

GRADUATE PROGRAM HANDBOOK

**Department of Geological Sciences
Ohio University**

<http://www.ohiou.edu/geology>

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1.0 INTRODUCTION

Ohio University is a state-assisted, research extensive institution with an enrollment of approximately 20,000 students at the Athens Campus, including approximately 4,500 graduate students. The Department of Geological Sciences has eleven faculty and enrolls approximately 50 undergraduate majors and 25 MS degree graduate students. Athens has a non-student population of approximately 25,000 and is centrally located between Columbus, Pittsburg and Cincinnati, situated in the rolling unglaciated hills of southeastern Ohio, on the western edge of the Appalachian Plateau.

Graduate school is a challenging but potentially rewarding period of any scientist's life. Earning an MS degree should be an intellectually stimulating and demanding experience. As faculty and advisors (listed in Appendix I), it is our role to make the graduate school experience as pleasant and worthwhile as possible.

This document presents the process by which a student will attain a graduate degree in Geological Sciences at Ohio University. It outlines the steps the student will take to complete our program and our expectations of a student. The purpose of this document is to state clearly expectations, to expedite progress through the program, to elaborate on important policies, and to facilitate a graduate program that provides students the resources to become capable, proud and employable scientists.

It is imperative that this document is used in conjunction with the University Graduate Catalogue which is available from the office of Graduate Studies in McKee House or at <http://www.ohiou.edu/graduate/>. The graduate school handbook sets official graduate school policy; this departmental handbook lays out policies of the department. *Exceptions to guidelines presented in this handbook may be requested by petitioning the department faculty.*

For general information relating to graduate studies and OU graduate school policies it is best to contact: Ohio University Graduate Studies, 44 University Terrace, McKee House, Athens, OH, 45701-2979, USA

2.0 GRADUATE PROGRAM IN GEOLOGY

2.1 Scope of the Program

The Department of Geological Sciences at the Ohio University offers the Master of Science degree. Incoming graduate students who hold bachelor's degrees from other colleges will have already indicated on their application form in which area of Geological Sciences they intend to pursue graduate studies. Students may change their area of concentration by petitioning the Department for approval.

2.2 Objectives of the Program

Students in the MS program will: 1) pursue advanced study and original research in one or more areas of geology, 2) eliminate deficiencies in their geological education, and 3) prepare for employment in the geological sciences or enrollment in a doctoral program. Although MS students work toward a high level of proficiency in a chosen field of specialization, they should also acquire a broad understanding of the fundamentals of geology. Most incoming MS students enter the program with an identified advisor and select a thesis topic by the end of their first quarter of course work. Incoming graduate students may find it helpful to sample a variety of

graduate courses and to seek the advice of several faculty members during their first term as they select a thesis topic, address deficiencies in their geologic preparation, and refine their thesis proposal.

2.3 Requirements for Master of Science Degree

See current graduate catalog for the most up-to-date description of program requirements.

Prerequisites for Acceptance to Candidacy

All prospective graduate candidates should possess a strong undergraduate record and excellent letters of recommendation. Students are expected to have a Bachelor's degree from an accredited institution including: 1) a year-long course in Chemistry, 2) two courses of Physics or two courses of Biology, and 3) Mathematics through integral calculus (typically two courses). The MS program is also open to undergraduate majors in physics, chemistry, biology, engineering or mathematics who have accumulated some core coursework in geology, such as mineralogy, petrology, sedimentology, structural geology, and a field methods course. Any remedial course-work in Geological Sciences will be established by the faculty and student during the admission process. Deficiencies may usually be taken for graduate credit but generally *cannot* be used to meet the departmental minimum requirements (see below). However, certain deficiency courses *can* be taken to meet both degree and deficiency requirements for students who, because of deficiencies, are required to take a total of *eleven or more* courses. Deficiency courses must be made up during the first year of residence and the minimum acceptable grade is "B."

Minimum Degree Requirements

In addition to completion of a thesis, advanced courses in Geological Sciences must total at least eight letter-graded graduate courses (GEOL 500-699) and one of the eight courses must be GEOL 505 Modeling & Computational Methods in Geology. Advanced courses in related sciences are encouraged (Geography, Biology, Chemistry, Physics) and may be substituted for geology courses, but at least five courses must be taken in Geological Sciences. All graduate students on financial support are required to enroll in GEOL 692 Colloquium each quarter, but all students are encouraged to attend. See Appendix II for a sample of courses offered.

3.0 GENERAL REGULATIONS

3.1 Academic Load

The Ohio Board of Regents has defined a full-time graduate student as one enrolled for 15 credits each quarter. The full-time load for any Geological Sciences graduate student is, therefore, 15 quarter hours of graduate level courses, special problems or projects, or thesis work until graduation. A student wishing to take more than 18 credits of coursework in any quarter must secure written permission from his/her advisor.

3.2 Maintaining the Required GPA

Letter grades are used to indicate levels of performance in courses as follows: A, excellent; B, good; C, fair; D, poor; F, failure. Ohio University further delineates letter grades

with + and – designations. The designation of "CR" (credit) is used to indicate the student has successfully completed a set of credit hours with no indication of the level of performance, such as credit received in Thesis Research and Colloquium. The designation "I" is used to indicate course work that is incomplete; the course must be completed within a time specified by the university, which is usually before the second week of classes of the following quarter. The designation "PR" (progress) is for courses in which work is continuing and for which it would be inappropriate to give a grade at the conclusion of a term, such as Thesis Research credits.

A candidate for a graduate degree must complete his/her program with a minimum overall grade point average of 3.0. In determining a quality point average, 4 points are allowed for each credit hour graded A, 3 points for each credit hour graded B, 2 points for each credit hour graded C, 1 point for each credit hour graded D, and 0 points for each credit hour graded F. Grades scored with a plus or minus are given slightly higher or lower point values. For example, 3.67 points for an A-, 3.33 points for a B+. A course may be repeated for credit only when failed and only once; only the second grade is then considered.

The department will be notified by the office of Graduate Studies whenever a student's graduate grade point average falls below 3.0. The department then has the option to recommend whether or not the student should be retained on graduate status. If the department recommends retaining the student, he/she will be required to achieve a cumulative graduate grade point average equal to or above 3.0 *by the end of the following quarter*, and maintain such an average for the remainder of his/her residence, or be dropped from the program. However, if a student achieves *two* grades below B- or *one* grade of "D" or "F" in graduate courses then the department and college call for an immediate dismissal of the student from the program.

3.3 Time Limits for Degree Completion

The maximum time allowed between the date when a student first registers for graduate study and the date when the requirements for the MS degree are completed is six calendar years. The department faculty, however, encourages graduate students to work with their advisor to develop a thesis topic and research plan which can be completed in six to seven quarters as well as summer fieldwork. We encourage this progress because: 1) department funding is typically limited to six quarters, 2) rapid progress through graduate school is a trait looked favorably upon by employers, 3) demand for advising time is significant, and 4) department admissions are limited by the time it takes for currently enrolled students to complete the program. Students who do not complete their requirements in the six-year period may be permitted to continue in graduate study only if exceptional circumstances are associated with the delay in progress, and will need to reapply to the graduate program. An extension of time is automatically granted to those students whose programs have been interrupted by military service.

3.4 Residence Requirements

At least 33 hours of graduate credit must be earned on the campuses of Ohio University (approval of the Dean is necessary to alter this requirement). A minimum of 45 graduate credits (overall) is necessary for conferral of an MS degree from OU. At least one quarter or two summer terms must be spent in an institutional full-time status on the Athens campus. Students on financial support must be registered for 15 hours of graduate credit during the regular academic year or 12 hours of graduate credit during the summer when financially supported. Students seeking the MS degree must be officially registered for at least one hour of credit during the quarter in which the degree is received.

4.0 THESIS REQUIREMENTS FOR THE MS DEGREE

4.1 General Policy

Independent research will be a significant part of the training of every graduate student in the MS program. The results of this research will be presented in the form of a thesis. The term thesis shall mean an organized and original work, submitted in partial fulfillment of the requirements for the Master of Science degree. Graduate students will be advised and encouraged to prepare and submit their research work for publication, either during term of residence or as soon as practical after completing their thesis. Graduate students will be expected to attain a standard of excellence in research and in the presentation of their thesis that is acceptable by scientific journals. In fact, the option exists for students to prepare their thesis in part as a paper for publication. Consultation with the student's advisor on the exact details of journal submission is recommended.

4.2 Graduate Advising

Graduates students will be accepted for study at Ohio University by the entire faculty; however, for each student, a specific faculty will act as the student's initial advisor. If the student and the initial advisor do not develop a mutually acceptable thesis project during the first two quarters, the student and the initial advisor may wish to seek out and find another advisor with whom the student can work. Upon arrival at OU, entering graduate students will meet with the advisor to assess deficiencies and plan the first term's work. Subsequent course choices should ideally be made in consultation with the student's committee.

4.3 Thesis Committee

The thesis committee is an important component of a graduate education and is composed of a minimum of three scientists, at least two of which are faculty members of the Department of Geological Sciences. It is encouraged to include a committee member from an external discipline, department or qualified profession who can bring valuable insight and talents to the student's committee and project. There is no maximum number of committee members; however, large committees can be unwieldy. During the first two quarters, the student and advisor will work together to establish this thesis committee. It is the purpose of the committee to provide guidance for the student and the research and to help the student place the research in the context of existing research. By working with a committee, the student has access to a variety of opinions in addition to those of the advisor. The advisor will help the student select members for the thesis committee, but it is the student's responsibility to communicate with thesis committee members, formally invite them to participate as members of the committee, and schedule regular committee meetings.

The committee will review all documents before they are presented to the department and college. This is both to assure that the documents are of the highest quality and to prevent unpleasant surprises during and after public presentations. The student should expect that during committee meetings he/she will be asked probing and difficult questions about their research, their data, and their interpretations. Look upon the committee as an academic resource rather than as a hindrance to progress. The committee can help the student develop a reasonable and achievable timetable for completion of the research project.

4.4 Written Thesis Proposal

The written thesis proposal should demonstrate the feasibility and importance of the research student's project to a scientifically literate audience. The proposal must discuss the objectives of the project and their significance to the advancement of geologic knowledge. The proposal must clearly define the hypothesis the student plans to test and should include a detailed work plan sufficient to demonstrate that the proposed project can feasibly be accomplished in the time frame and with the financial resources available. The purpose of the written proposal is to ensure that the research is well focused and achievable within the two-year time frame imposed by funding constraints. The written proposal should be a stand-alone document of the highest quality. It is the student's first scientific introduction to the faculty and will set the tone for future interactions. The student should be prepared for critical review and editing of the proposal by the committee. It is their goal that only the best and most defensible document be available for public consumption.

The proposal (excluding cover sheet) must contain no more than 10 pages of double spaced text (12 point, 2.5 cm margins) including all figures and tables but excluding references. Single copies of up to three large maps or stratigraphic sections may be included as plates and displayed in the room where the proposal is to be orally defended rather than attached to the proposal. A sample cover sheet is included as Appendix III.

One copy of the proposal should be submitted for approval no later than the middle of the fourth quarter of residence and must be approved by the thesis committee prior to submission. Submission of the proposal by the third quarter of residence is required for students to be considered for the Geology Alumni Grants (see Appendix IV).

4.5 Oral Proposal Examination

The thesis proposal must be orally presented and defended before the Geological Sciences Department. The oral proposal to faculty, staff, students and other interested parties should communicate in a concise but detailed fashion, the information contained in the written proposal. It should provide the audience with background sufficient to evaluate the importance of the work and the feasibility of the project. The talk can be no longer than 30 minutes and should be well illustrated with slides, maps or transparencies.

The oral proposal is the student's first public presentation and should be of the highest quality. The purpose of this presentation is to introduce the department to the research project and for the student to receive feedback from others. The oral proposal should be well rehearsed and its content should not come as a surprise to the thesis committee. The student should expect to receive public questioning regarding the content and feasibility of the proposal for 10-15 minutes after which the public will be asked to leave and the thesis committee will continue the questioning. Thesis committee questioning typically lasts for 60-90 minutes and may address the project's assumptions, methodology and the relationship of the work to and its dependence on auxiliary sciences. This session is designed to 1) evaluate the scientific validity of the proposal, 2) assess the student's understanding of the concepts and background of the research project, 3) evaluate the student's capability to complete successfully the research, and 4) advise the student on subsequent courses.

It is the faculty's expectation that our graduate students should be sufficiently well rounded that they can make a well-reasoned attempt to answer any geologic question. The student should expect tough questioning and should not be surprised if he/she is pushed to the limit of their knowledge. At the conclusion of the questioning session the student will be asked

to leave the room. The thesis committee will evaluate 1) the feasibility of the proposal, 2) the quality of the presentation, and 3) the ability of the student to answer the questions posed. The student will pass this examination if the committee feels he/she has met these three requirements. If one or more of these three requirements have not been met satisfactorily, the faculty will propose specific remedies which will be discussed with the student.

The thesis proposal will become a part of the student's record. Final approval of the proposal will be made by the student's thesis committee and the graduate chair on the basis of the presentation and oral defense. At the conclusion of the oral proposal the student will receive a signed sheet indicating whether he/she passed or failed; if he/she failed, there will be specific actions suggested. This sheet along with the thesis proposal must be turned into the department no later than the middle of the fourth quarter of residence.

4.6 Registration for Thesis Research

The office of Graduate Studies requires continuous registration during the academic year for students actually engaged on thesis research who have successfully defended their research proposal. Every graduate student working on a thesis needs to register for thesis research hours (GEOL 695). The actual number of credit hours should be determined by consultation with the student's research advisor. Whether the student is on campus or not, he/she must register for at least one credit hour, including the semester in which he/she completes his/her degree requirements. No credit will be recorded for thesis research in progress. The student's record will show only registration for a given number of credit hours of research. During the student's final quarter, usually the quarter of the thesis defense, the student must register for at least one credit hour and be sure to also officially apply for graduation.

4.7 Defense of Thesis

It is the responsibility of the student to obtain guidelines for thesis format and deadlines that must be met in order to graduate from the office of Graduate Studies. Upon completion of a draft of the thesis that has been accepted by the student's research advisor, the student will present copies to other members of his/her thesis committee. **The final defense of a student's thesis must be scheduled during the regular academic year, unless special permission is obtained from the student's committee for a summer or intersession defense.**

Each MS thesis will be defended by the student in a public forum. The oral defense of the thesis will be scheduled no less than one week following the advisor's approval of the draft. Announcements indicating the thesis title, and the date, time, and place of the defense must be posted in the department a week before the defense. Responsibility for posting these announcements lies with the student and the thesis advisor.

The thesis defense is open to the public and the examination will cover material concerning or pertaining to the student's research. The student will begin the defense with a concise but detailed summary of the information contained in the written thesis. This oral presentation should be about 40 minutes in length and will be followed by questions from the floor. Following the open question session, the general audience will be excused and the student's thesis committee will continue questioning. The student should expect tough questioning and should not be surprised if the validity of the interpretations is challenged. The student should be able to offer data or a rationale by which to defend the interpretations. The results of the defense of thesis will be determined by the student's committee. These may be as follows:

1. Pass with minor or no revisions necessary and immediate preparation of the final draft recommended.
2. Pass with substantial revision which must be approved by the student's committee prior to preparation of the final draft.
3. Fail, requiring major revisions of the thesis and another scheduled defense of thesis.
4. Fail, requiring withdrawal from the program, assuming the candidate has utilized number 3.

After the defense, the student should allow up to six weeks for revisions and preparation of the final draft. Upon completion and approval of the final draft, the thesis must be signed by all members of the student's committee, graduate chair, department chair and submitted to the College of Arts & Sciences. Normally this must be done at least two weeks before the date of commencement, and an electronic option is available for final submission to the college. An electronic copy of the thesis and accompanying maps and figures must be provided to the department and the student's advisor.

4.8 Research Materials

The department is responsible for ensuring that research done under its auspices can be reviewed and utilized by other scientists both within and outside of the department. Because of this, materials (rocks, fossils, thin sections, air photos, stratigraphic sections, raw data, etc.) used for the preparation of departmental theses must be accessible to the Department of Geological Sciences even after students who prepared these materials have graduated. Typically, this requirement is fulfilled by leaving with the faculty advisor a suite of samples cited in the thesis such as thin sections, rocks, or rock powders. In addition, it is appropriate to leave with the faculty member copies of critical field notes, field maps, or raw analytic data when interpretation of material contained in the thesis requires that these primary sources be consulted. These materials will be catalogued and will become part of the departmental collections. The graduate student must either catalogue these materials or participate in their cataloguing while he/she is still in residence here. These catalogued materials may be loaned to a former graduate student or to other qualified persons who wish to carry out further research on these materials at other institutions.

If the materials or equipment were paid for by departmental funds, faculty grants or grants given to the student (AAPG, GSA, Sigma Xi) as part of completing a thesis, the materials will typically remain resident in the department unless the faculty advisor gives explicit permission for materials to leave with the student. If the student paid for research materials such as air photos or thin sections out of his or her own pocket, then arrangements should be made with the supervising faculty member or department chair to duplicate pertinent materials in such a way that the important data can be retained by the department.

4.9 Authorship & Data Ownership

The question of authorship of papers and abstracts resulting from research pursued cooperatively between students and faculty should be discussed explicitly by the student and his/her advisor at the beginning of the project to prevent later misunderstandings. Advisors differ in their policies regarding inclusion on student-authored abstracts. In every case, a person whose name is included on an abstract or paper must be consulted before submission of the document.

The best approach to authorship is open discussion before and during paper and abstract preparation.

5.0 SUMMARY OF REQUIREMENTS FOR MS DEGREES

The department shall recommend as candidates for the degree of Master of Science to the office of Graduate Studies and the College of Arts & Sciences, those students who have completed the minimum requirements outlined below. These requirements are not necessarily listed in order of fulfillment. The MS degree candidate must have:

1. Satisfied any and all remedial undergraduate course work recommended upon his/her entrance into the program.
2. Completed an approved program of at least 8 letter-graded graduate courses, including GEOL 505 "Modeling & Computational Methods," and a minimum of 45 graduate credit hours.
3. Maintained at least a "B" (3.0) in course work counted for graduate credit.
4. Selected a thesis topic and submitted an approved proposal of the thesis.
5. Given satisfactory evidence that he/she has general understanding of the fundamental principles and problems in geology relating to his/her thesis research by successfully conducting independent research.
6. Submitted an approved written thesis and successfully defended an oral examination of research findings.

6.0 TEACHING ASSISTANTSHIPS

6.1 General Information

Teaching assistantships are awarded to both incoming and second year graduate students each academic year and presently carry a 9-month stipend of \$13,100 (c. 2009). Although incoming students are typically awarded two years of support, satisfactory academic and teaching performance are required for renewal of the assistantship for the second year. Students are not typically awarded a teaching assistantship during their third year. The department currently awards twelve teaching assistantships per year.

6.2 Assistantships Appointments

Because the University funds assigned to stipends are limited, Graduate Teaching Assistantships are awarded on a competitive basis. Applicants with stronger recommendations and academic records are normally given preference in selection of candidates. Application for teaching assistantship is made at the same time as application for admission. Departmental deadlines for appointments and acceptances are consistent with those of the College of Arts & Sciences. Applications for contract appointments should be received by the office of Graduate Studies by February 1. Insofar as possible, notification of appointment will be made by March 15. Acceptance given or left in force after April 15 commits the student not to accept another appointment without first obtaining formal release for that purpose. The same deadlines apply for renewal or non-renewal of contract appointments.

6.3 Tuition Remission

A graduate student holding a full Graduate Teaching Assistantship is awarded up to 18 credit hours tuition remission per quarter. Tuition remission does not relieve the student of payment of the various University general fees (~\$400/quarter). The contract appointment also entitles the graduate student to tuition-free coursework during the summers immediately prior to and following the appointment, except for those workshops for which there is a fee. Summer mini-stipends, sufficient to cover the cost of the general fee, are also available to all graduate contract appointees.

6.4 Assistantship-Work Load

As stated in the Guidelines and Policies of the College of Arts & Sciences: "Graduate contract appointees are primarily and essentially graduate students pursuing an advanced degree. Therefore, the services for which they receive remuneration are to be limited in scope, secondary in importance to their studies, and insofar as possible, a meaningful part of their professional preparation." Thus, service rendered to the department will not exceed 15 hours per week during the quarter. The duties of the contract appointee include instruction of introductory laboratories, assistance in undergraduate major courses and laboratories, proctoring of examinations, driving on field trips, and limited assistance during periods of student registration and final examinations. In certain instances, a contract appointee may be given full responsibility for the instruction of an undergraduate course.

6.5 Course-Work Load

The maximum number of graduate credit hours to be carried by a Graduate Teaching Assistantship during one quarter is 18 hours. Graduate Teaching Assistants must register for a minimum of 15 credit hours during every quarter in which the assistantship is held, and 9 hours of credit during the summer. Two courses per quarter during the first year and one course per quarter during the second year, plus thesis research, are typical loads. Exceptions may be made for those students who have completed their residence requirements.

6.6 Fulfillment of Teaching Obligations

Graduate Teaching Assistants are expected to fulfill their assigned obligations in a competent and professional manner. Assistants are advised to keep their supervisors informed of the progress of their duties and of attendant problems. Students not performing their teaching duties satisfactorily will be warned initially, and if no improvement is observed afterwards, their appointment will be reviewed by their supervisor and the department, and the teaching assistantship may be terminated.

6.7 Maintaining Academic Standing

Graduate students are expected to maintain a minimum grade point average of 3.0 on their graduate course work during their tenure as Graduate Teaching Assistant. Students falling below this average may be placed on one quarter's probation. If, during the following quarter significant improvement is not demonstrated, the funding will normally be withdrawn. In cases of extremely poor academic performance during any given quarter, funding may be terminated immediately without the institution of a probation period.

6.8 Renewal of Assistantships

All funded students will be reviewed at the conclusion of each academic quarter with regard to their academic performance and the quality of their work as assistants. The department will recommend reappointment from these considerations. Any graduate student whose performance is satisfactory in both academic work and fellowship obligations can expect to retain his/her appointment for a second year (upon annual application). Students will receive support for more than two years only in exceptional circumstances and if extra funds are available, and no more than three years as dictated by the College of Arts & Sciences.

7.0 RESEARCH ASSISTANTSHIPS

7.1 Faculty Grant Support

If a student's research or student's salary is supported by external funds, there are discreet obligations that the advisor has to the funding agency supporting the research. If a student receives a research assistantship or summer salary, that student should consider this support much like any other job which carries with it discreet obligations and responsibilities. These obligations may include specific deliverables and inflexible deadlines. Because of these demands, it is the advisor's responsibility to discuss with the student the responsibilities of the RA before commencement of the project. The student should be both fully aware of and be willing to accept conditions of the RA before such support begins. Among other things, it is appropriate to discuss with the advisor policies regarding expected working hours, vacations, authorship of papers, and specific deadlines which must be met during the RA.

7.2 Research Assistant Expectations

Students supported as RA's are subject to the same basic benefits of tuition remission, expectation of academic load and academic standing, and reappointment conditions as outlined in the Teaching Assistant section above.

8.0 OTHER FUNDING

8.1 Graduate Recruitment Scholarships

Due to the competitive nature of our Graduate Teaching and Research Assistantships, we also offer a limited number of Graduate Recruitment Scholarships each year. These awards carry no stipend, but are solely for tuition remission up to 18 credit hours per quarter. Eight hours of service per week by the awardee is required to fulfill this scholarship; the student should consult their advisor for specific details on the nature of this work. The contract is normally only awarded to incoming graduate students and is not renewable for a second year. The purpose of these scholarships is to attract quality students to our program, in hopes of funding them under a Teaching or Research Assistantship in their second year.

8.2 Summer Funding

Summer funding is a difficult issue. The department is able to fund one or two qualified students under Graduate Teaching Assistantships during the summer session; students are advised to contact the graduate chair to check on availability and apply for openings during spring quarter. Faculty attempt to raise summer support from as many sources as possible so that

students will be able to continue research without getting another job. If a student must take another job, it is important that he/she leaves at least a few weeks of the summer available for field work or laboratory research.

8.3 Student Grant Support

Students are encouraged to seek research funding from external agencies (See list in Appendix V). If the student receives funding from such sources as AAPG, GSA, or Sigma Xi, there are obligations attached to this funding. These funds are for use directly supporting research; they are not summer salary. The student must account for the money received and should keep receipts. For accountability and for tax purposes, it is best to keep such funds in a separate account. In most cases, the student should be prepared to submit a final report to the funding agency detailing how the money these grants not only reflects upon the student personally, it also reflects upon the research group and the department as a whole.

8.4 Ohio University Geology Alumni Research Grants

The Geology Alumni Research (GAR) Grants are designed to help fund graduate student thesis research. Only first year students are eligible to apply for these grants. Each spring (late April to early May) students may submit proposals to the GAR committee for partial support of their thesis research. Proposals are evaluated by a faculty committee, and available funds are distributed among the best proposals. Students submitting proposals for GAR Grants must have submitted their thesis proposal prior to submitting the GAR Grant proposal, and those students must have officially scheduled a proposal defense for the spring quarter. GAR Grant funds will only be awarded to students who have passed their oral defenses. Guidelines for GAR Grant proposals are available as Appendix IV.

8.5 Student Travel Support

Presentations at professional conferences are highly encouraged. Attendance at these meetings allows the student to network and to develop their scientific reputation, as well as increases the visibility of the department. As long as funds are available, the department commonly assists students in deferring costs associated with travel to attend meetings, usually contributing airfare and meeting registration costs. GSA and other organizations also assist student travel to conferences, and those websites should be checked regularly for deadlines. See details in Appendix V.

9.0 EXPECTATIONS

Below are guidelines by which the faculty hopes to establish a dialog with students in the Department of Geological Science. They are by no means inclusive.

9.1 Faculty Expectations of MS Students

1. The data you collect will be of the highest quality, that these data are collected in a fashion that you or others could reproduce, and that your data are presented in an accurate fashion.
2. Your interpretations will be defensible and will be supported by data you or others have collected.

3. You have read and understand the work of others pertinent to your research. This work must be cited correctly and you must acknowledge collaborators and assistance you have received from them.
4. You become part of a community of scholars by attending seminars, proposals, and thesis defenses.

9.2 Faculty Responsibilities to Graduate Students

1. Strong support of the student, their education, and of their research both within and outside of the department (e.g., meetings, fieldwork).
2. Editing of proposals, grants, and theses when the faculty member is give reasonable "lead" time.
3. Consistent and pointed questions regarding the progress of your work, reliability of your methods, and justification of your interpretations in order to make sure that your work is reproducible, accurate and of the highest quality and that you do the best work of which you are capable.

9.3 Failure of Expectations

This document puts forth specific expectations of a graduate student. The structure of the program is such that the thesis committee and advisor closely support and oversee much of the student's work; there are numerous discreet deliverables and deadlines which should encourage the student to make continual and sufficient progress toward the final degree.

If the student does not meet the guidelines set out in this document various things may happen. If drafts of the thesis proposal are not acceptable to the committee, advisor or the faculty as a whole, the student will not be allowed to defend these documents before the department. If the student does not perform satisfactorily during the proposal defense, he/she will be asked to perform some remedial steps, which may hinder progress toward the degree and funding may not be renewed for the following quarter. If the student continually misses deadlines or their work is not of sufficient quality, that student may be asked to leave the program.

If a faculty member does not meet the student's expectations, he/she should discuss problems directly with that faculty member as soon as possible. If such discussion does not address issues of concern to the student, consider speaking with the committee, the graduate chair, the department chair, or the University Ombudsperson.

9.4 Data & Publications

All students are strongly encouraged and expected to publish their research results. Faculty-supported research often mandates rapid publication of results. It is best to discuss the need for and timing of publication explicitly with the advisor at the beginning of the project. If the student is unwilling or unable to publish data promptly which were gathered as a result of faculty financial or logistical support, then the faculty member may publish these data but must properly cite the student's contribution to the project. In many cases, such citation would result in junior authorship for the student.

9.5 Potentially Troublesome Issues

A variety of issues may cause strain between a student and her or his advisor. It may be advantageous to discuss the following issues with your advisor directly so that both you and your advisor are in agreement: time commitment, vacations, attendance at professional meetings,

authorship of papers and abstracts, summer funding, and faculty-student interaction. In most cases, keeping lines of communication open will prevent uncomfortable situations from arising.

9.6 Attendance at Department Functions

It is expected that the student will attend all formal department functions including graduate student meetings, proposals, thesis defenses, and seminars of visiting lecturers. At these functions, students are encouraged to interact by asking questions of the speaker. Such questions are particularly encouraged at graduate student presentations and form an active part of the learning process both for the questioner and the speaker. There will be occasions when invited speakers are on campus before or after their lectures. Although optional, we hope students will join these individuals for meals, socializing, and professional interaction.

9.7 Office Space

Office space is provided to all graduate students who request such space for their first two years of residence. After the first two years, office space will be provided at the discretion of the department and only if space is available. The choice of office space will be based on seniority with first choice going to second-year students, second choice to first-year students, and last choice to third-year students.

Building keys and room keys can be obtained from the departmental technician. A deposit of \$5.00 is required for each key. Students will be provided with keys to open the outside doors to Clippinger Laboratories and to open their offices. Requests for additional keys will require the endorsement of a faculty member, and must be cleared through the technician, who will issue the keys. Prior to graduating, a student must receive a clearance from the technician certifying that all keys and equipment have been returned to the department.

Supplies, including those to be obtained through laboratory fees, are requested through the departmental technician. Requests for supplies to be obtained outside the department require the endorsement of the faculty member supervising the work.

APPENDIX I

Faculty, Department of Geological Sciences

ELIZABETH H. GIERLOWSKI-KORDESCH	Associate Professor Ph.D., Case Western Reserve University Limnogeology
DOUGLAS H. GREEN	Associate Professor Ph.D., University of Wisconsin-Madison Geophysics
DANIEL I. HEMBREE	Assistant Professor Ph.D., University of Kansas Ichnology, Paleopedology
DAVID L. KIDDER	Associate Professor Ph.D., University of California, Santa Barbara Earth Systems History and Sedimentary Geology
EUNG SEOK LEE	Assistant Professor Ph.D., Indiana University Hydrogeology
DINA L. LÓPEZ	Professor Ph.D., Louisiana State University Environmental Geochemistry
GREGORY C. NADON	Associate Professor and Chair Ph.D., University of Toronto Sedimentology, Subsurface Geology
R. DAMIAN NANCE	Professor Ph.D., University of Cambridge Structural Geology, Tectonics
KEITH A. MILAM	Assistant Professor Ph.D., University of Tennessee Planetary Geology, Impacts
ALYCIA L. STIGALL	Associate Professor Ph.D., University of Kansas Paleobiology, Evolution, Biogeography
GREGORY S. SPRINGER	Associate Professor Ph.D., Colorado State University Surficial Processes, Fluvial and Karst Geomorphology

Emeritus Faculty

ROYAL H. MAPES
University of Iowa (1977)
Invertebrate Paleontology

THOMAS R. WORSLEY
University of Illinois (1970)
Earth Systems Evolution

GENE HEIEN
Indiana University (1962)
Mineralogy, Igneous Petrology

APPENDIX II

Sample of graduate courses frequently offered in Geological Sciences

Geol 508	Planetary Geology
Geol 527	Water Geochemistry
Geol 528	Physical Geochemistry
Geol 529	Contaminant Geochemistry
Geol 532	Origin & Classification of Soils
Geol 539	Fluvial Geomorphology
Geol 543	Advanced Paleontology: Paleobiogeography
Geol 544	Ichnology
Geol 546	Earth Systems Evolution
Geol 548	Paleoecology
Geol 551	Diagenesis
Geol 552	Depositional Environments (Facies Models)
Geol 553	Physical Limnology
Geol 554	Carbonate Depositional Systems I
Geol 554A	Carbonate Depositional Systems II
Geol 555	Limnogeology
Geol 557	Petroleum Geology
Geol 558	Fluvial Sedimentology
Geol 564	Regional Tectonics
Geol 566	Geodynamics
Geol 567	Tectonophysics
Geol 571	Advanced Environmental Geology
Geol 573	Forensic Geology
Geol 576	Subsurface Methods
Geol 580	Principles of Hydrogeology
Geol 581	Groundwater Flow Modeling
Geol 582	Transport Processes in Groundwater
Geol 585	Introduction to Applied Geophysics
Geol 586	Applied Seismology
Geol 653	Sequence Stratigraphy
Geol 661	Advanced Structural Geology

Other courses commonly used to supplement geology courses as part of degree requirements

Bios 670	Biostatistics I
CE 520	Finite Element Methods in Engineering
CE 570	Soil Engineering
Chem 501	Organic Chemistry Survey
Chem 555	Physical Chemistry
Chem 558	Chemical Thermodynamics
Busl 570	Environmental Law
Geog 566	Remote Sensing
Geog 571	Quantitative Methods
Geog 578	Principles of GIS
Geog 579	Geographic Information Analysis
Math 340	Differential Equations
Math 510	Matrix Theory
Math 541	Fourier Analysis & Partial Differential Equations
Micr 511	General Microbiology
PBio 525	Plant Ecology
PBio 560	Paleobotany
Phy 507	Electricity & magnetism
Phy 520	Acoustics

Appendix III
Sample thesis proposal title page

Title of Thesis

A Graduate Thesis Proposal
Submitted to the faculty of
The Department of Geological Sciences
Ohio University

By
Ima Q. Student
B.S. Whatever University, 200x

Submitted to the thesis committee:
Dr. Xxxx X. Xxxx
Dr. Xxxx X. Xxxx
Dr. Xxxx X. Xxxx

May xx, 200x

Appendix IV

The Ohio University Geological Sciences Alumni Graduate Research Grant Proposal Guidelines

General Information:

Eligibility:

- Only **FIRST YEAR** MS students in the Department of Geological Sciences are eligible for support.
- Applicants must be in good academic standing ($GPA \geq 3.0$), and have defended or anticipate defending their thesis proposal by the end of Spring Quarter. A copy of the approved thesis proposal or a draft copy signed by your advisor must be attached to the GSAGRGR application packet.
- The thesis proposal must be formally defended before Geological Sciences Alumni Graduate Alumni Grant funds can be received.
- Applicants are strongly encouraged to apply to external funding agencies (such as GSA and AAPG) in addition to the GSAGRGR.

Award amount: Awards will typically range from \$100 to \$500.

Application deadline: May 1.

How may the funds be spent?

- Awarded funds may be spent on many aspects of your thesis research such as field work (including travel to and from the field, lodging, and field supplies), laboratory visits and supplies, photographic supplies, etc.
- In accord with the guidelines of Ohio University Fund regarding donations and how they may be spent, no awarded funds will be paid in advance. Receipts for expenses, travel logs of mileage, laboratory invoices, etc. must be submitted for reimbursement.
- The use of grant money for travel to scientific meetings is not allowed. If you are presenting an abstract at a meeting (poster or oral session), you may request partial support from the Department Chair pending availability of funds. Student presenters are also encouraged to apply to the Ohio University Graduate Student Senate (<http://www.ohiou.edu/~gss/funding.html>) and the North Central Section of GSA (<http://ncgsa.unl.edu/current-forms/student-forms.htm>) for assistance with travel to meetings.

Acknowledgment: If awarded grant funds, you should acknowledge this grant as a source of research funding in your thesis and any publications based on data derived from the use of these funds. An example acknowledgment is: "This work was partially supported by an Ohio University Geological Sciences Alumni Grant."

Submission: Submit two copies of your proposal to the Graduate Alumni Grants Chairperson, currently Dr. Stigall.

Proposal Instructions:

Your proposal should include four sections. Proposals will be scored following the weight percents indicated. Incomplete proposals will be rejected without review.

- 1) Cover page
- 2) Proposal Body (60%)
- 3) References Cited (20%)
- 4) Budget and Justification (20%)

The entire proposal should be typed, double-spaced, in 12 pt Times or Times New Roman font with 1-inch margins, following the page limits discussed below.

Cover Page: The cover page should be downloaded from the department website (http://www.ohiou.edu/geology/financial_support.html) and electronically completed.

Proposal Body (2 pages maximum): The body of the proposal should be subdivided into three sections, all scored with equal weight.

- 1) **Statement of the problem:** What question(s) are you trying to answer in your research? What problem(s) are you trying to solve? What hypotheses are you testing?
- 2) **Significance:** Why is the work important? Place the project in a disciplinary and, if appropriate, regional context.
- 3) **Methods:** Briefly state the methods and approach you will use to accomplish your project.

References (1 page maximum): List all the references cited in your proposal. Do *not* list additional references.

Budget: Fill out the budget worksheet with anticipated expenses for your project. Provide a justification for each budget item. A budget worksheet and a sample budget are provided on the department website (http://www.ohiou.edu/geology/financial_support.html).

Appendix V: Examples of Research Travel Funding Sources for Students

Grant	Deadline	URL	Funding amount	Comments
Grants for Geology (discipline unspecified)				
GSA Graduate Student Research Grants	~2/1	http://www.geosociety.org/grants/gradgrants.htm	up to \$2000	GSA membership required
GSA North Central Student Travel Assistance: Annual GSA	~9/1	http://ncgsa.unl.edu/current-forms/student-forms.htm	\$300	Student members in North-Central region
GSA North Central Student Travel Assistance: Regional GSA	~2/20	http://ncgsa.unl.edu/current-forms/student-forms.htm	\$200	Student members in North-Central region
AGU: Student Travel Grant	Varies; 9/7/2006 for 12/06 Annual meeting	http://www.agu.org/meetings/#stg	Partial funding for meeting travel, varies	Funding to support student travel to meetings. Amount and deadline varies with meeting, but is about 4 months prior to meeting. View website for details.
Sigma Xi "Grant-in-Aid of Research" program	10/15 and 3/15	http://www.sigmaxi.org/programs/giar/index.shtml	up to \$1000	75% of funding restricted to student members
OU Grad Student Senate: Grant for Original Work	4th Monday of each quarter	http://www.ohiou.edu/~gss/funding.html	\$500	Interdisciplinary review panel
OU Grad Student Senate: Travel Grant	~9/20	http://www.ohiou.edu/~gss/funding.html	\$300	Lottery system for funding, 10 per quarter
OU: Student Enhancement Awards	~2/20	http://www.ohiou.edu/research/seaguide.html	up to \$6000	Supports direct project costs for grad or undergrad project
Colorado Scientific Society	~4/1	http://www.coloscisoc.org/grants.html	\$500-1,200	Field-oriented research on geology, geochemistry, and geophysics on the Rocky Mountain region.
Grants for Sedimentary Geology and Paleontology				
AAPG: Grants in Aid	1/31 annually	http://foundation.aapg.org/gia/index.cfm	\$500-\$2000	
Paleontological Society: Steven Jay Gould Grant	~2/15	http://www.paleosoc.org/grantin.html	\$500	PS membership required, undergrad or grad status
Association of Applied Paleontological Sciences: Scholarship	~12/1	http://www.aaps.net/scholarship.htm	\$1,000	Graduate scholarship for specimen based work
Dry Dredgers: Paul Sanders Award	~11/15	http://drydredgers.org/sanders.html	\$500	Work on Cincinnati fossils
YPM: Schuchert and Dunbar Grants-in-Aid	~1/15	http://www.peabody.yale.edu/collections/ip/ipgrants.html	\$1,000	Grant pays for travel expenses to Yale to YPM specimens
Society of Vertebrate Paleontology Richard Estes Memorial Grant	~4/17	http://www.vertpaleo.org/awards/estes.html	\$1,000	Research in non-mammalian vertebrate paleontology.

Society of Vertebrate Paleontology Bryan Patterson Memorial Grant	~4/17	http://www.vertpaleo.org/awards/patterson.html	\$1,000-2,000	Supports undergraduate and graduate field work in vertebrate paleontology.
SEPM Gerald M. Friedman Fund	~12/31	http://www.sepm.org/events/awards/grantshome.htm	Minimum \$500	Student research in sedimentary geology.
SEPM Robert J. Weimer Fund	~12/31	http://www.sepm.org/events/awards/grantshome.htm	Minimum \$500	Student research in sedimentary geology.
SEPM John Sanders Endowment Fund	~12/31	http://www.sepm.org/events/awards/grantshome.htm	Minimum \$500	Student research in coastal or environmental geology.

Grants/Funding Opportunities for Planetary Geology

NASA Graduate Student Researchers Program	~2/1	http://fellowships.hq.nasa.gov/gsrp/nav/	\$24,000	includes stipend, student allowance, and university allowance
NASA Volcanology Workshop	TBD - every 2 years	contacts: Peter Mouginis-Mark [pmm@kahana.pgd.hawaii.edu], Scott Rowland [scott@kahana.higp.hawaii.edu]		covers airline ticket, accommodations, transportation, most meals, & equipment
Shoemaker Impact Cratering Award	~9/1	http://www.lpl.arizona.edu/Shoemaker_Award/	\$2,000	
Dr. Gerald A. Soffen Memorial Fund for the Advancement of Space Science Education	~10/15	http://www.nasa-academy.org/soffen/travelgrant/	\$500	Students pursuing undergraduate or graduate degrees in aerospace-related sciences or engineering fields (astrobiology, astronomy, earth and space science, engineering, etc.) to attend a meeting at which they will present their research
The Barringer Family Fund for Meteorite Impact Research	~4/15	http://www.lpl.arizona.edu/Awards/Barringer_Fund/	\$2500-\$5000	Travel and subsistence costs, as well as laboratory and computer analysis of research samples and findings
Lunar and Planetary Institute Summer Internship Program	~1/20	http://www.lpi.usra.edu/lpiintern/objectives.shtml	Stipend plus travel	Interns receive a \$500 per week stipend to cover living expenses and assistance with travel expenses to a maximum of \$1000
Meteoritical Society Meeting Student Travel Grant Awards	~5/91	http://www.metsoc2006.ethz.ch/registration.html (this changes every year with the meeting site change)	varies ~\$800-\$1600	

Grants for Environmental Geology

The Ohio Environmental Science & Environmental Engineering Undergraduate Scholarship Program	~6/1	http://www.ohiosci.org/ScholarshipApplication.pdf	\$1,250 two year programs and \$2,500 for four or five year programs, non-renewable	Merit based scholarships for students pursuing careers in environmental science or engineering; Scholarships may be used for tuition, fees, books, personal protection equipment, tools, instruments and field equipment but not housing
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