Department of Geosciences - University of Massachusetts, Amherst
Ph.D. Program in Geosciences
Policies – Requirements – Guidelines

1. Preface

The Geosciences Ph.D. program provides students with the opportunities to acquire and practice the skills needed to begin careers as independent geoscientists. These include foundational knowledge in the discipline, oral and written communication, acquisition of advanced, specialized and new knowledge, mentoring in professional practices, and development of teaching, mentoring and research skills.

The culminating feature of the Ph.D. program is the production of a doctoral dissertation. To satisfy the University's criteria for a Ph.D. degree, the dissertation:

1) should demonstrate the candidate's intellectual competence and maturity in the field of concentration;
2) should make an original and valid contribution to human knowledge;
3) should be an individual achievement and the product of independent research.

Additionally, "the dissertation in its completed form will be judged largely upon the ability of the candidate to review and make critical use of the literature; to formulate a problem, plan a method of attack, and work systematically toward a solution; to summarize the material or data, and draw conclusions based thereon. Scholastic attainment in writing and presenting the results of the study will be crucial. The goal of the dissertation is to make a contribution to knowledge. It should be of publishable quality."

This document provides the information needed to understand completion of the degree requirements in the Geosciences Ph.D. program. These requirements comprise a suite of steps, milestones and deadlines. Some of these are internal requirements governed by Geosciences Department policies. Others are University requirements governed by policies of the University's Graduate School. The Geosciences Graduate Program operates within the University's graduate degree regulations as described in the *Graduate School Bulletin* and the *Graduate Students Handbook*. These documents are issued by the Graduate School and Graduate Dean's Office, and are available on the UMass graduate school website (www.umass.edu/gradschool/). All Ph.D. students are expected to be familiar with both Departmental and University graduate degree requirements. Responsibility for meeting degree requirements rests with the student, and not with Geosciences faculty or Graduate School staff.

The Geosciences Graduate Program Director [GPD] is available to help students to better understand and meet these requirements, and should be relied on as the point-of-contact resource regarding graduate program policies and requirements. The GPD also coordinates annual review of each graduate student's progress, serves as the main liaison with the Graduate School, and certifies to the Graduate School the requirements and milestones that graduate students meet. However, it is the responsibility of each graduate student to know these requirements and to ensure that these are met in the right order and at the right time.

All formal progress towards the Ph.D. degree is recorded on forms originating in the Department or the Graduate School. All necessary forms are described in this document along with directions where to find and complete these. It is the responsibility of each Ph.D. student to submit these forms to indicate that steps and milestones were completed by the relevant deadlines; faculty advisers and the GPD are not responsible for initiating or submitting students' forms.

2. Summary of requirements for the Ph.D. Degree in Geosciences

The degree requirements for the Ph.D. in Geosciences include:

- A minimum of 10 GEO-SCI 899 "PhD Dissertation" research credits.
- 2 consecutive semesters in residence during which the student is registered full-time, which equals enrolled for at least 9 credits.
- a 3.0 Grade Point Average (GPA) or higher each semester.
- completion of GEO-SCI 701 "Professional Seminar" each semester in residence.
- delivering at least one oral presentation of your dissertation research in GEO-SCI 701.
- completion of GEO-SCI 797A "Reading, Writing and Reviewing in the Geosciences" during the first Fall semester in the Ph.D. program.
- setting up a Guidance and Exam Committee during the first two months in the Ph.D. program.
- successful completion of the Preliminary Comprehensive Exam.
- setting up a Dissertation Committee by the end of the semester following passing the Preliminary Comprehensive Exam
- annual timelines submitted to the student's Dissertation Committee describing research activities and products anticipated over the next year in the program.
- submission of a Dissertation Prospectus approved by all members of the Dissertation Committee to the Graduate School.
- successful completion of an oral defense of the dissertation research (the Prospectus Defense).
- submission to the University of a dissertation document approved by all members of the Disseration Committee
- submission of a completed Doctoral Degree Eligibility Form in time for University graduation deadlines

3. Satisfactory progress towards completion of degree

3.1 Satisfactory Progress

Primary responsibility for continued satisfactory progress towards completion of dissertation research and degree requirements rests with the student. All students are expected to maintain high standards of excellence in scholarship while demonstrating progress towards completion of degree requirements as rapidly as possible.

Satisfactory progress includes all of the following components:

- achieving an overall 3.0 GPA for each semester
- completing all requirements and milestones of the program by the stipulated deadlines
- maintaining continuous progress in dissertation research
- submitting an annual timeline to the Dissertation Committee and GPD before the Fall Semester each year, beginning YR2 in the program.

3.1 Annual Timeline and Updates

Starting in year 2 of the program, each Ph.D. student is required to submit a 12-month timeline and workplan to their Dissertation Committee and the GPD. This timeline and workplan should describe the research activities and products anticipated over the next year. Annual timelines must be submitted prior to the start of the fall semester. Failure to submit an annual timeline before the start of each fall semester will be regarded as lack of satisfactory progress towards degree.

3.3 Probation, Academic Dismissal and Termination of Studies

Any student who fails to achieve satisfactory progress will be place on departmental probation for the subsequent semester. If the missed requirement, milestone or deadline is not fulfilled within one semester of the start of probation, the student will be removed from consideration for all subsequent TA and/or RA support (citing lack of satisfactory progress towards degree). In addition, lack of satisfactory progress may result a warning with conditions for continuation in the program, or in severe cases may result in termination of studies and academic dismissal, following a recommendation for dismissal by the GPD and approval by the Dean of the Graduate School. In addition, the GPD and Department Head may recommend termination of studies for reasons of safety (to self or others), plagiarism, academic dishonesty, and inactive status.

If, however, there are circumstances beyond the student's control that will lead to a missed requirement, milestone or deadline, the student must contact the Graduate Program Director and his/her Guidance & Exam Committee or Dissertation Committee in advance. The student must then submit and have approved by the Graduate Program Director, the adviser and the and the Guidance & Exam Committee or Dissertation Committee a revised timeline towards completion of degree requirements prior to the start of the next semester following a missed deadline. The revised timeline must include updated deadlines for meeting degree requirements and steps towards the Ph.D. degree; if these deadlines are subsequently missed without approval of additional extenuating circumstance, the same considerations for departmental probation and removal of TA and/or RA support will be applied.

Failure to meet more than one deadline, requests for more than one Revised Timeline, and failure to fulfill missed requirements during departmental probation, without excuse due to extenuating circumstances, will be considered grounds to pursue Academic Dismissal from the Ph.D. program due to unsatisfactory progress.

4. Conditions of Employment and Financial Support

4.1. Types of Financial Support

Students are normally admitted to the Geosciences Ph.D. program only if they have financial support approved by the Department. Common forms of financial support include teaching assistantships [TAs] and research assistantships [RAs]. TA and RA appointments are governed by the GEO contract, which is the agreement between the University and the Graduate Employee Organization. TA and RA appointment procedures for the Geosciences Department are described in the governance document found on the Graduate School website. Other forms of support include departmental scholarships, governmental scholarships, and some campus-based sources outside the Department; these are not governed by the GEO contract.

4.2. TA and RA supervisors, satisfactory performance and termination of support

TAs are funded by the Department to assist in teaching duties. The GPD, working in consultation with the Departments Undergraduate Program Director and Associate Department Head, is responsible for selection of student TA appointees and is the TA supervisor.
RAs are typically funded by faculty grant support. The selection of student RA appointees and the terms, duration and all other aspects of the contract, subject to University regulations, are the responsibility of the RA supervisor; in most cases this is the faculty member who is the principal investigator on the grant.

Non-satisfactory performance of TA duties may lead to termination of the TA contract. Examples of non-satisfactory performance include poor performance at assigned duties, failure to be present for exam proctoring or office hours, or being away from campus during the contract period without permission of the TA supervisor (instructor and/or GPD). Termination of TA duties due to non-satisfactory performance will not be regarded as lack of satisfactory progress towards degree. Non-satisfactory performance of RA duties may lead to termination of the RA contract. Examples include poor performance in research, lack of effort or time on research activities, or being absent without permission of the RA supervisor during the contract period. Termination of RA duties due to non-satisfactory performance may be regarded as lack of satisfactory progress towards degree. Student recipients of departmental scholarships who fail to make satisfactory progress towards the Ph.D. degree will have their financial support terminated if dismissed from the program.

A full description of the appointment policies for TA and RA appointments is found on both the Geosciences Department website and the Graduate School website.

4.3 Workload and limitations on total hours worked

University regulations govern the total weekly hours that student may work, which are calculated as hours worked in assistantships plus student credit hours. US Nationals may work a total of 40 hours per week, as working hours plus course credit hours, excluding dissertation credits. Working hours includes any type of campus employment: assistantships, student hours, work-

study, etc. F1 and J1 international student visa-holders may work no more than 20 hours per week during the regular semester, calculated as working hours plus credit hours. 40 hours is allowed during summer.

4.4 Outside Employment

Graduate students appointed as TAs or RAs may not, in general, accept concurrent employment elsewhere. Any exceptions to this outside-employment restriction must be approved by both the GPD and the dissertation committee chair (adviser) prior to accepting any outside employment. Failure to disclose outside employment may be considered when evaluating student's satisfactory progress towards degree. Graduate students are not allowed to provide paid tutoring services to any student for whom they also are grading in a course.

5. Residency, Candidacy, Enrollment and Statute of Limitations

5.1 Residency requirement

The University residency requirement states that each graduate student must complete one continuous academic year (i.e. two consecutive semesters) in full-time graduate work. A semester of full-time graduate work is defined as taking at least 9 credits in graduate courses (500-level or higher). These credits may include GEOSCI 899 "Dissertation Research" credits. Consecutive semesters may be Fall-Spring or Spring-Fall; summer enrollment does not qualify.

5.2 Candidacy

Once a student successfully passes the Preliminary Comprehensive Exam and meets the course requirement of completing GEO-SCI 797A and at least one semester of GEO-SCI 701 (see sections 6.2 and 7. below), the GPD can nominate the student for candidacy. The student's adviser and the GPD complete the form "**Doctoral Candidacy Nomination Form**" found on the Policies & Forms section of the Graduate School website, and the student submits this to the Graduate School. Once this form is registered by the Graduate School, the students statute of limitations will be set to 5 years, with an expected graduation term five full academic years following the semester when advanced to candidacy.

5.3 Continuous Enrollment

Graduate students are required by University regulations to maintain continuous enrollment in their graduate program. Enrollment is achieved by registering for course credits. In addition, students can maintain continuous enrollment by registering for GRADSCH 999 "Continuous Enrollment" in lieu of enrolling in GEO-SCI or other courses following their advancement to candidacy. A student who is not enrolled by the end of the Late Registration Period (Add/Drop) will be automatically withdrawn from the University. Reinstatement requires the approval of the GPD and Graduate Dean, as well as payment of missed Continuous Enrollment and other fees.

5.4 Full-time and part-time status

Students are automatically considered full-time for a given semester if registered for 9 or more credits, and are considered part-time if registered for 8 or fewer credits. In addition, the GPD can certify students on Continuous Enrollment as full-time for that semester if the student is actively pursuing dissertation research. Full-time status is not automatic for students on Continuous Enrollment; if full-time status is desired (e.g. for loan deferment or international student visas) students must request that the GPD certify full-time status for each semester the student is on Continuous Enrollment.

5.5 Statute of Limitations and SoL extensions

The statute of limitations [SoL] is the period within which all degree requirements must be completed. Ph.D. students are admitted with a six-year statute of limitations. Once advanced to candidacy, a student's statute of limitations is set to five years. Students who fail to complete all degree requirements within the statute of limitations will be automatically withdrawn from the program. Student may request one-year or two-year extensions to their statute of limitations, repeated SoL extension requests are allowed. Each SoL extension request must include a timeline for completion of remaining requirements and a justification for the extension from the student's adviser. SoL extension requests are submitted to the GPD, who then may recommend to the Graduate Dean that the extension be approved; final approval of SoL requests rests with the Graduate Dean. Note that a student whose SoL has expired will be unable to register for classes or Continuous Enrollment, and will be automatically withdrawn from the program if an SoL extension is not approved by the end of the Late Registration Period (Add/Drop). Thus is it crucial that students be aware of their SoL and expected graduate terms, and request SoL extensions in advance to prevent them from being withdrawn from the program. Students who have been withdrawn from the program due to an SoL expiration may petition the Graduate School for reinstatement and approval of an SoL extension request.

6. Course Requirements

6.1 GEO-SCI 701 "Professional Seminar"

Students must register for GEO-SCI 701 for each semester they are in residence, i.e. enrolled in full-time graduate work through course credits or GEO-SCI 899 dissertation research credits. This is a pass/fail seminar, and attendance is required. Unexcused absences will be regarded as lack of satisfactory progress towards the degree. Part-time students and students on GRADSCH 999 "Continuous Enrollment" are encouraged but not required to attend GEO-SCI 701.

In addition, each student in the Ph.D. program must deliver an oral presentation of research related to their dissertation at some time following their advancement to candidacy. Students do not need to be enrolled in GEO-SCI 701 to present in this seminar. This requirement can be waived on request to the GPD by any student who demonstrates proof they have delivered an oral presentation of research related to their dissertation at an off-campus scientific meeting.

6.2 GEO-SCI 797A "Reading, Writing and Reviewing in the Geosciences"

The ability to critically analyze scientific literature spanning a variety of disciplines is an important skill necessary for careers in many fields (e.g. academia, industry and government) and is also a required skill for successfully completing a Ph.D. GEO-SCI 797A is a seminar that guides students on the reading, writing, review and critical analysis of papers and research proposals in the Geosciences. The course also prepares Geosciences Ph.D. students for taking the Preliminary Comprehensive Exam and for writing the Dissertation Prospectus. Students must enroll and successfully complete GEO-SCI 797A during the first fall semester they are in the Ph.D. program. PhD students may also enroll in subsequent semesters until their dissertation prospectus (see section 8.3 below) has been accepted.

6.3 GEO-SCI 899 "Dissertation Research"

10 cumulative credits of GEO-SCI 899 are required for the Ph.D. Students may enroll in GEO-SCI 899 for up to a maximum of 9 credits per semester. Enrollment and assignment of credit loads for GEO-SCI 899 require adviser permission and cannot be done via SPIRE.

6.4 Other courses

There are no other formal course requirements in the Geosciences Ph.D. program. However, individual faculty may require a student to complete a course or courses in Geosciences or other departments as a condition for serving as the student's adviser, or as the result of conditional pass of the Preliminary Comprehensive Exam.

7. The Preliminary Comprehensive Exam

The Department of Geosciences Preliminary Comprehensive Exam is a two-part examination conducted by a student's Guidance & Exam Committee during the first year in the Ph.D. program. Under exceptional circumstances, a student may defer the Preliminary Comprehensive Exam by one semester contingent on approval by the Guidance & Exam Committee and GPD.

7.1 The Guidance and Exam Committee

Each student must establish a Guidance & Exam Committee comprising at least 5 Geosciences faculty **within the first two months** of their first semester as a full-time student in the Ph.D. program. External faculty from other UMass departments or other universities are not required or preferred. Typically, the Guidance & Exam Committee will be set up on consultation between the student and faculty during incoming graduate student orientation before the start of the student's first semester. Otherwise, students must communicate in writing to the GPD their selection of the Guidance & Exam Committee using **FORM #1** (located at the end of this manual). The Guidance & Exam Committee will assist the student with choosing first semester courses, and will conduct the student's Preliminary Comprehensive Exam (see sections 7.2 - 7.4 below). While changes/modifications to the Guidance & Exam Committee are allowed prior to the end of the student's first semester, failure to set up a Guidance & Exam Committee within

two months following start of a student's first semester will be regarded as lack of satisfactory progress towards degree.

7.2 Preliminary Comprehensive Exam: Part One

Part One of the Preliminary Comprehensive Exam (literature critique) is an exercise in critical thinking and scientific writing completed between a student's first and second semester in the program.

By Dec. 1 of the first semester (or April 15 if entering the program in the Spring semester), the student's Guidance & Exam Committee will assign the student a paper to read and critique. Recent research papers are strongly preferred over review papers or older literature. In some cases, books or book chapters may replace the papers. Papers will be chosen by the guidance committee to reflect student's interests and research in that sub-discipline in the Geosciences. Students will then have several weeks to complete a 2-3 page written critique of each paper that consists of the following labeled sections:

a) identify the main research question that this paper addresses
b) explain how the main research methods are used to address this question
c) summarize the main findings of the paper
d) answer the question "Do these findings adequately answer the research question?"
e) identify one or more unknowns related to the main research question that still remain after completion of this study
f) answer the question "are there any short-comings or ambiguity in the methods or interpretation in this paper?"
g) describe next steps in this topic of research that would investigate the unknowns and short-comings

Students will submit their written critique to their Guidance & Exam Committee no less than 2 days before the date scheduled for Part Two of the Preliminary Comprehensive Exam

7.3 Preliminary Comprehensive Exam: Part Two

Part Two of the Preliminary Comprehensive Exam (oral examination) is an evaluation of the outcomes of Part One. Part Two (oral examination) must be held before the end of the Late Registration Period (Add/Drop) for the Spring Semester of the student's first year for students entering in fall, and by June 1 for students entering in spring. In exceptional circumstances (e.g. fieldwork that cannot be re-scheduled, faculty sabbatical) a student may petition the Guidance & Exam Committee and GPD in writing to take the exam at a different time. The GPD must receive this request a minimum of 2 months in advance, and will work with the Guidance & Exam Committee and GPD to determine when the exam will be re-scheduled. Note that Guidance & Exam Committee members can participate in the oral examination remotely (e.g. audio or video conferencing). Barring approval of an exception, failure to complete the Exam before the start of the Spring semester (for students entering in fall) or by June 1 (for students entering in spring) will be regarded as lack of satisfactory progress towards degree. It is the student's responsibility to schedule Part Two (oral examination) with their Guidance & Exam

Committee; as faculty commonly have many competing obligations for their time and may use time outside the semester for fieldwork or other travel, students should work to schedule this exam as soon after the Guidance & Exam Committee has been identified as possible.

The Part Two (oral exam) will be a two-hour session during which the student and the Guidance & Exam Committee use Part One (literature critique) as a launching point for questions to probe the student's preparation in the science and the critical thinking skills needed to pursue a Ph.D. Students will be expected to support and justify their critiques, to demonstrate sufficient background knowledge on the topic, and to exhibit the capacity to acquire new knowledge and skills necessary to conduct and evaluate scientific research. Students may bring resources and reference materials in to the Exam, including figures and tables from the paper; however, students should neither prepare nor deliver a presentation summarizing the paper as their Exam.

Students must prepare for the Preliminary Comprehensive Exam independently. The student shall not discuss the article(s), book(s) or book chapter(s) with faculty or other students nor should the student receive any assistance in preparing the written critique.

7.4 Outcomes of the Preliminary Comprehensive Exam

The outcomes of the Preliminary Comprehensive Exam include Pass, Pass with Conditions, or Fail. Conditions may include: a retake of the Exam starting with new papers and new written critiques; a re-write of the written critique only, recommendations for future coursework or other preparation needed to develop and conduct dissertation research; reevaluation of research interests and dissertation topics. In the case that the Preliminary Comprehensive Exam needs to be re-taken or the critique re-written, this must be completed before the end of the student's second semester although the Guidance & Exam Committee may set an earlier deadline. An exam result of Fail will result in academic dismissal from the graduate program. Students are responsible for ensuring that results of the Preliminary Comprehensive Exam are communicated to the GPD.

Students who receive a result of "Pass" on their Preliminary Comprehensive Exam and meet the course requirement of completing GEO-SCI 797A can next be advanced to candidacy. The student's adviser and the GPD complete the "**Doctoral Candidacy Nomination Form**" found on the Policies & Forms section of the Graduate School website, and the student submits this to the Graduate School.

Students who receive a result of "Pass with Conditions" on their Preliminary Comprehensive Exam must satisfy those conditions before the department will recommend advancement to candidacy.

8. Dissertation Committee and Dissertation Prospectus

8.1 The Dissertation Committee

No later than the end of the semester following successful completion of the Preliminary Comprehensive Exam (typically 1st year, Spring semester), the student should recommend to the Graduate Program Director the members of his/her Dissertation Committee by submitting **FORM #2** (located at the end of this manual) signed by the adviser. This committee consists of at least three (ideally 4-5) UMass faculty members: a dissertation chair, who is the student's main Ph.D. adviser, at least 1 but up to 3 additional members of the graduate faculty in Geosciences, and 1 member who is graduate faculty in another UMass Amherst department. All members of the Dissertation Committee must agree not only to assist in the supervision of the dissertation project, but also be present in person to conduct the Dissertation Prospectus Defense and the Final Oral Examination (i.e. the Dissertation Defense).

'External' members (i.e. Ph.D.-holding research collaborators from other institutions, industry or government) are neither required nor preferred by the Graduate School. In exceptional cases, students and advisers can petition, through the GPD, that an external member be appointed with one-time status to the Geosciences Graduate Faculty. External committee members cannot serve to replace the required Geosciences or outside committee members. External members can serve as either voting or (preferably) non-voting Dissertation Committee members.

Failure to set up a dissertation committee by the end of the semester following successful completion of the Preliminary Comprehensive Exam will be regarded as lack of satisfactory progress towards degree.

8.2 The Dissertation Prospectus

The Dissertation Prospectus is a written proposal submitted by the candidate to the Dissertation Committee. The Dissertation Prospectus is typically based on the format of an NSF-style research proposal (~15 pages of text with embedded figures and tables, plus references and a cover page), but the Dissertation Committee may require a different format in some cases. The student shall write the Dissertation Prospectus independently without advance review from their Dissertation Committee, but other forms of peer review (grad students, post-docs, faculty other than Dissertation Committee) is encouraged. The Dissertation Prospectus is a document that describes the research *to be* conducted, analyzed, and presented in the dissertation; it is not acceptable for this document to be a status report or summary of dissertation research already conducted. The first draft of the Dissertation Prospectus must be submitted to the student's Dissertation Committee by the end of the student's third semester in the program (fall of year 2 for students entering in fall, spring of year 2 for students entering in spring). Failure to submit a first draft of the Dissertation Prospectus to the Dissertation Committee members before this time will be regarded as lack of satisfactory progress towards degree.

8.3 The Dissertation Prospectus Defense

The Dissertation Committee will review the first draft of the Dissertation Prospectus during Winter Break (for students entering in fall) or summer (for students entering in spring), and each committee member will return a written review of the Prospectus to the student by the start of the following semester. Students will schedule an oral defense of the Prospectus, outlining the proposed research and responding to committee reviews, to be held prior to March 1 of year 2 (for students entering in fall), or Nov. 1 of year 2 (for students entering in spring). Notice of the Prospectus Defense (prospectus title, name of student and committee members, date, time and location) must be sent to all Geosciences graduate faculty no less than one week prior to the defense date. The Prospectus Defense is open to all Geosciences graduate faculty and must be attended by all Dissertation Committee members. Dissertation Committee members may supply additional comments on the prospectus and proposed research during the Prospectus Defense.

The Dissertation Committee will vote on outcomes of the Prospectus Defense. These include Pass, Pass with Conditions, or Fail. Students who Pass the exam may directly submit their Dissertation Prospectus to the Graduate School. Those who Pass with Conditions must meet those conditions (normally, some revision and editing) before receiving approval to submit their Dissertation Prospectus, while those who Fail will not have their Dissertation Prospectus approved and will be dismissed from the program. The student's adviser must notify the GPD about the results of the Dissertation Prospectus Defense.

A final version of the Dissertation Prospectus must be completed by the end of the spring semester in year 2 (for students entering in fall) or fall semester in year 2 (for students entering in spring), and approved/signed by all Dissertation Committee members and submitted to the Graduate School by June 1 of year 2 (for students entering in fall)/Dec. 1 of year 2 (for students entering in spring). (. The cover sheet must be formatted as described in the Graduate School document "*Guidelines for Master's Theses and Doctoral Dissertations*", and signed by each member of the Dissertation Committee to indicate approval of the topic and its plan of execution. The Graduate Program Director or Department Head/Chair signs and forwards the prospectus to the Graduate Student Service Center. Failure to submit a Dissertation Prospectus that has been approved by all Dissertation Committee members before June 1 of year 2 (for students entering in fall)/Dec. 1 of year 2 (for students entering in spring) will be regarded as lack of satisfactory progress towards degree.

9. The Dissertation and the Final Oral examination

9.1 The Final Oral Examination

Following approval of the Dissertation Prospectus, students are expected to dedicate their time and efforts towards conducting their dissertation research. Ultimately, this will result in students preparing a written document termed the dissertation. Typically, the dissertation will go through several iterations of editing between the students and Dissertation Committee members. Once the Dissertation Committee is satisfied that the dissertation is sufficiently prepared to be

'defensible', the student may schedule a Final Oral Examination, commonly known as the dissertation defense.

The Final Oral Examination may be scheduled **no less than 7 months** after submitting the Dissertation Prospectus; this is a University regulation that can only be waived under exceptional circumstances that require approval of the GPD and Graduate School Dean. The Final Oral Examination is an oral presentation of the dissertation research scheduled once the student and Dissertation Committee agree that the body of scholarship is ready to be presented in final form. All committee members must provide preliminary approval of the written dissertation before the defense can be schedule; this approval is established by submitting **FORM #3** located at the end of this manual.

The Graduate School Office of Degree Requirements must receive written notification of the Final Oral Examination, including candidate name, Dissertation Committee membership, dissertation title, and the date, time and location of the exam **at least four weeks** prior to the date of the exam. This is a University regulation, and can only be waived under exceptional circumstances that require approval of the GPD and Graduate School Dean. Students should consult the "**Doctoral Oram Examination Checklist**" found on the Policies & Forms section of the Graduate School website for the information they must provide the GPD, who will then notify the Graduate School about the upcoming exam. Note that all items on this checklist must be completed before the GPD will approve scheduling of the Final Oral Examination. Notice of the Final Oral Examination will then be posted online by the UMass news office inviting all members of the campus community to attend the defense. Additionally, candidates must provide a copy of the dissertation to the Geosciences Department Office **at least one week** prior to the defense, where it will be made available to the entire department.

The results of the Final Oral Examination include Pass, Pass with Conditions, and Fail. Following successful passing of the Final Oral Examination, the student's adviser must notify the GPD who will then submit results of the exam to the Graduate School.

9.2 The Dissertation

The dissertation document must formatted as described in the Graduate School document "*Guidelines for Master's Theses and Doctoral Dissertations*". The dissertation must be approved and signed by all members of the dissertation committee and the Department Head/Chair and then submitted electronically through the University of Massachusetts Amherst dissertation submission site at ScholarWorks@UMass Amherst. Many dissertations include research that has been published or is in review in scientific journals; these papers may constitute chapters in the dissertation as long as formatted according to UMass style guidelines. Students are strongly encouraged to familiarize themselves with these style guidelines before writing. Requirements for a body of scholarship sufficient to merit a dissertation vary widely, but a typical Geosciences dissertation would include at least 3 published or publishable chapters, together with background/introductory material and a synthesis chapter at the end describing relevance and next steps.

10. Doctoral Degree Eligibility

Once the student has successfully completed the Final Oral examination, and all Dissertation Committee members approve the written dissertation, the student should consult the "**Doctoral Degree Checklist for PhD and EdD Degrees**" found on the Policies & Forms section of the Graduate School website the Graduate School. Students must submit all required materials described on this checklist. Deadlines for submission of these materials are set by University regulations without exception. Importantly, this includes the "**Doctoral Degree Eligibility Form**" found on the Policies & Forms section of the Graduate School website found on the Graduate School website. This form must be signed by the candidate, the GPD and the Geosciences Department Head, and submitted by the degree deadline set on the Doctoral Degree Checklist.

FORM #1:
Membership of Ph.D. Guidance and Examination Committee

Student Name _____

Guidance & Exam Committee (print names):

committee chair _____

member _____

member _____

member _____

member _____

approved by (signatures):

committee chair _____

date _____

GPD _____

date _____

FORM #2:
Membership of Ph.D. Dissertation Committee

Student Name _____

Dissertation Committee (print names):

Geosciences committee chair _____

Geosciences member #1 _____

Geosciences member #2 _____

Geosciences member #3 _____

UMass grad faculty member _____

approved by (signatures):

committee chair _____

date _____

GPD _____

date _____

FORM #3:
Approval of Dissertation Draft

Student Name _____

By signing below, I certify that I have reviewed a draft of the above student's doctoral dissertation, and I approve that this student may proceed with scheduling the Final Oral Examination (dissertation defense).

Dissertation Committee (signatures, with printed names):

Geosciences committee chair _____

date _____

Geosciences member #1 _____

date _____

Geosciences member #2 _____

date _____

Geosciences member #3 _____

date _____

UMass grad faculty member _____

date _____

received by GPD (signature) _____

date _____