

**University of Massachusetts, Amherst
Department of Geosciences**

Graduate Student Manual for the M.S. Program in Geosciences

August, 2013

Preface

The purpose of this manual is to provide graduate students in the M.S. program in Geosciences at the University of Massachusetts with the information necessary to navigate the series of requirements for the acquisition of the M.S. degree. *Please use this manual, which provides department-specific information, in conjunction with the Graduate Student Handbook provided by the University, and available online at the Graduate School Webpage.* This manual summarizes the requirements of both the thesis and the project options of the M.S. degree. You, the graduate student, are responsible for making sure that you have accumulated adequate credits, that they classify as graduate-level credits, and that you have submitted the proper forms along the way to the Graduate Program Director. Do not hesitate to ask your advisor or the Graduate Program Director about any aspect of the requirements that lead to the M.S. degree.

All formal progress toward a graduate degree, except course work, is recorded on forms originating in the Department or in the Graduate School. The student should make sure that any action (such as the selection of a guidance committee) is duly recorded by the Graduate Program Director. The manual provides details about each of these actions that need to be recorded by submission of one form or another.

Master's Degree Requirements:

- A minimum of 30 graduate credits are required for a master's degree
- A minimum of 21 of these credits must be in the field of Geosciences
- Up to 10 of the 30 credits can be thesis credits, if the student chooses the thesis option (see below)
- A full year course in two of the following: biology, chemistry, physics, either taken as an undergraduate or during the graduate program at UMass
- Fulfilling the basic requirements of the Department undergraduate degree in Geology; any deficiencies in the undergraduate background will be discussed during the arrival interview between the student and the faculty

- A full year course of college mathematics or statistics, beyond the precalculus level, appropriate to the student's course of study, either taken as an undergraduate or during the graduate program at UMass
- Six weeks of field training
- Participation in each semester of residence in Geo 701, Professional Seminar, and at least one oral presentation of research results, either at that seminar or at a professional meeting
- A minimum of one-half of the total required credits must be in courses for which a letter grade was given
- For the thesis option, a minimum of 6 credits must be in 600-800 level courses (in addition to thesis credits). For the project option at least 12 credits must be in 600-800 level courses.
- Credits transferred from another institution cannot be used to satisfy the University's requirement for graded credits nor the 600-800 course level requirement.
- The grade point average (GPA) must be 3.0 or above

Thesis or Project Track Toward the M.S. Degree

The Department of Geosciences offers two alternative tracks toward the master's degree: the thesis track and the non-thesis track.

Thesis Track:

The thesis track is appropriate for those with strongly focused research interests. Coursework of students in the thesis track is typically focused on the broad field related to the planned thesis area. The student does an in-depth research project and writes a thesis summarizing that study. Students in the thesis track do NOT take an oral comprehensive exam, but do have a thesis defense at the end of their program. The thesis must be formatted and submitted to the Department and the Graduate School according to the prevailing regulations. The Department requires at least one final copy of your thesis. See the Graduate School publications *Graduate Student Handbook* and *Guidelines for Master's Theses and Doctoral Dissertations* for information on style and formatting.

Project Track:

The project track is appropriate for those wishing to emphasize breadth of geological or interdisciplinary knowledge. Students in the project option may take courses covering a wide range of topics within the field of geology. The student does a research project that has a smaller scope than usually required for a thesis would be, and writes a final report

on the research project. The student's advisor and guidance committee ultimately review and approve the report, but the report does not need to meet any University requirements, as a thesis would. An oral comprehensive exam is required, and is normally taken in the spring semester of the second year of residence, near the end of completion of the research project. The oral exam is NOT a defense of the project but rather an exam on the scope of the student's knowledge reflecting the coursework undertaken.

General Chronology of Events in the Master's Program:

Arrival Interview All incoming students are given an interview with the entire geology faculty on arrival. The purpose of this interview is to review the student's academic background, to assign a temporary advisor, and to discuss any possible deficiencies in the course background.

Guidance Committee The student should establish a Guidance Committee of three faculty, including the advisor, within the first month or so of arrival. This committee may or may not consist of the same people that the student chooses to be on his or her eventual Thesis Committee, if the thesis option is chosen. The student proposes the members of the committee on a form included in this manual. The Guidance Committee meets each semester with the student to review progress and goals. Complete Department Form M.2 provided in this manual and pass it on to the Graduate Program Director.

Annual Review A yearly review is made by the entire faculty of each M.S. student's progress toward the degree. This annual review takes place each year in February.

If the student has chosen the thesis option:

Thesis Topic In consultation with the Guidance Committee, the student chooses a thesis topic.

Thesis Committee In consultation with the Guidance Committee, the student selects a thesis committee consisting of at least three members as soon as a thesis topic has been chosen. This typically occurs during the first or second semester of residence. The thesis committee may or may not consist of the same people that make up the Guidance Committee. Fill in form M.2b in this manual and submit it to the Graduate Program Director, who will send the appropriate memo to the Grad School.

Thesis Proposal (Thesis Outline) The student writes a thesis proposal and submits it first to his or her advisor, then, when the advisor has approved it, to the rest of the thesis committee. Faculty will undertake to return thesis proposal drafts to students within three weeks of receipt. When all committee members are satisfied with the proposal, they sign the title page, which is in the format required by the graduate school; see above mentioned publications for information. At that time the student takes one copy of the thesis proposal to the Graduate School Records office in Goodell and gives one copy of

the thesis proposal to the Graduate Program Director to be placed in the student's file. The proposal must be submitted at least **four** months prior to the thesis defense date. The title page of the proposal must be in the format as shown for the final thesis (see *Guidelines for Master's Theses and Doctoral Dissertations*).

Thesis Thesis research and writing takes place during the second, third, and sometimes part of the fourth semester of residence. The completed thesis should be submitted to the advisor, who has three weeks to read and comment on it. Revisions are then made and the thesis is re-submitted to the advisor. Further revisions may warrant submission to the entire committee, or to the advisor again, at the discretion of the advisor. The committee members ultimately have three weeks to read and comment on the thesis. When the thesis is considered by all committee members to be defensible, even if not in its final, 'perfect' form, the student can schedule a thesis defense. Please be aware that the time frame of writing, reading, and revision will usually take several months, so plan accordingly.

Public Lecture Each student is required to give a presentation of his or her research at least once during tenure as a graduate student. This is normally done as part of GEO 701 "Professional Seminar", which every grad student must register for during all their semesters as an active student. Presentation of results at a scientific meeting is also encouraged, although not required for graduation. Form M.4 should be submitted to the Graduate Program Director after completion of this task.

Thesis Defense The thesis defense must be scheduled at least two weeks after approval of the thesis by all committee members. A copy of the thesis must be placed in the Department Office for perusal by the faculty one full week prior to the defense. At the time of the thesis defense, scheduling information must be given to the Department Secretaries who will make up notices that will be posted. Information that must be supplied includes: 1) thesis title, 2) name of M.S. candidate, 3) date and time of defense, and 4) thesis committee chair (advisor) and members. The defense will include a 30-40 minute presentation of the results of the thesis research. Members of the student's thesis committee will have the opportunity to ask questions following the presentation, and other members of the faculty and other graduate students and onlookers will have the opportunity to ask questions following those of the committee members. Departmental M.S. Form 5, included in this manual, must be completed, with all signatures from the advisor, after the thesis defense and submitted to the Grad Program Director.

If the student has chosen the project option:

Program of Study A proposed Program of Study must be approved by the faculty, generally by the end of the second semester of residence. The program should outline a suitable breadth of course work, and should state a research topic; it also should include the proposed examination committee (see below). The proposal, together with summary of undergraduate and graduate courses taken and planned for the future, must be provided to the faculty at a faculty meeting for vote by the entire faculty. At least 12 credits of the total 30 must be numbered 600 or above.

Selection of Examination Committee At the same time as the program of study is developed, an examination committee should be established. The student and his or her advisor suggest five faculty members to act as members of the examination committee, but the final choice of the committee rests with the faculty as a whole. Complete M.S. Project Form 2a, included in this manual, and give to the Graduate Program Director when you have established your examination committee.

Public Lecture Each student is required to give a presentation of his or her research project at least once during tenure as a graduate student. This is normally done as part of GEO 701 "Professional Seminar", which every grad student must register for during all their semesters as an active student. Presentation of results at a scientific meeting is also encouraged, although not required for graduation. Form M.4 should be submitted to the Graduate Program Director after completion of this task.

The Comprehensive Exam: An oral comprehensive exam is required, and is normally taken in the spring semester of the second year of residence, near the end of completion of the research project. Questions from each examiner can range across the fields of geology, but are typically focused on the field of expertise of the faculty member. The time and place of the exam must be announced to the Department Faculty at least one week ahead of time. Fill out form M.5 (supplied in this manual) before and after the exam and the advisor submits it to the Graduate Program Director after completion of the exam.

Regardless of Choice of Thesis or Non-thesis option:

Department Check-Out Final processing of the degree will depend upon 1) returning all departmental equipment, 2) cleaning all laboratory or other workplaces, 3) archiving or discarding all samples. Obtain all necessary signatures on M.S. form 6 (included in this manual) and submit the form to the Grad Program Director.

Degree Eligibility Form This yellow form - officially The Mater's Degree Eligibility Form - (available in the front office or on the Grad School web page) must be completed by the master's candidate and signed by the Graduate Program Director and Department Head. The graduate student should verify the accuracy of the information that is put on this form from his or her permanent record. You can obtain an unofficial copy of your record in the Graduate Records Office or online in Spire. The completed form, with all necessary fees and signatures, must be submitted to the Office of Degree Requirements by the posted deadline for your target official graduation date.

Deadlines for Graduation (as of 8/31/11)

May graduation: April 13

September 1 graduation: August 31

February 1 graduation: December 15

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M.S. Geosciences Flow Sheet

Note: Differences between non-thesis and thesis tracks are indicated in bold.

	Semester	Form	Comments
Appointment of Preliminary Advisor	1	-	At introductory interview
Selection of Guidance Committee	1	1	
Project: Submittal of Program of Study and Selection of Examination Committee	1 or 2	2a	
Thesis: Appointment of Thesis Committee	1 or 2	2b	
Thesis: Submittal of Thesis Proposal	2 or 3	3	Thesis proposal to Grad School
Complete classes and research project	3 to 5	-	
Public Lecture	3 or 4	4	
M.S. Comprehensive Examination or Thesis Defense	4 or 5	5	
Thesis: Final Thesis submitted	4 or 5		Thesis to Grad School
Department Check-Out	4 or 5	6	"Yellow Sheet" to Graduate School

All forms mentioned above (1-6) go to the Graduate Program Director, who then submits the proper memo to the Graduate School. The student is responsible for submitting the Thesis proposal and the final thesis to the Graduate School.

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M.S. Form #1: Selection of Guidance Committee

Each candidate will propose, as early as feasible in the first semester of residence, a guidance committee of at least three graduate faculty members, for review and appointment by the Graduate Program Director. Please consult with your advisor and prospective members, and return this form to the Graduate Program Director.

Student Name _____

Preliminary Guidance Committee

Chair _____

Member _____

Member _____

Approved:

Graduate Program Director

Date

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M.S. (Project) Form #2a: Program of Study and Examination Committee

The program of study should be developed in consultation with your guidance committee as early as possible, preferably during the first semester in residence. The program should include the subject of the intended research project. At the same time, an examination committee should be proposed. This consists of five faculty members selected in consultation with your guidance committee.

Attach this form to your program of study and submit to your Advisor.

Student Name _____

Examination Committee

Chair _____

Member _____

Member _____

Member _____

Member _____

Program and Committee Approved by Faculty:

Date

Graduate Program Director

Department of Geosciences

M.S. (Thesis) Form #2b: Selection of Thesis Committee

The thesis committee (at least 3 members) should be selected by the candidate in consultation with the preliminary guidance committee as soon as a topic has been chosen.. Submit this completed form to the Graduate Program Director.

Student Name _____

Proposed Thesis Committee

Chair _____

Member _____

Member _____

Additional Member _____

Approved: _____
Date Advisor

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M.S. (Thesis) Form #3: Submittal of Thesis Proposal

The thesis proposal must be approved by the thesis committee and the Department Head and submitted to the Graduate School at least 4 months prior to the expected date of the defense. Attach a **copy** of the signed proposal to this form and submit to the Graduate Program Director. Deliver the signed **original** to the Graduate School, where it will be logged in on their computer. Remember to keep a copy for yourself, as well as proof that it has been recorded at the Grad School

Student Name _____

Date Submitted _____

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M.S. Form #4: Completion of Public Lecture

Each student is required to give an oral presentation concerning the progress of research toward the project. This is usually done in Geosciences 701 "Professional Seminar", but a talk at a professional meeting can also be used to fulfill the requirement. Fill out this form, have it signed by your advisor, and submit it to the Graduate Program Director.

Student Name _____

A lecture on the topic:

was presented on

Date

at

_____.

This lecture satisfies the requirement for an oral presentation of the preliminary results of research for the M.S. project.

Signed: _____

Advisor

Date

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M.S. Form #5: M.S. Thesis Defense or Comprehensive Examination

The date of the M.S. examination will be scheduled by the candidate in consultation with the guidance or thesis committee.

Student Name _____

a. Scheduling of Exam

Date and Time _____

Location _____

Approved: _____
Date Committee Chair

b. Announcement of approved examination date placed in faculty mailboxes at least TWO WEEKS prior to exam:

c. Result of examination: _____

_____ Date Committee Chair

Examination Committee Members: _____

Have your advisor return this form to the Graduate Program Director after your examination in finished.

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M.S. Form #6: Department Check-Out

Final processing of the degree will depend upon fulfilling the remaining obligations to the Department and the Graduate School. Obtain the signatures on the form below and bring it, along with an original and one copy of the completed "Yellow Sheet", to the Graduate Program Director and Department Head for final clearance. Bring the signed original yellow sheet to the Graduate School.

Student Name _____

a. If any Departmental equipment has been borrowed, it is all returned.

_____ _____
Date Advisor

b. Laboratory or other workspace has been cleared.

_____ _____
Date Advisor

c. Samples have been properly archived or discarded per advice from advisor.

_____ _____
Date Advisor