committees. The chair of the Graduate Committee is the Graduate Advisor. The

Graduate Advisor will sign all graduate registration forms for first year students who were not assigned a Thesis Advisor in their official admission letter.

The Graduate Committee will meet with you on registration day, prior to your first semester, to plan with you a schedule of classes for your first semester. It is possible that you may have worked out in advance your schedule in consultation with a member of the faculty who is or will likely become your Thesis Advisor.

b. Graduate Ombudsman

A faculty member who is not a member of the Graduate Committee will serve as an ombudsman for graduate students, that is, to be an advocate on behalf of the student(s) to investigate and resolve any grievance or problem brought forward by a student or group of students that is related to their studies, research, or service within the department. A student should consult with the Graduate Ombudsman only after first trying to resolve the problem with their Thesis Advisor and/or the Graduate Advisor. If the problem cannot be resolved through the Graduate Ombudsman, the student should speak with the Department Chair.

c. Master's Thesis Committee

Your official admission letter from the Department Chair will specify who your Thesis Advisor will be. He or she is the chair of your Thesis Committee. This committee consists of at least three members: the Thesis Advisor, one faculty member chosen by the student, plus one faculty member chosen by the Graduate Advisor. The Graduate Advisor's selection occurs after the remainder of the committee has been chosen and the student informs the Graduate Advisor (by e-mail). If the Graduate Advisor is also the Thesis Advisor, or on the thesis committee, another member of the Graduate Committee (not already on the thesis committee) will select the third committee member. All members must be tenured or tenure-track faculty at Rice; two members, including the Thesis Advisor, must be from this department. Additional qualified members from within the department, outside the department, or outside Rice are allowed on the committee at the discretion of the student and Thesis Advisor. This committee will be involved in the thesis proposal defense and the final thesis defense, and oversees the student's progress along the way. If any committee member becomes unavailable at any stage, a replacement will be chosen by the student and the Thesis Advisor, subject to approval by the Graduate Advisor. The student should obtain the signature of any committee member who is dropped or added using a form provided by the Staff Assistant for Graduate Students. Major changes to the research plan after the proposal defense are possible, but will require signed approval of the thesis committee.

You must meet with your Thesis Committee no later than the end of your first semester to assemble a course of study for your degree. While not cast in stone, this plan includes the courses you will take for each semester of your graduate career. After you and your Thesis Committee agree on your course of study, it will be put in your file in the Department Administrator's office. If your course of study needs to be changed, you must obtain the approval of your Thesis Committee and the Graduate Advisor, in writing. The Thesis Committee approves your thesis proposal and conducts the oral examination component of the Proposal defense. You must meet with your Thesis Committee as needed, as a group or individually, to report progress, discuss difficulties, etc., and at least once a year to address the Graduate Committee's response to your Annual Progress Report (see below). A form

will be provided by the Staff Assistant for Graduate Students that must be signed by each member of your Thesis Committee each year to ensure that the annual meeting takes place.

d. Ph.D. Thesis Committee

If your official admission letter from the Department Chair does not specify who your Thesis Advisor will be, you must have a Thesis Advisor by the end of your first semester. This is not a selection that you make alone: it must be a mutual agreement between you and one of the faculty members in this department. He or she is the chair of your Thesis Committee. The Ph.D. Thesis Committee consists of at least four members: the Thesis Advisor, two faculty members chosen by the student, plus one faculty member chosen by the Graduate Advisor. The Graduate Advisor's selection occurs after the remainder of the committee has been chosen and the student informs the Graduate Advisor (by e-mail). If the Graduate Advisor is also the Thesis Advisor, or on the thesis committee, another member of the Graduate Committee (not already on the thesis committee) will select the fourth committee member. All members must be tenured or tenure-track faculty at Rice; two members, including the Thesis Advisor, must be from this department, and at least one must be from outside this department. The outside committee member is chosen by the student, since the Graduate Advisor's selection will always come from within this department. It is not necessary to choose your outside committee member until after you pass the Ph.D. Qualifying exam (see below). Additional qualified members from within the department, outside the department, or outside Rice are allowed on the committee at the discretion of the student and Thesis Advisor. This committee will be present at the Thesis Planning Meeting (after successful completion of the Ph.D. Qualifying Exam; see below), administer the final thesis defense, and oversees the student's progress along the way. If any committee member becomes unavailable at any stage, a replacement will be chosen by the student and the Thesis Advisor, subject to approval by the Graduate Advisor. The student should obtain the signature of any committee member who is dropped or added using a form provided by the Staff Assistant for Graduate Students. Major changes to the research plan after the Thesis Planning Meeting are possible, but will require signed approval of the thesis committee.

You must meet with your Thesis Committee no later than the end of your first semester to assemble a course of study for your degree. While not cast in stone, this plan includes the courses you will take for each semester of your graduate career. After you and your Thesis Committee agree on your course of study, it will be put in your file in the Department Administrator's office. If your course of study needs to be changed, you must obtain the approval of your Thesis Committee and the Graduate Advisor, in writing. You must meet with your Thesis Committee as needed, as a group or individually, to report progress, discuss difficulties, etc. , and at least once a year to address the Graduate Committee's response to your Annual Progress Report (see below). A form will be provided by the Staff Assistant for Graduate Students that must be signed by each member of your Thesis Committee each year to ensure that the annual meeting takes place.

e. Ph.D. 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 your Thesis Committee, plus one additional faculty member chosen by the Graduate Advisor. The student must ask the Graduate Advisor (by e-mail) no later than one month before the oral exam to assign the additional faculty member to the examination committee; this person is known as the "external" member of the examination committee. The member

of the 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. If the Graduate Advisor 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 external 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's role is over, i.e., they do not become a member of the Thesis Committee, unless invited by the student and Thesis Advisor.

B. COURSE WORK

1. a. Course Requirements

Before the end of the first semester, each graduate student should select a primary Thesis Advisor and at least one (Master's) or two (Ph.D.) other faculty members to serve as the student's Thesis Committee (see above). Before registration for the spring (or second) semester of study, each new student, in consultation with this committee, will have planned a course of study. The course of study will be structured to focus on the student's area of interest, strengthen the student's education in areas identified by the Thesis Committee and the Graduate Committee, and provide a broad background in Earth Science. This approved course of study constitutes the student's required course work for an advanced degree. The course of study can be revised by the student with the consent of the Thesis Committee and the Graduate Advisor -- in writing. An approved request for revision of the student's course of study must be in the student's file prior to registering each semester.

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 also take ESCI 403/404 (Department Seminar) and ESCI 405/406 (Current Research in Earth Science) during their first Fall and Spring semester. Graduate students may also take ESCI 403/404 (Graduate Research Seminar) each subsequent year. To gain full credit for ESCI 403/404, you must attend all seminars that semester. Whether or not you take ESCI 403/404 after your first year, you are still required to give an annual research talk in either 403 or 404 each year, or at a professional meeting (see below). Incoming graduate students without an advanced degree (e.g., Master's degree) are exempt from the presentation requirement in their first year.

Only after a student has successfully passed the Preliminary Exam (see below), may they take ESCI 800 (Thesis Research), 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 (see below), they may especially wish to take ESCI 800 to account for the time required for preparation in that semester.

b. University Requirements

In order for a graduate student to receive a stipend during a semester, they must be registered as a full-time student, i.e., for a minimum of 9 credit hours. The University requires 30 hours beyond the Bachelor's degree for the M.S. and 60 additional hours for the Ph.D. Students working for a Ph.D. directly after their Bachelor's degree are required to complete 90 credit hours.

c. Departmental Requirements

The department requires that at least 20 of the credit hours be lecture courses or seminars for both the M.S. and Ph.D. degrees. Students working for a Ph.D. directly from the Bachelor's degree are required to complete 40 hours of course and seminar work. The remainder of the credit hours may be research credit hours.

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 their Thesis Advisor and the Graduate Advisor.

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 school at the other facilities at no cost. The forms for registering in this program are obtained from the Office of Research and Graduate Studies.

e. Courses in Other Departments

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

2. Grade Requirements

It is a University requirement that you maintain at least a 2.33 overall grade point average (GPA). Should you fail to do so, you will be given one semester in a probationary status to bring your GPA to 2.33. It is also a University requirement that students achieve at least an overall B- (2.67) GPA on courses counted toward the graduate degree. However, the Department has a more stringent standard, requiring a cumulative GPA of at least 3.0 in all classes that you take while a graduate student at Rice. Should your GPA drop below 3.0 your 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 fellowship support or dismissal.

The GPA is a straightforward weighted average, which uses the numerical grade equivalents given by the table 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, then is simply this sum divided by the total number of graded credit hours a student has completed.

A+ = 4.33	B+ = 3.33	C+ = 2.33
A = 4.0	B = 3.0	C = 2.0
A- = 3.66	B- = 2.66	C- = 1.66, etc.

ESCI 403, 404, 405, 406 and 800 are taken on a "satisfactory/unsatisfactory" (i.e. pass/fail) basis and, therefore, do not affect your GPA.

C. TEACHING REQUIREMENTS

All graduate students are required to be a Teaching Assistant (T.A.) in at least one semester, unless they bring their own external funding for the duration of their time as a graduate student. Any graduate student beyond their first year who receives stipend support from department funds during a semester becomes part of a T.A. pool for that semester and may be asked to serve as a T.A., or the student may be assigned another departmental service. T.A.'s will be assigned by the Graduate Advisor and approved by the Department Chair.

Being a T.A. for ESCI 403/404 does not fulfill the requirement of serving as a T.A. for one semester (since it does not involve teaching experience).

Students have the opportunity to plan both their programs of study and teaching ahead of time. However, keep in mind that the faculty has the responsibility to see that required courses receive the T.A. support which they deserve. In all cases, the Department will make every attempt to ensure fair and equitable treatment of all students.

D. DEGREE REQUIREMENTS COMMON TO M.S. AND Ph.D.

In consultation with your Thesis Advisor and thesis committee, it is possible to change your intended degree from Master's to Ph.D., or vice versa. However, you should declare no later than the start of your third semester which degree, Master's or Ph.D., you are seeking, since a Master's student must defend their thesis proposal before the start of their third semester.

1. Preliminary Exam

All students must successfully pass a written preliminary exam before proceeding to their Thesis Proposal (M.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 must take the exam at the beginning of the Spring semester, unless they petition the Graduate Advisor because of 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 from the student's declared area of specialization. The same exam will be taken by Master's and Ph.D. students. The exam will be set by the Graduate Committee, with questions provided by the entire faculty, and each time it is offered it will include different questions. A set of topics and/or text book(s), possibly limited to specific chapters, from which the exam questions will be drawn will be provided to the students in the fall semester. The exam will be graded by the Graduate Committee. If unsuccessful, students will be allowed to retake the exam once when it is next offered. Students who fail the exam twice must leave at the end of the current semester.

2. Annual Requirements

A record of the completion of each of the annual requirements is kept in your file in the department. Failure to complete any one of the annual requirements will make you ineligible for departmental support (including travel funds).

a. Presentation

You are required to make a presentation of your research to the department each year, starting in your first year if you enter the program with a Master's degree, or in your second year if you enter with a Bachelor's degree. This requirement will be met by giving a research talk in ESCI 403 or ESCI 404. By petitioning the Graduate Advisor, you may request to give your talk in some other forum during the academic year, for example, by giving a talk at a professional meeting. ESCI 403/404 will be run by the Graduate students, with one student being assigned as a T.A. to organize it each semester. In addition, a member of the Graduate Committee will oversee ESCI 403/404. All first-year graduate students, and any other student taking 403 or 404 for credit, are expected to attend all talks.

b. Progress Report

A written Annual Progress Report will be electronically submitted to the Graduate Committee no later than September 15, beginning in your second year of study. The report will describe your progress toward your degree over the past year, including research, presentations, publications, course work, field work, TA work, service, and other work experience as appropriate. The precise format to follow for the report will be provided to you in the form of a template at the beginning of the fall semester. These reports will be evaluated by the Graduate Committee, and a written commentary will be returned to you and your Thesis Advisor.

c. Thesis Committee Meeting

Within 30 days of receiving the Graduate Committee response to your progress report, you must arrange to meet with your Thesis Committee, either individually or as a group, for the purpose of addressing the Graduate Committee's comments. In addition, at this time each committee member may provide comments or suggestions pertaining to your research project, and your general progress toward completing your thesis. A form will be provided by the Staff Assistant for Graduate Students that must be signed by each member of your Thesis Committee each year to ensure that the annual meeting takes place.

E. M.S. DEGREE

For degree requirements common to both the M.S. and Ph.D. degrees, see section D.

1. Thesis Proposal

a. Written Thesis Proposal

After successful completion of the Preliminary Exam, all Master's students will prepare a thesis proposal describing the research that they plan to carry out for their graduate degree. A written thesis proposal will be submitted to your Thesis Committee, and unanimously approved, before an oral exam (thesis proposal defense) can be conducted. You must submit the proposal to your committee no less than one week before the oral defense. You must prepare the written thesis proposal and defend it orally no later than the start of your third semester.

Your Thesis Proposal consists of two parts: The Thesis Proposal Brief, which serves as a cover page to the proposal; and the Thesis Proposal Description. A form for the brief can be obtained from the Staff Assistant for Graduate Students. It will contain a summary of the proposal and the signatures of the members of your Thesis Committee and the Department Chair. The 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. Approval of your Thesis Proposal

Your Thesis Proposal must be submitted to, and unanimously approved by, your Thesis Committee, before you can schedule the oral examination (defense). Your proposal brief will then be distributed to the faculty. The complete proposal must be available in the Chair's office for faculty inspection at least one week before your oral defense.

2. Oral Thesis Proposal Defense

a. Time

The time and place of your oral defense, including the Thesis Proposal Brief, must be communicated in writing to the entire faculty at least one week in advance. Make sure that all your committee members are available before you schedule your defense. When a final day and time has been agreed upon, schedule your defense through the Staff Assistant. Because of other faculty commitments, avoid scheduling your oral defense before the second week of classes or during the last week of classes.

b. Examining Committee

The oral defense is conducted by your Thesis Committee, however, other faculty members are permitted to attend and 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 oral defense at the discretion of the defending student. 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, are not supposed to answer or help to answer questions directed at the student from the committee.

c. Scope

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

d. Result

The original signed copy of the Thesis Proposal is given to the Staff Assistant for Graduate Students and is placed in your file. A student failing the exam the first time will be permitted to retake

it the following semester. A second failure will result in the student being terminated from the graduate program.

3. Petition for Approval of Candidacy

A petition to the Office of Graduate Studies for Approval of Candidacy for the Master's degree must be filed before the beginning of the fifth semester of your residency at Rice, and before November 1 (for a January conferral), or February 1 for May Commencement, of the academic year in which you plan to graduate. You will not be allowed to graduate that year if this deadline is not met. The petition can be filed at any time after completion of all degree requirements for graduation, except the thesis. Once filed, refer to the timeline for defense of theses, which is located in the General Announcements. When your Petition for Candidacy has been approved by the Office of Research and Graduate Studies, they will send you a copy of "Thesis Procedures and Forms" which you will follow in preparing your thesis. See the Staff Assistant for Graduate Students when ready for filing.

4. Time to Defense

You must defend your thesis before the end of the eighth semester of your residency at Rice.

5. Thesis

a. Thesis Committee

The selection and makeup of the Thesis Committee has been previously described in section A. The same committee that was involved in your thesis proposal defense will carry through to the final thesis defense. If one of the three required committee members becomes unavailable to continue to serve on your committee, a replacement to the committee will be permitted, after approval from your Thesis Advisor, and the Graduate Advisor.

b. 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. In addition, brief introductory or summary chapters, and/or appendices will be included at the discretion of the thesis committee. The student must receive the approval of his/her thesis advisor or thesis committee before a paper is submitted. A letter signed by the student and Thesis Advisor and submitted to the Graduate Advisor stating they have submitted a manuscript will be required. After your oral defense and final acceptance of the thesis by your Thesis Committee, a version of the thesis that meets the requirements of the Office of Research and Graduate Studies must be produced and submitted to that office according to their guidelines.

c. Submitting Thesis

You must submit the thesis to each thesis committee member at least one week before the oral defense, although it is recommended that you submit it earlier in consultation with your committee to

provide adequate time for evaluation. At this time you must also place an additional copy in the Chair's Office.

d. Defense

The thesis defense typically lasts about 2-3 hours. Schedule a room and time for your defense through the Staff Assistant for Graduate Students. You may defend your thesis any time during the regular academic year, except during official examination periods. However, be aware of the deadline for submission of your thesis to the Office of Research and Graduate Studies to ensure you will be eligible to graduate as planned. You must submit your thesis to the Office of Research and Graduate Studies no later than six months from the date of examination.

e. Acceptance

Acceptance of your thesis requires unanimous approval of your thesis committee, and each member of the committee must sign the front sheet (Approval of Candidacy form) of your thesis before it is turned in to the Office of Research and Graduate Studies. A copy of the signed Approval of Candidacy form is sent to the Office of Research and Graduate Studies. The original is placed in your file until you retrieve it to put with your written thesis.

The student must provide an electronic version of the written thesis to the thesis advisor and the department before final approval of the thesis by the thesis committee. For the department, the electronic format will be one PDF file containing all text and figures on CD (or equivalent); two copies will be provided. In addition, one hard copy (made at departmental expense) of the final thesis is to be deposited in the Chair's Office. For the thesis advisor, 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 will be provided.

F. Ph.D. DEGREE

For degree requirements common to both the M.S. and Ph.D. degrees, see section D.

1. Ph.D. Qualifying Exam

a. Written Component of Ph.D. Qualifying Exam

All Ph.D. students will prepare two distinct research projects and defend them orally, one of these will typically represent the core of the thesis research project. The second project will be developed independently from the thesis advisor. The student may ask questions of any faculty member, so long as the response does not entail supervision or guidance on the part of the thesis advisor. Brief outlines of the two projects must be provided to the Graduate Committee for approval to ensure they are sufficiently distinct topics. Possible models for the second project include, but are not limited to:

- i. A research project that is part of the student's proposed thesis work, but sufficiently distinct from the first project, e.g., the second phase of the thesis research;
- ii. A research project related to, but not duplicating, the student's proposed thesis work;
- iii. A research project devised independently by the student;

- iv. 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. The second project should be designed in such a way that it can likely 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 PhD thesis (see point 6b below) is at the discretion of the thesis committee.

The written portion of each project must be submitted to your Ph.D. Exam Committee, and unanimously approved, before the oral exam on each can take be conducted. You must submit the projects to your committee no less than one week before the oral exam. The Ph.D. Qualifying Exam (including oral defense) must be completed no later than your fourth semester.

The written component consists of two parts: The Qualifying Exam Brief, which serves as a cover page; and the Qualifying Exam Description. A form for the brief can be obtained from the Staff Assistant for Graduate Students. It will contain a summary of the projects and the signatures of the members of your Ph.D. Exam Committee and the Department Chair. The Qualifying Exam Description may not exceed ten (10) pages (excluding figures and references) for each project (20 pages total), or a lower limit can be set by your examining committee. The project descriptions may be in a proposal or research paper format; the choice of proposal or paper style is left to the student, and you may choose one of each type or both of the same type.

b. Approval of Ph.D. Qualifying Exam

Each project must be submitted to your Ph.D. Exam Committee, and unanimously approved, before you can schedule the oral examination. The Qualifying Exam Brief is then distributed to the faculty, and the complete projects must be available in the Chair's office for faculty inspection at least one week before the oral exam.

2. Ph.D. Qualifying Oral Exam

a. Time

The time and place of your exam, including the Qualifying Exam Brief, must be communicated in writing to the entire faculty at least one week in advance. Make sure that all your committee members are available before you schedule your exam. When a final day and time has been agreed upon, schedule your exam through the Staff Assistant. Because of other faculty commitments, avoid scheduling your exam before the second week of classes or during the last week of classes.

b. Examination Committee

The oral exam is conducted by your Ph.D. Exam Committee, however, other faculty members are permitted to attend and have full opportunity to ask questions. Determination of the outcome of the exam is the responsibility of the Exam Committee. Other students may attend the oral exam at the discretion of the defending student. 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, are not supposed to answer or help to answer questions directed at the student from the committee.

c. 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 you are 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 by the examining committee in advance.

d. Result

The original signed copy of the projects are given to the Staff Assistant for Graduate Students and are placed in your file. The result of a student failing the exam is left to the discretion of the Examining Committee. Some possible options are to permit a retake (once) the following semester, or recommend removal of the student from the graduate program, or, in the case of students without a Master's Degree, that the student complete a Master's Degree first. The latter option allows a student to seek a Ph.D. Degree in the department after completing a Master's Degree.

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 prelim and qualifying exams.

4. Petition for Approval of Candidacy

A petition to the Office of Graduate Studies for Approval of Candidacy for the Ph.D. degree must be filed before the beginning of the ninth semester of your residency at Rice, and before November 1 (for a January conferral), or February 1 for May Commencement, of the academic year in which you plan to graduate. You will not be allowed to graduate that year if this deadline is not met. The petition can be filed at any time after completion of all degree requirements for graduation, except the thesis. Once filed, refer to the timeline for defense of theses, which is located in the General Announcements. When your Petition for Candidacy has been approved by the Office of Research and Graduate Studies, they will send you a copy of "Thesis Procedures and Forms" which you must follow in preparing your thesis. See the Staff Assistant for Graduate Students when ready for filing.

5. Time to Defense

You must defend your thesis before the end of the sixteenth semester of your residence at Rice.

6. Thesis

a. Thesis Committee

Although Rice University requires that a Ph.D. Thesis Committee have only a minimum of three members, the department requires that a Ph.D. Thesis Committee have at least four members. The selection and makeup of the Thesis Committee has been previously described in section A. The same committee that was involved in your thesis planning meeting will carry through to the final thesis defense. If one of the four required committee members becomes unavailable to continue to serve on your committee, a replacement to the committee will be permitted, after approval from your Thesis Advisor, and the Graduate Advisor.

b. 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, at least one of which must be “in press” or published at the time of the Thesis Defense. In addition, brief introductory or summary chapters, and/or appendices will be included at the discretion of the thesis committee. The student must receive the approval of his/her thesis advisor or thesis committee before each paper is submitted. A letter signed by the student and Thesis Advisor and submitted to the Graduate Advisor stating they have submitted at least three manuscripts will be required. After your oral defense and final acceptance of the thesis by your Thesis Committee, a version of the thesis that meets the requirements of the Office of Research and Graduate Studies must be produced and submitted to that office according to their guidelines.

c. Submitting Thesis

You must submit the thesis to each thesis committee member at least one week before the oral defense, although it is recommended that you submit it earlier in consultation with your committee to provide adequate time for evaluation. At this time you must also place an additional copy in the Chair's Office.

d. Defense

The thesis defense typically lasts about 2-3 hours. Schedule a room and time for your defense through the Staff Assistant for Graduate Students. You may defend your thesis any time during the regular academic year, except during official examination periods. However, be aware of the deadline for submission of your thesis to the Office of Research and Graduate Studies to ensure you will be eligible to graduate as planned. You must submit your thesis to the Office of Research and Graduate Studies no later than six months from the date of examination.

e. Acceptance

Acceptance of your thesis requires unanimous approval of your thesis committee, and each member of the committee must sign the front sheet (Approval of Candidacy form) of your thesis before it is turned in to the Office of Research and Graduate Studies. A copy of the signed Approval of

Candidacy form is sent to the Office of Research and Graduate Studies. The original is placed in your file until you retrieve it to put with your written thesis.

The student must provide an electronic version of the written thesis to the thesis advisor and the department before final approval of the thesis by the thesis committee. For the department, the electronic format will be one PDF file containing all text and figures on CD (or equivalent); two copies will be provided. In addition, one hard copy (made at departmental expense) of the final thesis is to be deposited in the Chair's Office. For the thesis advisor, 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 will be provided.