

# THE UNIVERSITY OF IOWA GUIDELINES FOR GRADUATE STUDY IN EARTH AND ENVIRONMENTAL SCIENCES

[Graduate College approval pending]

The Department of Earth and Environmental Sciences admits qualified students to the graduate program and offers programs leading to the following degrees: Master of Science (M.S.) in Earth and Environmental Sciences and Doctor of Philosophy (Ph.D.) in Earth and Environmental Sciences.

## 1. ADMISSION

The Department Graduate Admissions Committee will recommend to the Faculty for or against admission after a review of the student's application and supporting materials. Upon approval by the Departmental Executive Officer (DEO) a student may be admitted on regular, conditional, or professional improvement status. International students with English as a second language must submit TOEFL scores and may be admitted with additional language requirements.

### *1.1 Requirements*

To be considered for admission to regular status for the graduate program requires: (1) a bachelor's degree from a college or university accredited by a regional accrediting association, and (2) a grade-point average (GPA) of at least 3.0 for the M.S. program or 3.2 for the Ph.D. program. The GPA is computed on undergraduate plus graduate work if the student has completed less than 12 semester hours (s.h.) of graduate work; it is computed on graduate work only if a student has earned 12 or more hours of graduate credit at the time of admission. Graduate Record Exam (GRE) scores are required for ranking and admission consideration. Those admitted to our graduate program typically have total scores of 308 or above on the combined verbal and quantitative portions, and 4.0 or above on the analytical writing portion of the GRE. Admission to the Ph.D. program from a Master's program is conditional on completing the requirements of the Master's degree prior to entering the Ph.D. program. Transfers of those admitted into our Master's program to the Ph.D. program must be approved by the DEO in consultation with the Director of Graduate Studies (DGS) and must occur before the beginning of the third semester after admission.

### *1.2. Professional Improvement*

The department also admits students who are not candidates for a degree. To be considered for conditional or regular status admission, such students, called professional improvement students, must meet the same standards as those applying for conditional or regular status in the Master's program.

### *1.3 International Students*

An international student with English as a second language may be admitted with a TOEFL score of at least 83 if he or she satisfies all the requirements stated above. New international

students are to be evaluated by the English as a Second Language (ESL) office in regard to English proficiency prior to registration (see: <http://clas.uiowa.edu/esl/esl-credit-classes>). Some English courses may be required based on an international student's English proficiency. International students will be expected to enhance English proficiency by taking those courses identified by the ESL Office.

## **2. FINANCIAL AID**

The Department of Earth and Environmental Sciences offers Graduate Assistantships that are merit-based and competitive with other institutions. Most on campus M.S. and Ph.D. candidates receive appointments and are considered residents for tuition purposes.

### *2.1 Qualifications*

All students admitted on regular status are eligible for Graduate Assistantships. An initial ranking of Applicants by the Graduate Admissions Committee is voted on by the Faculty and forwarded to the DEO who decides on assistantship offers. Graduate Assistantships are initially offered for a maximum of two academic years for the M.S. degree and a maximum of four academic years for the Ph.D. degree. Assistantship offers apply as long as satisfactory work is being done for the Graduate Assistantship, and satisfactory progress is being made toward completion of the degree as outlined in Section 3. Students in the graduate program without university graduate appointments may apply for such aid, which is awarded at the discretion of the DEO.

### *2.2 Teaching Assistantships*

In addition to the eligibility requirements outlined above, students are required to demonstrate proficiency in English before being considered for a Teaching Assistantship. Applicants whose primary language is English can establish proficiency by: (1) having a minimum score of 152 on the GRE verbal reasoning test, (2) having appropriate comments concerning English proficiency included in letters of recommendation, or (3) being interviewed by a member of the Graduate Admissions Committee. Applicants whose primary language is not English can establish proficiency by taking a test of oral English proficiency administered by the ESL Office (see: <http://clas.uiowa.edu/esl/esl-credit-classes>).

Teaching Assistants are evaluated every semester for teaching proficiency and communication skills by compiling student evaluations and observation by a supervising instructor. Recommendations for enhancing these skills, reassignment, or termination may be made based on these evaluations.

### *2.3 Research Assistantships*

Research assistantships are typically funded by individual faculty grants, and vary depending on the nature of the funded project. Duties often involve activities such as: sample collection and preparation; collection, analysis, and interpretation of analytical or measurement data; preparation of maps and diagrams; and assistance with fieldwork.

### *2.4 Fellowships and Scholarships*

Outstanding students (or their advisors for some awards) should apply for fellowships, scholarships and other special financial aid awarded by the Graduate College (see <http://www.grad.uiowa.edu/financing-your-education>) and other available funding sources..

### 3. REQUIREMENTS

General requirements for both the M.S. and Ph.D. degree are described in this section. More detailed requirements are provided in Section 4 for the M.S. and Section 5 for the Ph.D.

#### 3.1 General

Students are expected to be familiar with the Manual of Rules and Regulations of the Graduate College (<http://www.grad.uiowa.edu/graduate-college-manual>), particularly with Sections IX (General Requirements for Advanced Degrees), X (Master's Degrees) and XII (Doctor's Degrees). The University calendar (<http://www.registrar.uiowa.edu/Calendars/AcademicDeadlines/tabid/67/Default.aspx>) should be consulted for pertinent deadline dates such as those for degree applications, examinations, and thesis deposit. The individual student must assume ultimate responsibility for meeting requirements and deadlines.

#### 3.2 Initial Counseling, Geologic Orientation, and Geoscience Seminar Series

Prior to enrolling in courses new students must consult with their Advisor or the Director of Graduate Studies for initial counseling. All entering graduate students are required to enroll in GEOS:5070 *Geologic Orientation* during the Fall semester of their first year in the Geoscience graduate program. Ph.D. students who took *Geologic Orientation* as part of their M.S. program at Iowa must attend the first ½ day of the course (the week before the official start of classes) in the first Fall semester of their Ph.D. program, but are not required to enroll in the class.

In addition, all Earth and Environmental Sciences Ph.D. graduate students must enroll in GEOS:5010 *Geoscience Seminar Series* each semester they are registered until they successfully defend their dissertations, or for two consecutive semesters after the semester in which they pass their comprehensive examination, whichever comes first. M.S. students must enroll in *Geoscience Seminar Series* each semester they are registered until they defend their thesis.

#### 3.3 Advisory Committee

By the first month of their second semester of graduate study, all students must have their choice of Advisor approved by the DEO and recorded in their file. The Advisor must be a tenured or tenure-track member of the Geoscience faculty.

During their second semester of study, students must consult with faculty members who relate to their field(s) of research interest, and arrange for an Advisory Committee to assist in planning a degree program. Advisory committees for the M.S. must have at least three Graduate College faculty members including the Advisor. Ph.D. advisory committees must have at least five Graduate College faculty members including the Advisor. Advisory committees must have a majority of members from the Department of Earth and Environmental Sciences. Thus, a M.S. committee must have at least one tenured or tenure-track faculty member from the Department of

Earth and Environmental Sciences in addition to the Advisor. Ph.D. committees must have at least two tenured or tenure-track faculty members from the Department of Earth and Environmental Sciences in addition to the Advisor. Ph.D. committees must also have at least one qualified faculty member from outside the Department of Earth and Environmental Sciences. If the proposed committee member is from another university or institution, then special permission from the Earth and Environmental Sciences DEO and Dean of the Graduate College is required (see the *Manual of Rules and Regulations of the Graduate College Section X, K or XII. P*: <http://www.grad.uiowa.edu/graduate-college-manual>).

Names of proposed Committee members must be forwarded to the DEO during the second semester of study and, after DEO approval, are to be recorded in the student's departmental file. The student shall arrange a formal meeting of the entire Advisory Committee to discuss their progress at least once a year. Although the Committee will advise students on academic choices as they progress towards their degree, the students are responsible for timely completion of all requirements.

### *3.4 Plan of Study*

All students are required to submit a Plan of Study, which must be approved by their committee and the DEO two weeks prior to the close of examination week in their second semester of graduate study. The Plan of Study consists of courses arranged by semesters, indication of the research topic, and schedule for completion of the degree program. Ph.D. students also should provide a tentative date for their comprehensive exam (no later than two weeks prior to the close of examination week in the fourth semester of study after admission to the Ph.D. program) in the Plan of Study. M.S. students usually submit their Plan of Study with their thesis proposal. Ph.D. students usually submit it a semester before submitting their thesis proposal.

### *3.5 Thesis Proposal*

A research proposal approved first by the Advisory Committee and then by the DEO is required to be submitted to the Department two weeks before the close of examination week in the second semester of study for M.S. students and two weeks before the close of examination week in the third semester of study for Ph.D. students. The proposal should consist of a description of the proposed research project and its importance, and include a statement of the topics to be addressed, summary of the present state of knowledge (a list of references cited is required), planned research procedures, adequacy of facilities, availability of needed financial support, anticipated results, and estimated duration of the project. The proposal will update the Plan of Study documenting degree requirements outlined in the plan of study that have been completed (and course grades) and those which remain outstanding plus a schedule for fulfilling these obligations. Unanimous approval of the proposal by the Advisory Committee on a signature page is required. The proposal should be finished and approved before the bulk of the research is accomplished. Approved proposals will be circulated to the faculty for their information and suggestions. Reservations of other faculty members should be discussed individually with the candidate and the Advisor, and any outstanding problems will be resolved by the DEO.

### *3.6 Credit and Residence Requirements*

The M.S. degree requires a minimum of 30 s.h. of graduate credit of which no more than 8 s.h. of research registration can be applied. For the M.S., at least 24 s.h. must be completed after

program admission. The Ph.D. program requires at least 72 s.h. of graduate credit. After earning their first 24 s.h. of graduate credit, Ph.D. students must be either (1) enrolled at least two consecutive semesters in full-time study (9 s.h. per semester minimum) at the University of Iowa, or (2) enrolled for a minimum of 6 semester hours in three consecutive semesters during which the student holds at least a one-quarter-time assistantship certified by the department as contributing to the student's doctoral program. Ph.D. students are also required to complete at least 18 s.h. of regular course work taught by tenured or tenure-track faculty members of the Department of Geoscience. Students must earn the 18 s.h. after being admitted to and enrolling in the Ph.D. program. Directed study and research credit do not count toward the 18 s.h. Candidates who have passed the Ph.D. Comprehensive Examination are required to register each semester until the degree is awarded. It is generally recommended that students complete 9 s.h. (12 s.h. max) of graduate credit (i.e., 3000-level courses or above) during each of their first two semesters.

### *3.7 Presentation and Manuscript Submission Requirements*

All graduate students are required to deliver a public presentation associated with their dissertation (Ph.D) defense or thesis (M.S.) defense. In addition, all students are required to present their research at a meeting approved by the DEO. Ph.D. students are required to submit a manuscript presenting results of their graduate research to a refereed journal or other publication outlet approved by the DEO before defending their dissertation.

### *3.8 Student Office Space*

Office space is assigned to all graduate assistants on appointments. Students not on appointments will be provided space, if available, on the basis of need. Occupation of office space is subject to satisfactory progress.

### *3.9 Academic Standing, Probation and Dismissal*

Graduate College regulations on probation and dismissal are found in the Manual of Rules and Regulations of the Graduate College (<http://www.grad.uiowa.edu/graduate-college-manual>). The student is responsible for being familiar with these regulations.

In addition to the above University-wide and Graduate College requirements, the Earth and Environmental Sciences Department requires that a student on regular or conditional status be placed on departmental probation if the student's cumulative grade-point average (GPA) in all Earth and Environmental Sciences courses taken after admission to graduate status at Iowa (including Earth and Environmental Sciences courses that do not carry graduate credit) is below 3.0. If, after the next session (including a summer session) of registration, the student's cumulative GPA on such course work is below 3.0, the student will not be allowed to continue in the Earth and Environmental Sciences graduate program. If the cumulative GPA on all Earth and Environmental Sciences courses is 3.0 or above, the student will be returned to good standing in the Department.

Any curricular deficiencies specified at the time of admission must be cleared within the time limits stated in the admission letter or the student will not be allowed to continue in the Earth and Environmental Sciences graduate program.

### *3.10 Procedure for Dismissal from Degree Programs*

The Graduate Admissions Committee reviews the academic progress of every graduate student at the end of each semester during the academic year. If a student is not progressing toward fulfillment of the degree requirements as outlined in Sections 3.2, 3.3, 3.4, 3.5, and 3.9, the Committee will transmit this information to the DEO who will then warn the student of this fact in writing. If the student has not rectified the conditions leading to the initial warning by the end of the following semester the DEO will send another letter to the student informing him or her that he/she has been dismissed from a degree program for failure to meet the criteria outlined in Sections 3.2, 3.3, 3.4, 3.5, or 3.9. The letter of dismissal will include a statement outlining the right to appeal.

Any student wishing to appeal dismissal from a graduate program may do so by writing to the DEO. The Graduate Admissions Committee will meet within two weeks of receiving the appeal, and the student may request a personal appearance before the Committee. A recommendation from the Graduate Admission Committee will then be presented at the next scheduled meeting of the Earth and Environmental Sciences Faculty, and the DEO will inform the student in writing of the faculty decision with regard to dismissal from the graduate program.

### *3.11 Procedure for change of degree objective*

A student who is approved to change degree status from M.S. to Ph.D. without finishing the M.S. degree has one semester to comply with Ph.D. guidelines. The semesters of aid commitment (if any) count in this case begins with the initial date of entry into the M.S. program. Graduate student requirements for the Ph.D. program are governed by the requirements in effect in the semester that the change of degree objective takes effect.

## **4. MASTER OF SCIENCE DEGREE**

### *4.1 General*

The Master of Science program is designed primarily to prepare a student for a professional career in Earth and Environmental Sciences or for more advanced studies.

### *4.2 Program Planning*

- a) The following tasks must be completed in order to be considered making satisfactory progress towards the M.S. degree. Entering graduate students must select an advisor or consult with the DGS prior to enrolling in courses.
- b) All entering graduate students are required to enroll in GEOS:5070 *Geologic Orientation* during the Fall semester of their first year in the graduate program..
- c) M.S. students must complete GEOS:5010, *Geoscience Seminar* during each semester until they defend their thesis.
- d) By the first month of his/her second semester of graduate study, all M.S. students must select an advisor and a thesis topic and have forwarded them to the DEO for approval. The advisor must be a tenured or tenure-track faculty member of the Department of Earth and Environmental Sciences.
- e) During the second semester of study, the student will propose the names of at least two additional faculty members to complete their Advisory Committee. At least one

other committee member besides the Advisor must be a tenured or tenure-track Geoscience faculty member. After approval by the DEO, the Advisor and the other members of the Advisory Committee are recorded in the student's file by the end of the second semester of study.

- f) Prior to the end of the second semester of graduate study, the student is responsible for obtaining the Committee's approval of a suitable plan of study and thesis proposal (see Sec 3.4). These are submitted to the DEO for approval, then circulated to the entire Earth and Environmental Sciences Faculty for comment and placed in the student's file.

Automatic continuation of financial aid beyond the first year will be contingent on a M.S. graduate student making satisfactory progress as stated above (see also sections 3.2, 3.3, 3.4, 3.5, and 3.9).

In consultation with the student and Advisory Committee, the DEO may designate a different Advisor or Committee member to conform more closely to the developing research interests of the student. The Advisor is responsible for signing registration materials, for general supervision of the academic program and development of research plans, and for maintaining a written record of Committee recommendations and decisions and placing it in the student's file.

The Advisory Committee, chaired by the Advisor, functions as examiners for the Final Examination. M.S. students are required to deliver a public presentation followed by an oral defense of the thesis, supporting research, and related topics. M.S. students are also required to present their research at a local, regional, national, or international meeting approved by the DEO before graduating from the program.

#### *4.3 Departmental Course Requirements*

The M.S. degree requires a minimum of 30 s.h. of graduate credit to which no more than 8 s.h. of research registration can be applied. Within broad limits, courses selected should reflect the individual needs, interests and talents of the student, and his or her advisor and advisory committee must approve them. All M.S. candidates must satisfy the degree requirements of the Graduate College.

To qualify for the Final Examination, the candidate must have at least a 3.0 GPA on those courses for graduate credit used towards the 30 s.h. minimum required for the degree. Additionally, the grade-point average on all graduate Geoscience courses must be 3.0 or higher.

#### *4.4 Thesis*

The thesis project for the M.S. degree is to be planned by the candidate in consultation with the Advisory Committee. A plan of study and thesis proposal must be approved by the Advisory Committee and forwarded to the DEO for approval at least two weeks prior to the close of exam week in the second semester of study. Accompanying the proposal should be a plan of study (see section 3.4) and a letter to the DEO requesting approval of the Advisory Committee (if it hasn't already been approved), approval of the plan of study and approval of the thesis proposal (see Section 3.5). Formal approval of the thesis proposal by the DEO is to be communicated to the candidate in writing. All documents will be circulated to the faculty for their information and suggestions. Reservations of other faculty members should be discussed individually with the

candidate and the Advisor, and any outstanding problems will be resolved by the DEO. Theses should be of a length and format that facilitates publication in an appropriate journal. The research scope of a M.S. thesis is commonly suitable for a single journal article. Before beginning to write, a student should consult with all members of the Advisory Committee to establish a consensus regarding format, organization, and appropriate length for their specific thesis. If the student perceives a conflict of philosophy amongst committee members, it is advisable to resolve the conflict in a committee meeting prior to manuscript preparation.

It is prudent to keep all members of the Advisory Committee current on developments in the research and thesis work. Consultation with the Committee during the thesis preparation minimizes the prospect of late major revisions. In order to be cleared for Final Examination, a candidate must provide the Advisor and Committee members with one copy each of the revised thesis at least ten working days prior to the scheduled time of examination. Only under exceptional circumstances will thesis examinations be conducted during final examination weeks or during the summer. The thesis copies must be complete, including all illustrations and appendices. Failure to meet the submission requirements will automatically involve rescheduling of the examination.

Students should consult Graduate College and Electronic Theses and Dissertations (ETD) formatting and submission guidelines (<http://www.grad.uiowa.edu/theses-and-dissertations?portal=current-students>) regarding the minimum number and format of thesis copies to submit. In addition, students must submit one copy of the thesis to the Department. Another copy must be provided to the Advisor. The members of the Advisory Committee may request additional copies. Any thesis including a study of Paleontology Repository collections requires curating and taxonomic review of the materials studied. All such materials, together with representative suites from new collections, are to be catalogued and permanently deposited, to the satisfaction of the Advisor and the Paleontology Repository Curator, before the degree is conferred.

## **5. DOCTOR OF PHILOSOPHY DEGREE**

### *5.1 General*

The Ph.D. program is designed primarily to train students to be independent researchers and/or educators, and to bring students to the forefront of a specialized area of Earth and Environmental Sciences.

### *5.2 Program Planning*

Ph.D. students usually enter the program with established fields of interests and a Research Advisor already selected. Under exceptional circumstances, a student may be admitted to the Ph.D. program without an established field and is assigned to the DGS who will be replaced by the Research Advisor when an area of specialization is selected. The Advisor is responsible for general guidance and supervision of progress, including approval and signing of registration materials.

The following tasks must be completed in order to be considered making satisfactory progress towards the Ph.D. degree:

- a) Entering Ph.D. students must consult with a research advisor or the DGS prior to enrolling in courses.
- b) All entering graduate students are required to enroll in GEOS:5070 *Geologic Orientation* during the Fall semester of their first year in the graduate program. Ph.D. students who took GEOS:5070 as part of their M.S. program at Iowa only must attend the first ½ day of the course in the first Fall semester of their Ph.D. program (see Section 3.2).
- c) Ph.D. students must enroll in GEOS:5010 *Geoscience Seminar Series* each semester they are registered until they successfully defend their dissertations, or for two consecutive semesters after the semester in which they pass their comprehensive examination, whichever comes first (see Section 3.2).
- d) By the first month of his/her second semester of graduate study, all Ph.D. students must select an Advisor and a thesis topic and have forwarded them to the DEO for approval (see Section 3.3). The advisor must be a tenured or tenure-track faculty member of the Department of Earth and Environmental Sciences.
- e) During the second semester of study, the Ph.D. student should propose the names of at least five faculty members for their Advisory Committee. At least four members must be from the tenured or tenure-track faculty of the University of Iowa. At least two members in addition to the Advisor must be tenured or tenure-track faculty from the Department of Earth and Environmental Sciences. Ph. D. committees must also have an additional qualified faculty committee member from outside the Department of Earth and Environmental Sciences. For a scholar from another university, institution or agency to be added to a committee, special permission from the Earth and Environmental Sciences DEO and Dean of the Graduate College is required (see the Manual of Rules and Regulations of the Graduate College Section X, K or XII. P: <http://www.grad.uiowa.edu/graduate-college-manual>).
- f) At least two weeks prior to the close of exam week in the second semester of study, the student is responsible for obtaining the Committee's approval of a suitable Plan of Study (see Section 3.4). After obtaining committee signatures, the plan is submitted to the DEO for approval. After this approval, the Plan is forwarded to the Graduate College and placed in the student's file.
- g) At least two weeks prior to the close of exam week in the third semester of study, the student is responsible for obtaining the Committee's approval of a suitable dissertation proposal (see Sec 3.5). The proposal is then submitted to the DEO for approval, then circulated to the Earth and Environmental Sciences faculty for comment and placed in the student's file.
- h) At least two weeks prior to the close of exam week in the fourth semester of study the Ph.D. student must have satisfactorily completed their comprehensive examination.

Automatic continuation of financial aid beyond the first year will be contingent on a Ph.D. graduate student making satisfactory progress as stated above.

In consultation with the student and Advisory Committee, the DEO may designate a different Advisor or Committee member to conform more closely to the developing research interests of the student. The Advisor is responsible for signing registration materials, for general supervision

of the academic program and development of research plans, and for maintaining a written record of Committee recommendations and decisions and placing it in the student's file. The Advisory Committee, chaired by the Advisor, functions as examiners for the Comprehensive and Final Examinations. Ph.D. students are required to deliver a public presentation followed by an oral defense of the thesis, supporting research, and related topics.

### *5.3 Departmental Course Requirements*

The Ph.D. program requires an overall minimum 72 s.h. of graduate credit. Within broad limits, courses selected should reflect the individual needs, interests and talents of the student, and their advisor and advisory committee must approve them. All doctoral candidates must satisfy the degree requirements of the Graduate College.

After earning their first 24 s.h. of graduate credit, Ph.D. students must be either (1) enrolled at least two consecutive semesters in full-time study (9 s.h. per semester minimum) at The University of Iowa, or (2) enrolled for a minimum of 6 semester hours in three consecutive semesters during which the student holds at least a one-quarter-time assistantship certified by the department as contributing to the student's doctoral program. They are required to include in their plan of study at least 18 s.h. of regular course work taught by tenured or tenure-track faculty members of the Department of Earth and Environmental Sciences. Students must earn the 18 s.h. after being admitted to and enrolling in the Ph.D. program. Directed study and research credit do not count toward the 18 s.h. requirement.

An appropriate graduate course in another discipline is to be included in the Ph.D. plan of study. It should be completed before the Comprehensive Examination. Courses that are cross-listed between Earth and Environmental Sciences and other departments do *not* meet this requirement.

### *5.4 Comprehensive Examination*

The Comprehensive Examination Committee consists of the five Advisory Committee members (see section 5.2). The Comprehensive Examination is intended to be the final written and oral evaluation of candidate's mastery of the discipline. Each candidate is examined in the area of expertise represented by the members of the Committee. It is also presumed that the candidate is proficient in the basic elements of general Earth and Environmental Sciences as presented by current elementary textbooks. The written Comprehensive Examinations are given by each committee member separately. The oral Comprehensive Examination usually lasts 2-3 hours with all committee members attending. Questions during an oral exam may be follow-ups of the written exam on a basic area of Earth and Environmental Sciences, or on subject matter taken with the outside member of the Committee. Most course work should be completed prior to the Comprehensive Examination.

### *5.5 Public Presentation and Manuscript Submission*

Ph.D. students are required to deliver a public presentation associated with their dissertation defense. In addition, prior to defending their dissertation, all students are required to present their research at a professional meeting approved by the DEO (see Section 3.7). Ph.D. students are also required to submit a manuscript presenting results of their graduate research to a refereed journal or other publication outlet approved by the DEO before defending their dissertation.

### *5.6 Dissertation*

The candidate, in consultation with the Advisor and other appropriate faculty, must prepare a formal dissertation Proposal (see Section 3.5). The proposal must be forwarded to the DEO not later than two weeks before the end of examination week during the third semester of full time doctoral study and before the bulk of the research is accomplished. Accompanying the Proposal will be a formal letter documenting degree requirements completed (and course grades) and those that remain outstanding, plus a schedule for fulfilling these obligations. It will also identify proposed changes in the plan of study. Unanimous approval of the Proposal by the Advisory Committee is required. Formal approval of the dissertation proposal by the DEO is to be communicated to the candidate in writing. Such approval should be secured at least two semesters prior to graduation. Following DEO approval, all documents are to be circulated to the Earth and Environmental Sciences faculty for their information and suggestions. Reservations of other faculty members should be discussed individually with the candidate and the Advisor, and any outstanding problems will be resolved by the DEO (see Section 3.5).

It is advisable to keep all members of the Advisory Committee current on research progress, as committee consultation will minimize necessity of late major revisions. Graduate College requirements state that "Written dissertations shall be made available to all members of the examining committee not later than two weeks before the date of examination." For departmental purposes, this is interpreted to mean that a revised dissertation will be available to the committee at least ten working days prior to the Final Examination. These copies must be complete, including all illustrations and appendices. Failure to meet this deadline will automatically involve rescheduling of the examination. Only under exceptional circumstances will a dissertation defense be conducted during a final examination week or during the summer. The Ph.D. dissertation must be written in a style appropriate for publication in refereed journals. Any dissertation including a study of Paleontology Repository collections requires curating and taxonomic review of the materials studied. All such materials, together with representative suites from new collections, are to be catalogued and permanently deposited, to the satisfaction of the Advisor and the Paleontology Repository Curator, before the degree is conferred. Students should consult Graduate College and ETD formatting and submission guidelines regarding the minimum number and format of thesis copies to submit. Departmental policy requires that a copy also be deposited permanently in the Geoscience Library and an additional copy in the Paleontology Repository. Another copy must be provided to the Advisor. The members of the Advisory Committee may request additional copies.