Department of Earth & Ocean Sciences
University of South Carolina, Columbia Campus
Graduate Studies Handbook
Requirements – Policies – Procedures

FALL 2010

Graduate Studies Program
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Graduate Student Academic Year Progress Report
1. Introduction

The earth and ocean sciences encompass the entire spectrum of the study of our planet including but not limited to the geological and biological materials of which the Earth is made; the physical forces that act on the solid Earth, rivers, lakes and oceans; the history of the planet; and its past, present and future environments. The mission of the Department of Earth & Ocean Sciences of the University of South Carolina is to develop, communicate, apply and promote the geological sciences through teaching, research, and service to the University, the State and the Nation.

The Department expects all graduate students will gain an understanding of the fundamental principles and practices related to the primary areas of the earth and ocean sciences. The graduate program has no department-wide required curriculum with core courses. Rather, a specific Program of Study is created for each student in accordance with the requirements that are described in this manual.

The material presented herein is a summary of the requirements for Doctor of Philosophy (Ph.D.) and Master of Science (M.S.) degrees in Geological Sciences, earned through the USC Department of Earth & Ocean Sciences. These requirements are in addition to those of the USC Graduate School. All students should review the Graduate Studies Bulletin, which is the official manual of regulations and guidelines for graduate study at the University of South Carolina. The most up-to-date version can be found at the School’s home page (www.gradschool.sc.edu). It is the responsibility of each student to become familiar with the University’s policies and regulations.

For information not contained in this handbook or on the Graduate Programs webpage (www.seoe.sc.edu/grad), students should contact the Graduate Studies Director, Dr. Dave Barbeau (EWS 406, dbarbeau@geol.sc.edu, 803.777.5162), or the Graduate Studies Coordinator (Ms. Toni Bracey, PSC 108, tbracey@geol.sc.edu, 803.777.7170).

The requirements described in this document apply to all graduate students who enroll in and begin the graduate program on or after August 10, 2010. It also applies to all students who began coursework before August 10, 2010 but who were re-instated or changed status on or after this date.

This version was updated in summer, 2010. The updated material includes faculty-approved changes to the breadth requirement, procedural clarifications, and minor cosmetic changes unrelated to requirements, policies or procedures.

2. Admission to the Graduate Program

Successful applicants to the graduate program of the Department of Earth & Ocean Sciences must have received a bachelor’s or higher degree from an accredited college or university and meet admission requirements set by the USC Graduate School. Moreover, successful applicants are required to have a minimum total GRE (verbal + quantitative) score of 1000, with a minimum quantitative score of 550. Applicants should have acquired competence in one of the fields of basic science. However, more important than any fixed entrance requirements, the candidate’s academic record and other credentials must indicate the potential to progress satisfactorily in graduate studies. Students that are typically accepted into the Earth & Ocean Sciences graduate program have an undergraduate GPA exceeding 3.0 and letters of recommendation that rank them in the upper 25% of their cohort. Deficiencies in prerequisite subjects must be made up before a student may proceed with graduate work. International students are required to adhere to additional requirements set by the Graduate School.

In some cases, admission to the program is conditional to specific terms. In the case of a conditional admission, the student is required to meet the conditions of admission as expressed
in the letter of admission in a timely manner. Failure to do so will lead to termination from the program.

A graduate student who has been admitted to the Ph.D. program can transfer to the M.S. program through an application for a change of status submitted to the Graduate School after discussion with and approval of his/her advisor. This change of status does not guarantee additional support beyond that awarded through the original admission to the program.

Students who have been admitted to the M.S. program can petition the Graduate Studies Director for a change of status to the Ph.D. program prior to earning the M.S. degree. Such a request will be treated as a new admission and will be examined by the graduate studies committee. In such cases, new letters of reference may be requested to establish the ability of the student to carry out independent Ph.D. research. It is recommended that the student wait for a decision from the graduate studies committee prior to applying for a change of status in the Graduate School. If successful, this change of status does not guarantee additional support beyond that awarded through the original admission to the program.

3. Master of Science (M.S.) in Geological Sciences

The Master of Science degree program prepares students for professional careers in industry and government, or for the pursuit of further graduate degrees in the fields of geology, geophysics, geochemistry, hydrology and marine science. A written thesis or peer-reviewed manuscript is required for students seeking a M.S. degree. M.S. students are expected to conduct original scientific research under the supervision of an advisor, and to have a basic understanding of the fundamental principles and practices related to the primary area of their study.

The Department expects all graduates to possess effective oral and written communication skills.

Upon admission, M.S. students must make satisfactory progress toward the award of the degree, including:

1. selection of a Thesis Advisor from the faculty of the Department of Earth & Ocean Sciences (1st semester)
2. formation of a Thesis Committee (1st year).
3. submission of a M.S. Program of Study (1st year).

It is expected that a full-time student will obtain a M.S. degree within two years of beginning course work.

3.1 Selection of M.S. Thesis Advisor

Master of Science students are typically admitted with a Thesis Advisor. If no advisor has been assigned, the student is admitted with the Graduate Director as the temporary Thesis Advisor. Within the first semester, the student must select an advisor who except in extenuating circumstances must be a member of the faculty of the Department of Earth & Ocean Sciences. In the case of an external Thesis Advisor, a thesis co-advisor from within the Department of Earth & Ocean Sciences must also be assigned.

Meeting all degree requirements is the student's responsibility. The major professor, in consultation with the other thesis committee members, will direct the student's efforts towards a successful completion of research goals and provide advice on course selection and other matters.
The major professor will also assist the student in selecting the other thesis advisory committee members.

### 3.2 M.S. Thesis Committee

The student in consultation with his/her advisor must create a Thesis Committee. The Committee will consist of at least three members (including the advisor). At least two of the members (including the advisor) must be faculty of the Department of Earth & Ocean Sciences. The Thesis Committee sets the Program of Study for the student, advises, and approves the Thesis Proposal / Comprehensive Exam and Thesis Defense.

Approved members from outside the University of South Carolina can participate as members of the Thesis Committee, but they must have earned a Ph.D., and agree to participate in all committee meetings. The Department provides no funding to Thesis Committee members for travel expenses related to participation in committee meetings. Participation via videoconference is in cases when the member cannot participate on-site. Securing such videoconferencing facilities is the responsibility of the student and his/her advisor.

It is strongly recommended that the student works closely with and schedules regular meetings with all committee members during his/her study.

### 3.3 M.S. Program of Study

Each M.S. candidate, in consultation with the Thesis Committee (usually during or prior to the Thesis Proposal Presentation, see section 3.4), must prepare a Program of Study. This outlines his/her entire program course requirements and should be submitted no later than the end of the second semester, after entrance into the program. The courses listed in the Program of Study must adhere to all course requirements listed in section 3.3.1 and should be submitted on the appropriate form (www.gradschool.sc.edu/DocLibrary/doclibrary.html). The Graduate Studies Director and the Dean of the Graduate School must approve this form.

The course requirements in the Program of Study represent the minimum hours and should not be interpreted as an upper limit. The Program of Study is determined by the advisory committee based on each student’s needs and may include additional coursework beyond the 30 minimum credit hours (see section 3.3.1) if the committee judges that it is necessary for the student’s success.

#### 3.3.1 Course Requirements

For the Master of Science degree, the minimum course requirements include 30 semester hours of work, not more than six of which may be taken in GEOL 799 (Thesis Preparation), and not more than six of which may be taken in GEOL 790 (Directed Individual Studies).

At least 12 credit hours must be in courses numbered 700 and above, excluding those from GEOL 799 and GEOL 800 or other independent study and pass-fail seminar courses offered by other departments. These courses must carry an average grade of B (GPA of 3.00) or higher.

The remainder of the requirements may include courses numbered from 500 to 699 that are taken for graduate credit. An average grade of B (GPA of 3.00) or higher is also required for all courses taken in the Program of Study. Any grade C+ or lower is considered a requirement failure. In addition, the student must achieve a B average (GPA of 3.00) or higher on all courses taken for graduate credit including courses that are not part of the degree program, and must not accumulate more than 11 credits with grades of C+ or lower. For calculating a projected GPA,
please use the form published on the Registrar’s website (http://registrar.sc.edu/html/gpa_calc/gpa.htm).

The table below depicts the minimum and maximum number of credit hours required to create a typical Program of Study for a M.S. degree as well as the conditions that need to be met.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) GEOL 799</td>
<td>2 to 6</td>
</tr>
<tr>
<td>(B) GEOL 790</td>
<td>0 to 6</td>
</tr>
<tr>
<td>(C) GEOL 800</td>
<td>0 to 4</td>
</tr>
<tr>
<td>(D) Any 700 &amp; 800 level courses (excluding GEOL790, GEOL799, GEOL 800, independent study and pass-fail seminar courses)</td>
<td>9 or more</td>
</tr>
<tr>
<td>(E) Any 500 and 600 level courses (graduate credit)</td>
<td>any</td>
</tr>
</tbody>
</table>

Condition 1: (B)+(D) ≥ 12
Condition 2: (A)+(B)+(C)+(D)+(E) ≥ 30

A number of graduate level courses available through other departments and colleges may be counted toward the M.S. degree in Geological Sciences.

3.3.2 Course Breadth Requirement

All M.S. students must complete one course in each of two of three breadth requirement course types (Appendix I). Courses outside the department, including those taken at other universities, cannot be substituted for this requirement.

3.3.3 Seminar Attendance Requirement

Each M.S. students must register for GEOL 800 in all semesters during which s/he is registered for six or more credit hours. Exemptions to this requirement are granted solely by the Graduate Studies Director and only for exceptional circumstances. Students who are not registered for GEOL 800, and have not obtained permission from the Graduate Studies Director are not in good standing with the department and thus may be ineligible for departmental or other funding.

3.3.4 Seminar Presentation Requirement

Each M.S. candidate must present an on-campus public seminar on her/his research progress at least once per year. A student on a normal timetable can satisfy this requirement by delivering a Thesis Proposal Presentation (see section 3.4) in one’s first year and a Thesis Defense (see section 3.3) in one’s second year.

3.3.5 Foreign Language Requirement

The Department of Earth & Ocean Sciences has no mandatory foreign language requirement for its M.S. program, but students are encouraged to develop sufficient proficiency in a non-English language in order to succeed in an increasingly international society.

3.3.6 Transfer of Graduate Credit

Graduate credits that are not part of a completed degree or certificate program at USC or another institution may be transferred subject to the following restrictions:

(1) No more than 12 credit hours may be transferred.
(2) The credits must be relevant to the program and approved by the Thesis Committee.
(3) The credits: are from an accredited institution recognized by USC; carry graduate credit with a grade of B or higher; and have been earned within a four year period prior to the beginning of the M.S. program.

A maximum of nine graduate credit hours that are part of a completed degree or certificate program at USC or another accredited and recognized institution may be applied toward the M.S. degree requirements.

### 3.4 M.S. Thesis Proposal Presentation / Comprehensive Exam

Once a student has selected a Thesis Advisor, formed a Thesis Committee, and identified a thesis topic, he/she must complete his/her Thesis Proposal Presentation / Comprehensive Exam on an arranged date. The Thesis Proposal Presentation / Comprehensive Exam involves the student presenting the proposal in an oral seminar to the public and to the Thesis Committee, followed by questions from the public and Thesis Committee related to the research to be conducted. The Thesis Committee then determines whether the student is qualified to carry out the proposed work and whether the proposed project is a viable research topic.

A written Thesis Proposal must be submitted to the student’s Thesis Committee. The final version must be submitted at least one week prior to the Thesis Proposal Presentation / Comprehensive Exam.

An announcement of the presentation must be distributed by the student to all faculty and students in the Department at least one week in advance of the event. The distribution should include a departmental email announcement and public postings. The announcement should include a title, short abstract, name of student and advisor, date, time and location.

The Thesis Proposal Presentation / Comprehensive Exam consists of:

1. A technical research presentation of the Thesis project for the Thesis Committee. This presentation is open to the public. Normally, the presentation is followed by technical questions from the public at the discretion of the committee chair.

2. A private discussion with the Thesis Committee in which the project and the candidate's proposed Program of Study are discussed. The Committee will determine whether the student is qualified to carry out the proposed research and whether the proposed project is viable. If the Committee decides that the proposal is not viable, or that the student is ill-prepared, then alternative plans should be discussed with the student and a new proposal should be presented to the committee within 90 days of the first Thesis Proposal Presentation. If the committee rejects the second proposal, then the student will be terminated from the M.S. program.

The Thesis Proposal Presentation should be completed by the end of the first year. A copy of the approved proposal must be filed with the Graduate Studies Office using the appropriate form within one week of the date of the presentation (see Appendix). This form must be accompanied by the appropriate program assessment forms, which are submitted by the Thesis Advisor or another faculty member of the student’s Thesis Committee (see section 6).

### 3.5 M.S. Thesis Defense

The M.S. Thesis Defense consists of a public seminar, public question and answer period, and a private consultation / examination with the Thesis Committee. It must take place no earlier than sixty (60) days after a successful M.S. Thesis Proposal Presentation. This defense must be filed.
with the Graduate Studies Office at least one week in advance by submission of an abstract with
the date, time and place of the defense. This information will be distributed by the Graduate
Studies Office to all faculty and students and posted on the department's web site. Students must
be registered for at least one semester hour of graduate credit during the term in which the Thesis
is completed and approved.

A Program of Study (see section 3.3) must be filed with the Graduate School before the Thesis
Defense. The results of the Thesis Defense should be filed with the Graduate Studies Office within
one week of the defense date using the appropriate form (see Appendices). This form must be
accompanied by the appropriate program forms, which are submitted by the Thesis Advisor or
another faculty member of the student’s Thesis Committee (see section 6). If the student fails the
Thesis Defense, he/she is required to repeat it within 120 days. Failure to do so or a second failure
leads to disqualification of the student from the M.S. program.

3.6 M.S. Thesis Submission

The USC Graduate School publishes deadlines for the final submission of an approved. Students
should consult the Graduate School and their web site (www.gradschool.sc.edu) at least one
semester before the Thesis is to be submitted regarding general Thesis regulations and deadlines.

The first draft of the M.S. Thesis must be in the hands of the major professor and other committee
members at least sixty (60) days before the deadline for final submission. Final copies of the
Thesis are to be submitted to the major professor and other committee members for their
approval at least thirty (30) days prior to the submission deadline. The student should schedule
an appointment with The Graduate School at least one week in advance of the deadline.

An electronic copy of the Thesis must be filed with the Graduate School. The Thesis should be
formatted according to the requirements set by the Graduate School (see Dissertation Guidelines
link at www.gradschool.sc.edu/currentstudents/index.html). In addition, an electronic copy must
be provided to the Graduate Studies Office. The Department of Earth & Ocean Sciences requires
the names of the committee members and the Dean of the Graduate School be listed on the first
page under their respective signature.

3.7 Accelerated M.S. Degree

An accelerated schedule enables an enrolled USC student to complete the requirements for both
B.S. and M.S. degrees in Geological Sciences in 5 years (10 semesters). This schedule allows the
student to take a combination of undergraduate- and graduate-level coursework in the fourth year
of his/her undergraduate study. Additional course and Thesis work is completed in the 5th year so
that the student obtains the 30 hours of graduate-level coursework required for the M.S. degree.

Students interested in the accelerated M.S. degree must fulfill all requirements indicated in
sections 3.1 to 3.6. In addition, accelerated M.S. students are allowed to use nine credit hours of
graduate work (500 level and above) towards both undergraduate and graduate degrees. In some
instances, this may require students to enroll in classes at the 700 level or above via Senior
Privilege permission (6 credit maximum). In order to pursue the accelerated M.S. degree, the
student’s Program of Study and Thesis Committee must be established before the end of the
fourth year of study.

3.8 Time Limits & Restrictions

After admission to the M.S. program, students are expected to make satisfactory and timely
progress toward the degree.

Revised 9/02/10
If a break in studies occurs, the student’s admission status expires following three years of non-enrollment. In this case, students wishing to continue must re-apply and fulfill the admission requirements in effect at the time of re-application. Upon readmission, these students are subject to regulations in the current Graduate Studies Bulletin and Departmental Graduate Program requirements.

Students who fail to graduate within 6 years of their initial registration will be considered withdrawn from the M.S. program.

3.9 Progression from M.S. to Ph.D. Degree

Students who wish to pursue a Ph.D. degree in Geological Sciences after completion of the M.S. degree must submit a formal application to the Graduate School. No M.S. student will be accepted into the Ph.D. program unless a faculty member agrees to serve as a major professor for that student.

4. Ph.D. in Geological Sciences

The Doctor of Philosophy (Ph.D.) degree program prepares students for professional careers and leadership positions in industry, government and academia in the fields of geology, geophysics, geochemistry and ocean science. Ph.D. students are expected to conduct independent, original scientific research and to have an understanding of the fundamental principles and practices related to primary areas of the earth and/or ocean sciences. Training involves developing the ability to use appropriate laboratory and field equipment, and expanding one’s understanding of scientific methodology, quantitative problem-solving skills and experimental or numerical techniques.

The Department expects all graduates to possess effective oral and written communication skills.

Upon admission to the Doctoral program, a Ph.D. student must ensure satisfactory progress towards the degree, including:

1. selection of a Dissertation Advisor from the faculty of the Department of Earth & Ocean Sciences (1st semester)
2. formation of Doctoral Committee (1st year)
3. Dissertation Proposal Presentation / Qualifying Examination (by the end of 2nd year)
4. submission of Ph.D. Program of Study (2nd year)
5. acceptance of a peer-reviewed manuscript for publication (at least 60 days before Defense):
6. Comprehensive Examination (at least 60 days before Defense)
7. submission of a second manuscript to a peer-review journal (at least ~30 days before degree award)
8. Dissertation Defense (at least ~30 days before degree award)

Although a Ph.D. degree can be earned in three years, the median time for graduation in the Department of Earth & Ocean Sciences is four years, assuming satisfactory progress. There are several time limitations that, if not met, may lead to coursework expiration or termination from the program.
4.1 Selection of Ph.D. Dissertation Advisor

The Dissertation Advisor must be a member of the faculty of the Department of Earth & Ocean Sciences. In exceptional circumstances, faculty outside the Department can be assigned as co-advisors.

Most Ph.D. students are admitted with a Dissertation Advisor already assigned, but in extraordinary circumstances a Ph.D. student may opt to choose her/his Dissertation Advisor by the end of her/his first semester. In such situations, the Departmental Graduate Studies Committee will assure that the incoming student receives the necessary support.

The major professor, in consultation with the other advisory committee members, will direct the student's efforts towards successful completion of research goals and provide advice on course selections and other matters. The major professor will also assist the student in selecting other advisory committee members.

Students must remain officially active in the Ph.D. program by taking at least one credit hour during all semesters when advisement is conducted.

Meeting all degree requirements is the student's responsibility.

4.2 Doctoral Committee

The Graduate School requires that each Ph.D. student form three committees: a Ph.D. Dissertation Committee, a Comprehensive Exam Committee and a Dissertation Exam Committee. The Department requires that membership in each committee is the same (hereafter termed the Doctoral Committee), except in extraordinary circumstances.

Doctoral committees consist of a minimum of four qualified individuals, including the major advisor and one member from outside the Department. The majority of the committee’s membership must be tenure-track USC faculty, and a minimum of two members (including the major advisor) must be tenured or tenure-track faculty in the Department of Earth & Ocean Sciences.

Members from outside the University of South Carolina require the approval of the Graduate Director and the Graduate School. The selection of such members needs to be justified on academic grounds and the member must have expertise relevant to the research area of the project. Such members must have a Ph.D. and be actively involved in research, demonstrated through their recent publication record. Furthermore, they should be prepared to actively participate in the process of advisement and be physically present in the meetings and exams required by the program. No funding is provided by the program to cover expenses of outside members for travel to participate to committee meetings. Participation via videoconference is acceptable by the program for exceptional cases when a committee member cannot participate on site. Securing such videoconferencing facilities is the responsibility of the student and his/her advisor.

The Committee must be approved by the Dean of the Graduate School by submitting a Doctoral Committee Appointment Request form before it can recommend a Program of Study for a Ph.D. student. Changes in committee membership require the approval of the Graduate Studies Director, and the consent of the majority of the Doctoral Committee.

Students must remain officially active by enrolling in at least one USC credit hour of related coursework during all semesters when advised by the Doctoral Committee. No formal Doctoral Committee meetings may be arranged if the student is officially inactive.
Students should organize regular (annual or more often if needed) meetings with their Dissertation Committee to present and discuss research goals, hypotheses and progress. The Doctoral Committee may request that the student prepare written progress reports beyond that associated with the Ph.D. Dissertation Proposal Presentation.

4.3 Residency Requirements

All Ph.D. candidates must be in residence at an approved university for at least three academic years after the candidate has begun graduate work. At least one year of the three must be spent on the Columbia campus of the University of South Carolina. The year of residence on the Columbia campus after admission to the Doctoral program can be fulfilled by successful completion of at least 18 graduate credit hours within a span of three consecutive semesters (excluding summers). Enrollment in a summer term is not required to maintain continuity, but credits earned during summer terms will count towards residency.

4.4 Ph.D. Degree Requirements

Requirements for the Ph.D. degree include: (i) course requirements; (ii) course distribution requirements; (iii) seminar attendance; (iv) seminar presentation; (v) publication requirement; and (vi) foreign language requirement, if applicable. Each category represents a minimum requirement and none of the requirements should be viewed as restrictive or exclusive of another requirement.

4.4.1 Course Requirements

All Ph.D. candidates must complete a minimum of sixty graduate hours beyond the Bachelor’s degree, or a minimum of thirty graduate hours beyond the M.S. degree including at least 12 credits of GEOL 899 (Dissertation Preparation).

Further, with the help of their advisors and members of their Doctoral Committee, Ph.D. students will choose the courses required to ensure adequate preparation for and execution of their research.

Ph.D. students must complete at least one-half of their credit requirements in courses numbered 700 or above, exclusive of GEOL 899 and GEOL 800. No more than 20% of their total credit requirements (i.e., six for 30-hour requirement or twelve for a 60-hour requirement) may be taken in GEOL 790 (Directed Individual Studies).

The remainder of the requirements may include courses numbered from 500 to 699 taken for graduate credit. All students must also satisfy the departmental course distribution requirement (see section 4.4.4).

A grade of B (GPA of 3.00) or higher is required for all courses taken in the Program of Study. Any grade below B is considered a failure of the degree requirement. In addition, the student must achieve a B average (GPA of 3.00) or higher on all courses taken for graduate credit including courses that are not part of the degree program. The student must not accumulate more than 11 credits with a grade of C+ or below. A form for calculating projected GPA can be found at the Registrar’s website (http://registrar.sc.edu/html/gpa_calc/gpa.htm).

The table below shows the minimum and maximum number of credit hours required to create a typical Program of Study for a Ph.D. degree for a student with and without a M.S. degree (30 and 60 hours requirement, respectively) as well as the conditions that need to be met for each case.
A number of courses available through other departments and colleges may be counted as graduate credit toward a Geological Sciences Ph.D. degree.

4.4.4 Course Breadth Requirement

All Ph.D. students must complete one class in each of the three focus areas (Appendix I). Courses outside the department, including those taken at other universities, cannot be substituted for this requirement.

4.4.5 Seminar Attendance Requirement

All Ph.D. students must register for GEOL 800 in all semesters when registered for six or more credit hours. Exemptions to this requirement are granted only by the Graduate Studies Director and only for exceptional circumstances. Students who are not registered for GEOL 800, and have not obtained permission from the Graduate Studies Director are not in good standing with the department and thus may be ineligible for departmental or other funding.

4.4.6 Seminar Presentation Requirement

All Ph.D. students must present public seminars on their research plans and progress at least once per year on the University of South Carolina, Columbia campus. Students on a normal timetable can partially satisfy this requirement by including their Dissertation Proposal and Comprehensive Examination presentations. Students may also present at Graduate Student Day competitions, Departmental seminar & Brown Bag meetings, etc.

4.4.7 Publication Requirements

To complete degree requirements, all Ph.D. students must publish at least one paper, and submit or publish a second paper in a refereed scientific journal. Both papers should be from work carried out as part of their Ph.D. studies in the Department of Earth & Ocean Sciences. In particular:

**Paper In Press or In Print Requirement:** All Ph.D. students are required to publish (i.e., *in press or in print*) one paper from their doctoral research in a refereed scientific journal. Publications from previous M.S. or other degrees, and work not directly related to the Doctoral research of the candidate do not satisfy this requirement. The aforementioned paper must be reviewed by the Doctoral Committee prior to submission. The student must be first author on the paper, and his/her contribution to the paper must be evident and substantial. The paper used as part of the Comprehensive Exam (below) satisfies this requirement.

---

1. The journal should be listed in the Science Citation Index.
Submitted Paper Requirement: Prior to the Dissertation Defense, the student is required to have submitted a second paper from his/her Dissertation work to a refereed scientific journal. Publications from work not directly related to the Doctoral research of the candidate or from previous M.S. or other degrees do not satisfy this requirement.

4.4.8 Foreign Language Requirement

The Department of Earth & Ocean Sciences has no mandatory foreign language requirement. However, the student's Doctoral Committee may require the student to fulfill such a requirement. Moreover, students are encouraged to develop sufficient proficiency in a non-English language in order to succeed in an increasingly international society.

4.5 Ph.D. Dissertation Proposal / Qualifying Exam

Once a Ph.D. student has selected a Dissertation Advisor and identified a Dissertation topic, he/she should assemble his/her Doctoral Committee members to discuss and evaluate the proposed Dissertation research. A written Dissertation proposal must be submitted to the student’s committee at least two weeks prior to the presentation.

The Dissertation Proposal / Qualifying Exam consists of:

1. A technical research presentation of the Dissertation project for the Dissertation Committee. This presentation is open to the public and the date should be publicly announced at least one week in advance. The presentation is followed by technical questions from the public at the discretion of the committee chair.

2. A private meeting with the Dissertation Committee in which the project is discussed. The Committee will determine whether the student is qualified to carry out the proposed research and whether the proposed project is a viable research study.

If the majority of the committee decides the proposal is not adequate for Ph.D. study, the student has the option to repeat the qualifying exam within 120 days. If the second exam is also unsatisfactory, the student will be terminated from the Ph.D. program. The Committee, at its discretion, may recommend that the student apply for a transfer to the M.S. program.

The earlier the qualifying exam takes place, the sooner the student can focus on his/her specific research needs. With this in mind, it is strongly recommended the exam be scheduled within one calendar year from the start of related graduate classwork. If the exam has not taken place by the end of the second year, the student will be terminated or recommended for transfer to the M.S. program.

The Dissertation proposal must be completed at least one full academic year prior to the date at which the Ph.D. degree is granted. A copy of the approved proposal and the determination of the committee must be filed with the Graduate Studies Office within one week of the exam date. These forms must be accompanied by the appropriate program assessment forms, which are submitted by the Thesis Advisor or another faculty member of the student’s Thesis Committee (see section 6).

4.6 Ph.D. Program of Study

All students enrolled in the Ph.D. program must identify in consultation with their major advisor and the members of their Doctoral Committee their Dissertation research topic and the coursework required for the student to obtain the background required to complete his/her Dissertation work. This coursework should be listed in the Program of Study even if it does not
reflect any of the requirements listed above. No expired coursework can be included in the Program of Study (see section 4.8).

It is emphasized that the course requirements (see section 4.1.1) represent the minimum hours, which must be included in the Program of Study and should not be interpreted as an upper limit. The Program of Study may include additional coursework, beyond the minimum required hours and should be in accordance with the requirements listed in sections 4.4.1 and 4.4.2.

The Program of Study form should be prepared and submitted within two weeks following the Qualifying Exam (see section 4.5). The Graduate Studies Director and the Dean of the Graduate School must approve this form.

4.7 Transfer of Graduate Credit

A limited number of credits may be transferred into the doctoral program. Graduate credits that are not part of a completed degree or certificate program in USC or another institution may be transferred to the Ph.D. program subject to the following restrictions:

1. The transferred credits do not constitute more than 9 or 18 hours for a student with a 30 or 60 hour requirement, respectively, and do not include any credits obtained as part of Thesis Preparation (GEOL 799) or Directed Individual Studies (GEOL 790) course.
2. The credits are relevant to the doctoral program of the student, of appropriate level, and approved by the Dissertation Committee.
3. The credits are from an accredited institution recognized by USC; carry graduate credit with a grade of B or better; and are earned within eight years prior to completion of the Ph.D. degree.
4. The credit transfer is approved by the Graduate Studies Director.

Applications for credit transfer should be made initially to the Graduate Studies Director. The application should include an Affidavit that all of the restrictions listed above have been met and must be signed by all members of the Doctoral Committee.

The University of South Carolina offers no correspondence courses for graduate credit and does not accept correspondence work or professional experience toward a graduate degree. Expired coursework cannot be transferred.

4.8 Coursework Expiration / Re-certification Process

All work to be applied toward the Ph.D., exclusive of the M.S. degree portion, should be completed within the eight years prior to graduation. Courses listed in the Program of Study that have expired can be re-certified through an application to the Graduate School. As part of the re-certification process, a faculty member from the Department of Earth & Ocean Sciences (usually the faculty member teaching the course to be re-certified) will have to assess the current knowledge of the student requesting the re-certification. This assessment can be either through an interview, oral, written exam, or a combination of the above.

4.9 Admission to Candidacy

A student is officially admitted to Candidacy when all three of the following conditions are satisfied:
1. The student has formed his/her Dissertation Committee by completing the appropriate form and the Graduate Studies Director and Graduate School have approved the committee.
2. The student has submitted his/her official Program of Study form and it has been approved.
3. The student has passed the Qualifying Exam.

Admission to candidacy must occur at least one full academic year before graduation and no later than three years after admission to the Ph.D. program.

4.10 Ph.D. Comprehensive Examination

All Ph.D. candidates must satisfactorily pass a comprehensive exam on subject areas pertinent to their Dissertation.

The comprehensive examination cannot be scheduled until the student has had a paper submitted for publication (see section 4.4.7 for restrictions on the paper) or before he/she has been officially admitted to candidacy (see section 4.9). The paper fulfills the requirement for the written portion of the comprehensive examination and the exam is allowed to take place at the submission stage to avoid delays from the peer review process. However, a copy of the submitted manuscript will be submitted to the Graduate Director's office prior to the announcement of the Comprehensive Examination. Proof of acceptance or publication will be required before the student is cleared for graduation (see section 4.11).

As part of the comprehensive examination, the student will be required to orally defend the publication and answer questions related to the paper.

If a student fails the comprehensive examination, the committee, at its discretion, can recommend the student transfer to the M.S. program or can reschedule a new examination for a future date not earlier than 30 days and not later than 120 days after the examination. If the student fails the second examination, then he/she will be terminated from the Ph.D. program or he/she may be transferred to the M.S. program. The latter requires the approval of the Dissertation Committee.

The results of each Comprehensive Examination meeting should be filed with the Graduate Studies Office within one week of the defense using the appropriate form (see Appendix). The form must be accompanied by the appropriate program assessment forms, which are submitted by the Thesis Advisor or another faculty member of the student’s Thesis Committee (see section 6).

The comprehensive examination is normally given after the candidate has completed all of the courses required by the Program of Study except those for which the student may be currently registered, but cannot occur earlier than 60 days prior to the Dissertation Defense.

4.11 Completion of Dissertation / Dissertation Defense

A written Dissertation is required of all students in the Ph.D. program. The Dissertation must be reviewed and accepted by the Doctoral Committee members before it can be publicly defended. This review should take no more than 4 weeks. No Dissertation Defense date may be set prior to approval by the committee or before the comprehensive examination has been passed and registered with the Graduate School.
Every Ph.D. student is required to defend his/her Dissertation in public before the Dissertation Committee. This consists of a presentation, a public question and answer period, and a private consultation with the Thesis Committee. This defense must be publicly announced and recorded with the Graduate Director and the Graduate School at least two weeks in advance by submission of:

1. An abstract with the date/time/place of the Dissertation Defense.
2. Proof of acceptance or publication by a refereed journal of the paper used for the written part of the comprehensive exam.
3. Proof of submission of the second paper (see publication requirements, section 4.4.7).
4. Submission of the Dissertation Defense Announcement and Information for Doctoral Commencement (G-DDA) form available through the Graduate School webpage.

The Defense must take place on the Columbia campus and all members of the Dissertation Committee must be present for this event. Participation via videoconference is allowed only for a member who cannot be present at the time of the scheduled Defense. This must be approved in advance by the Graduate Studies Director. Any arrangements for videoconference must be carried out by the student in collaboration with their major advisor.

The student should consult the Graduate School for general Ph.D. regulations and deadlines before his/her defense. The Dissertation Defense should be given no later than 30 days before the date at which the candidate expects to receive his or her degree. Students must be registered for at least one hour of graduate credit in the term in which the Dissertation Defense takes place.

### 4.12 Ph.D. Dissertation Submission

Ph.D. students are required to enroll in at least one hour of Dissertation credit during the semester in which they are to receive their degree.

The Dissertation should be formatted according to the requirements set by the Graduate School (see Dissertation Guidelines at www.gradschool.sc.edu/currentstudents/index.html). In addition, the Department of Earth & Ocean Sciences requires the names of the Dissertation Committee members and the Dean of the Graduate School be listed on the first page under their respective signatures.

The Thesis is read in draft and in final form by the advisor and committee members before submission to the Graduate School for the Dean’s (Graduate School) approval.

Students are required to submit an electronic version of the hardbound Dissertation in identical format as a single PDF file. As a matter of courtesy, it is recommended that the student provides a bound copy of the final version of the Dissertation to each of the committee members, and an electronic copy to the Graduate Studies Office.

### 4.13 Time Limits / Restrictions

After admission, students are expected to make satisfactory and timely progress toward their degree.

Students that have not been enrolled for one full year are ineligible to register for classes. To lift the restriction the student is required to update his/her existing admission through the application of a Change of Status form through the Graduate School.
Following three years of non-enrollment prior to earning the Ph.D. degree, the previous admission of a student to the Ph.D. program becomes invalid. Degree-seeking students wishing to continue must thus re-apply and fulfill the admission requirements in effect at the time of re-application. Upon re-admission, these students are subject to regulations in the current Graduate Studies Bulletin and to the current Departmental program requirements.

Students who fail to graduate within 10 years of their initial registration are automatically withdrawn from the Ph.D. program.

5. Graduate Student Progress Evaluations

In order for the program to ensure that students adhere to program requirements and make timely and satisfactory progress towards their degree, the Graduate Studies Committee will review the progress for M.S. and Ph.D. students annually, toward the end of the spring semester. The review consists of two stages.

(i) Students must write and submit an annual review progress report showing his/her progress in relation to the guidelines of this document (see Graduate Student Annual Progress Report form in the Appendices).

(ii) Following review of the annual progress report, the Graduate Studies Director at his/her discretion may call for a formal meeting with the student and members of the Graduate Studies Committee. If such a meeting is scheduled, this will be conducted without the student’s major professor or any of his/her committee members present.

This review mechanism is intended to make sure students achieve timely and satisfactory progress towards a degree and to address any individual concerns. In addition, such a meeting may be scheduled at the student’s request at any time.

6. Program Assessment

In order to ensure that the graduate program maintains the highest standards, the Department assesses it annually. The mechanisms used for this assessment include a number of processes, such as: (1) statistics on current student progress; (2) alumni post-graduation work placement; and (3) quality and rigor based on committee member evaluations performed at the time of major committee meetings (i.e., Thesis/Dissertation Proposal, Comprehensive Exam, etc.).

All assessments are carried out for the program as a whole and are not associated with individual students’ progress. The program evaluation forms filled in by the committee members are anonymous and are submitted to the Graduate Studies Office by the chair or another faculty representative of the committee after each meeting. Examples of these forms are included in the Appendix.

No outcome of a committee examination / meeting will be recorded without the program assessment forms associated with that meeting being filed.

7. International Students

The Department of Earth & Ocean Sciences has been a host to numerous international students from around the globe. We are lucky to enjoy a multicultural and diverse population amongst our graduate student population and we hope to continue doing so.
The International Programs for Students at USC (www.sa.sc.edu/ips/) is dedicated to providing the services and support needed for international students to pursue their educational goals at USC. Their staff is dedicated to assisting students prior to arrival and throughout their study. All immigration issues are dealt with by that office. Further, they have created an international student handbook (http://www.sa.sc.edu/iss/docs/handbook.pdf) that provides useful information ranging from tips about the university and living in the US to immigration and travel concerns.

International students should be particularly careful to follow the requirements of their specific program as failure to do so may have implications on their immigration status. Further, some immigration requirements may deviate from the minimum requirements (e.g., maintenance of full-time status, etc.) described in this manual. It is the responsibility of each student to ensure that he/she adheres to both academic requirements and to immigration regulations. The advisors of International Programs for Students at USC (http://www.sa.sc.edu/ips/) will be able to clarify any issues that might arise. Their office is in Byrnes Building, Suite 123, 901 Sumter St. (phone: (803) 777-7461, email: iss@sc.edu)

The University of South Carolina requires that international students take an International Teaching Assistant (ITA) assessment before they are allowed to teach or instruct in labs as Instructional or Teaching Assistants. The assessment is carried out by the English Programs for Internationals (EPI) at USC, before the beginning of each academic semester. Students may request an exemption from the ITA Assessment if they are native speakers of English or have other acceptable justifications (e.g., previous experience of teaching in English). All exemptions must be processed by the English Programs for Internationals.

Depending on the assessment, a student may obtain a score in one of the three categories: Satisfactory (85-100), Marginal (75-84) or At Risk (20-74). Students assigned an “At Risk” mark are not allowed to instruct undergraduate students. “At Risk” students are recommended to take a course that aims at improving their communicative competence to perform effectively in undergraduate instructional settings at USC. “Marginal” students are allowed to teach, but it is recommended they take special classes to improve their competence.

8. Graduate Student Travel Grants

Departmental travel funds are available to partially support the presentation of scientific research results by graduate students of the Department of Earth & Ocean Sciences at regional, national and international meetings. Students may request a specific amount of support, but the level of support allotted may vary depending on the number of applicants, availability of funds, and the number of travel grants previously awarded to the applicant. For some meetings, students may be required to help staff at a departmental booth during part of the meeting. Students applying for Travel Grants should be currently enrolled for a minimum of six credit hours. Exceptions apply to students in their final semester of their studies wherein only one credit hour is required.

8.1 Application Deadlines

<table>
<thead>
<tr>
<th>Season</th>
<th>(Travel Period: )</th>
<th>Deadline:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>(September – December)</td>
<td>August 17, 2010</td>
</tr>
<tr>
<td>Spring</td>
<td>(January – May)</td>
<td>December 17, 2010</td>
</tr>
<tr>
<td>Summer</td>
<td>(June – August)</td>
<td>April 17, 2011</td>
</tr>
</tbody>
</table>

Requests for travel support must be submitted before the meeting and by the general deadlines shown above (specific deadlines are published each semester).
8.2 Application Procedure

An application for a travel grant must be submitted to the Graduate Studies Office before the deadline and requires the following items:

1. A completed Graduate Student Travel Fund Award form (available through the Graduate Studies webpage) identifying the professional meeting s/he wishes to attend, the title of the paper, and an itemized estimate of the total travel expenses the student will incur.
2. A copy of the abstract submitted to the meeting. For meetings whose abstract deadlines have not yet passed, a draft abstract is sufficient, but documentation of abstract acceptance is required before funds can be dispersed.
3. Statement of all other sources of support for this meeting and a signed statement from the advisor regarding available funding.

8.3 Travel Grant Awards

The Graduate Studies Director will review travel assistance requests and make recommendations to the Chair of the Department. Students that do not fully adhere to Departmental requirements regarding their Program of Study are not eligible for this assistance. Evidence of funding from other sources is viewed favorably, and students must be in good standing with the department. No reimbursement will be made for expenses until the student submits a formal acceptance letter/email from the meeting organizer and a copy of the abstract. If awarded a travel grant, the student must submit a Travel Authorization (TA) form before the trip and a Travel Reimbursement Voucher (TRV) form after incurring expenses to receive the money awarded.

9. Graduate Student Awards

Graduate student awards provide an opportunity for the Department and University to recognize excellence in M.S. and Ph.D. research, graduate teaching, and excellence in presentation of scientific research to a general university audience.

To this end, the Department of Earth & Ocean Sciences evaluates its graduate students for the following awards and competitions on an annual basis:

1. The Stephen F. Taber Award for Outstanding Doctoral Research
2. The Stephen F. Taber Award for Outstanding Master's Research
3. The Stephen F. Taber Award for Outstanding Teaching
4. Graduate Student Day Oral Presentation Competition
5. Graduate Student Day Poster Presentation Competition

In addition, the Department evaluates Taber student applicants to represent the Department at the university-wide Graduate Student Day competitions: www.gradschool.sc.edu/gsd/index.htm.

Each award is evaluated independently of all other awards. Therefore, a graduate student must be explicitly nominated for each award to receive consideration for that award. Nomination for one award does not imply nomination or consideration for any other award.

To make the award process as fair and objective as possible and to maintain consistency in the process from year to year, criteria and procedures have been established for each of these awards. Students must meet eligibility requirements for each award for which they are nominated or petition for a waiver from the department through a letter of justification submitted to the
Graduate Director. Students granted waivers will be allowed to compete for the award in question. All applicants must be in good standing.

Selection of award winners will be based on the recommendation of one or more selection committees assembled by the Department Chair and the Graduate Director specifically for this purpose according to specific guidelines. These committees will report their recommendations to the Department Chair, who will announce the awards.

The Oral and Poster presentations required by these awards shall be scheduled during the normal departmental seminar series, which may be extended in length on the day(s) of these competitions.

10. Assistantships, Tuition and Fees

Financial support is available to a limited number of students each year in the form of instructional (IA), teaching (TA), and research (RA) assistantships and fellowships. Students are also eligible and encouraged to apply for fellowships through the appropriate federal and private organizations (i.e., NSF Graduate Research Fellowships, US EPA STAR Fellowships, GRO Graduate Fellowships, etc). The Graduate school homepage provides a list of fellowships available to students. More information can be found at: http://gradschool.sc.edu/support/

According to the University of South Carolina regulations (Academic Affairs, ACAF 4.00) “a graduate assistant is a student enrolled in the Graduate School who assists, under faculty, supervision, in the conduct of the University's total education program by providing teaching, research or other services”.

Graduate assistants are expected to devote full-time effort to their studies and their assistantship responsibilities. They are, therefore, discouraged from having additional employment on or off campus, during the term(s) for which they are appointed.

The holder of an assistantship may receive additional aid in the form of a fellowship or traineeship requiring no additional duties.

The Department of Earth & Ocean Sciences, following University and College instructions, has established guidelines (see sections 10.1 and 10.2) for determining minimum salaries and tuition support for graduate students on Instructional Assistantships (IAs) and Research Assistantships (RAs).

The Chair of the Department and Graduate Studies Director review the following criteria to determine whether IAs, TAs and RAs should be renewed:

1. Teaching performance from student evaluations.
2. The graduate studies committee review of IA/TA/RA academic progress.
3. Personal recommendations by the professor of record for courses in which the IA assisted.
4. Performance of research as evaluated by the research professor.
5. Good standing with in the Department of Earth & Ocean Sciences.

10.1 Instructional and Teaching Assistantships

Applicants to the Graduate Program of the Department of Earth & Ocean Sciences are considered for graduate assistantships if requested in their application. Every semester the Graduate Studies office will assess assistantship availability for current and new incoming
graduate students. Graduate students should communicate with their major advisor about their funding needs. Each semester the graduate program requires that the advisors request funding for their students. The students should be aware of this and remind their advisors of their requirements.

All IAs/TAs are required to have completed the Graduate Teaching/Instructional Assistant workshop that is provided by the Graduate School before the start of each academic semester (usually August and January each year). In addition, International Students are required to have successfully passed the International Teaching Assistant (ITA) Assessment (see section 7).

Salaries for all IA/TA graduate students on 20hr/wk appointments during the academic year and associated tuition supplements are determined in collaboration with the College of Arts and Sciences Dean’s Office as part of the annual budgeting process.

Students on IA/TA support are required to be registered for nine credit hours per academic semester and one hour per summer term of employment and should expect to receive tuition support in the form of a supplement. The tuition supplement nominally provides support for nine credit hours per academic semester and one hour per summer term. However, the available support may be adjusted annually by the department based on final tuition levels established by the university. The tuition supplement is established by the Department as a credit with the Bursar’s Office against which tuition will be charged each semester. Students are responsible for any portion of their tuition not covered by the assistantship. Fees are assessed by the University and are the responsibility of the student.

The salary level for full IAs and TAs is set by the Dean of the College of Arts and Sciences and will be announced by the Graduate program at the beginning of each academic year. Any reduction in IA salary below that defined for a full-time IA will carry a proportionally reduced workload and tuition supplement.

Departmental IA and TA funding is limited to a total of four academic semesters for a M.S. student and eight academic semesters for a Ph.D. student. Summer support is usually provided through RAs from research grants by individual faculty.

M.S. students in their 5th or later academic semester and Ph.D. students in their 9th or later academic semester can petition the Graduate Studies Director for IA or TA support. Such petitions will be considered under exceptional circumstances and subject to satisfactory academic performance and availability of funds.

10.2 Research Assistantships

Research assistantships are provided only by individual faculty through research grants that are administered by the Office of Sponsor Awards Management (SAM) at USC.

The minimum salary for a full-time RA (i.e., 20hr/wk appointment) should be the same as the established IA salary. A reduction in salary will carry a proportionally-reduced workload.

Graduate students on RA support will be provided with a tuition supplement through the grant funding their salary. Students on RAs are required to take the minimum load mandated by the Graduate School (i.e., six hrs/semester) and should expect to receive tuition support from the grant at least for the minimum load. The tuition supplement is established by the Department as a credit with the Bursar’s Office against which tuition will be charged each semester. Students are responsible for any portion of their tuition not covered by the assistantship. Fees are assessed by the University and are the responsibility of the student.
10.3 Outside Funding

According to University of South Carolina regulations (Academic Affairs, ACAF 4.00), graduate assistantships or internships funded by nonprofit organizations of State agencies other than USC are subject to approval by the Dean of the Graduate School. Students appointed to such positions will work for the sponsoring organizations, but will be under the general supervision of the department and their duties should be related to their academic programs. Graduate assistantships funded by organizations external to the University are considered to be grants and are administered by the Office of Sponsored Awards. These appointments must be approved in advance and must include funds to cover a portion of, or all, of a student’s tuition. Any portion of the tuition not covered by the external sponsoring agency must be paid by the student.

10.4 Tuition Rates

For the most recent tuition and fee rates, students are directed to the Office of the Bursar web page (http://www.sc.edu/bursar/studentfees.shtml).

The Bursar’s Office considers a student enrolled in 12 hours or more to be full-time for tuition and fee purposes. However, the Graduate School and the Department of Earth & Ocean Sciences consider a student with a graduate assistantship enrolled in six hours or more to be academically full-time. The Department of Earth & Ocean Sciences requires all students with a full IA to be registered for nine credit hours.

Students working on an assistantship during summer must register for a minimum of one credit hour and a maximum of four credit hours.

Students are not allowed to hold outside jobs while receiving support from the Department of Earth & Ocean Sciences, and all students are encouraged to maintain full-time residence, including summers, while pursuing their degrees. Provisions are made for students carrying out their research at remote sites so they can maintain continuity in the program and residence requirements of the University.

10.5 University Fees

In addition to tuition, Graduate Students must pay: (1) the Student Health Center Fee, (2) the Subsidized Insurance Fee, (3) the Technology Fee, (4) the Matriculation Fee (applies to new students only) and (5) the international student enrollment fee (only for international students requiring a visa). These fees are in addition to tuition charges and are not covered by the tuition supplements received by students with an IA, TA or RA. Current University fees are shown in the Appendix, but are subject to change. Students should confirm with the Office of the Bursar’s web page (http://www.sc.edu/bursar/studentfees.html) for the most recent information concerning tuition and fees.

10.6 Health Insurance

Enrollment in the University-sponsored health insurance plan is mandatory for all (1) international students, (2) graduate students with instructional or research assistantships, and (3) graduate students taking nine or more credit hours. Students who demonstrate that they have a qualifying policy from another health insurance plan may elect to waive the mandatory plan. Part-time students (less than nine hours) are eligible to purchase the University-sponsored health insurance plan, but enrollment is not required.
Information on health insurance and other university student health services can be found on http://www.sa.sc.edu/shs/ More up-to-date information on health insurance coverage and rates can be found on: https://www.pearceandpearce.com//PearceSite/Schools/SC/usc/Default.asp.

11. Access to Graduate Student Records

Each enrolled student or former student may inspect and review official, non-confidential educational records or files directly related to that student. Standard procedures for access to student records are on file in the Main Departmental office.

In lieu of the standard procedures, students may obtain certain types of information contained in their records by making inquiry through the Graduate Studies Committee or the student’s major professor. Such inquiries should be limited to specific information such as dates or grades, or establishing the presence or absence of pertinent materials. Information otherwise inaccessible to the student will not be communicated to him/her through such an inquiry.

12. Appeal Process

Decisions of the Graduate Studies Committee and / or the Graduate Studies Director can be appealed to the Chair of the Department. The Chair can use an appropriate standing committee, or appoint an Appeal Committee to review the appeal. In no case can a faculty member with a vested interest in the issue serve in the appeal review process.

13. Representation on Faculty Committees

A graduate student representative is selected by the Graduate Student Caucus of the Department to attend departmental faculty meetings. The graduate students elect this representative from the graduate student population. The elected representative must have completed at least one year of his/her program and plan to be enrolled for the entirety of his/her term. He/she serves as the official voice of the graduate student body on these committees. Matters of general concern are voiced to the faculty through the representative.

14. Concurrent Enrollment

The Graduate School offers dual degree programs in certain areas to permit student’s to work on degrees concurrently. Students enrolled in a graduate degree in the Department of Earth & Ocean Sciences can petition the Graduate Studies Director for permission to enroll in a second degree. The petition should be formally in writing and should include the following information:

(1) Relevance, if any, to the student’s current graduate program of studies in Geological Sciences
(2) Explanation on how the additional workload will impact progress on the current graduate program of studies (e.g., would this delay the expected graduation time? etc.)
(3) Letter of support from the Research Advisor
(4) Support of the student’s Thesis/Dissertation Committee

Permission to enroll in a second degree program will not be granted to students that are not fulfilling all requirements related to their Program of Study.
Students concurrently enrolled in M.S. or Ph.D. programs are required to submit an individual Program of Study for each degree program and no more than nine semester hours may be common to two or more programs of study.

15. Course Registration, Change of Schedule, Refund of Fees

Registration for graduate courses is conducted via VIP (http://vip.sc.edu), USC's Visual Information Processing site. VIP can be used to register, change your schedule, check your fees, view and print out your class schedule, apply financial aid and scholarships to your bill, pay your fees via VISA/MasterCard/Discover Card or Electronic Check Transfer (ECT), or check the status of your financial aid application.

If you experience registration problems while using VIP, call the Office of the University Registrar at 777-5555 during business hours (8:30 a.m.-5:00 p.m.), or send an e-mail to the Office of the University Registrar by going to http://registrar.sc.edu/. If you experience problems related to fees and/or fee payment, call the Bursar's Office at 777-4233 during business hours (8:30 a.m.-5:00 p.m.).

Changes in schedule can occur only within specific periods after the start of a semester. These deadlines are published by the University Registrar's office in the Academic and Refund calendar (see http://registrar.sc.edu/html/calendar/default.stm). Usually the last day to drop/add is within a week or less after the start of the session. If a grade (including W) is assigned, then the student is responsible for any charges that might occur. In order, to avoid charges, students are strongly recommended to consult with the registrar's office before making any schedule changes. The guidelines for refunds are published in the Graduate Bulletin (http://www.sc.edu/bulletin/grad/GFees.html) and it is the responsibility of the student to be aware of all relevant information.

The Graduate program does not provide advice or intervention in the matter of billing on behalf of the students, except in the event that an erroneous charge was the result of an administrative error of this office. In such cases, the student should request correction by applying in writing to the Graduate Studies Director.
APPENDICES
Tenured & Tenure-Track Faculty in the Department of Earth & Ocean Sciences

Dave Barbeau, Ph.D.
Associate Professor
Clastic sedimentology, Tectonics & Sedimentation, Basin Analysis

Claudia Benitez-Nelson, Ph.D.
Professor
Biogeochemistry, Chemical Oceanography

Michael Bizimis, Ph.D.
Assistant Professor
Geochemistry

Subrahmanyam Bulusu, Ph.D.
Associate Professor
Satellite Oceanography, Physical Oceanography, Air-Sea Interaction

Arthur D. Cohen, Ph.D.
Professor
Organic Sedimentology, Palynology and Coal Research

James N. Kellogg, Ph.D.
Professor
Applied Geophysics

Camelia C. Knapp, Ph.D.
Associate Professor
Seismology, Exploration Geophysics, GIS

James H. Knapp, Ph.D.
Professor
Geophysics, Tectonics, Petroleum Geology

Venkat Lakshmi, Ph.D.
Professor
Surface Hydrology

Thomas J. Owens, Ph.D.
Professor
Seismology and Lithospheric Processes

Howie Scher, Ph.D.
Assistant Professor
Paleoceanography

Robert C. Thunell, Ph.D.
Professor
Paleoceanography, Deep Sea Sediments

Raymond Torres, Ph.D.
Associate Professor
Surface Processes, Hydrology and Geomorphology
George Voulgaris, Ph.D.
Professor
Coastal Processes, Sediment Dynamics, Oceanography

Scott White, Ph.D.
Associate Professor
Marine Geology and Geophysics

Alicia M. Wilson, Ph.D.
Associate Professor
Groundwater Hydrology

Sasha Yankovsky, Ph.D.
Assistant Professor
Physical Oceanography, Coastal Dynamics

Gene Yogodzinski, Ph.D.
Associate Professor
Petrology and Geochemistry
**Breadth Requirement Courses**

**Solid Earth Breadth Requirement:** GEOL 725 or 735

**Ocean and Hydrologic Sciences Breadth Requirement:** GEOL/MSCI 711 or 781 or 782 or GEOL 770

**Data Analysis Breadth Requirement:** GEOL 755 or 758 or 783

The Graduate Director will assure that at least one course from two of the three groups is taught each year, and at least one course from each group is taught every two years.

**Course Descriptions**

**GEOL 725 – Internal Earth Processes (4)** Structure and dynamics of the earth’s interior and the lithospheric cycle. The goal of the course is to provide students with an understanding of the processes occurring inside the Earth, and the skills necessary to evaluate the complex feedbacks that control these processes.

**GEOL 735 – Regional Tectonics (3)** Integrated analysis (from both model and case history approaches) of the regional structural geology of selected classic areas and analysis of the interaction of tectonic and sedimentary processes in the production of the sedimentary sequences.

**GEOL/MSCI 711 – Paleoclimatology (3)** An overview of Earth’s climate history during the Cenozoic. Emphasis will be placed on Pleistocene glacial-interglacial climate variability and understanding the proxies used to reconstruct past climate changes.

**GEOL/MSCI 781 - Physical Oceanography (3)** Geographic and hydrodynamic aspects of oceanography, with emphasis on estuaries. Physical properties of seawater and theories and methods involved in ocean currents, air-sea interaction, waves, and tides.

**GEOL/MSCI 782 - Chemical Oceanography (3)** Chemical characteristics of seawater, distribution of properties, and chemical processes in the oceans, with emphasis on estuaries.

**GEOL 770 – Groundwater Geology (3)** The evaluation of aquifer characteristics by flow nets, Theis equation and graphic solution technique for water table and artesian conditions. Methodology of pumping tests and data collection. Prediction of aquifer response through time. Analog and computer analysis and interpretation of data.

**GEOL 755 – Environmental Measurement and Analysis (3)** A field and laboratory course designed to acquaint students with basic techniques needed to measure and analyze various biotic and abiotic environmental parameters in estuarine and shallow water habitats.
GEOL 758 – Analysis of Geological Data (3) Principles used in processing, smoothing, correlating and contouring geological data and simulating geologic processes.

GEOL/MSCI 783 – Oceanographic Time Series Analysis (3) Techniques in the analysis of oceanographic data sequences, including filtering techniques, fast Fourier transforms, and empirical orthogonal functions.
M.S. Program – Thesis Proposal Form

MEMORANDUM

TO: Graduate School
VIA: Raymond Torres, Graduate Studies Director, Department of Earth and Ocean Sciences
FROM: M.S. Thesis Examination Committee

This is to certify that ____________________________________________, passed / failed / other (see note) his/her M.S. Thesis Proposal Presentation

Exam on __________________, 200__

Note (if applicable):
______________________________________________________________

______________________________________________________________

Members of the Examining Committee:

Major Professor/Research Director
Signature

Committee Member
Signature

Committee Member
Signature

Committee Member (If necessary/desired)
Signature

Note: After committee members sign above, return this form to the Student Services Office, Room 108, PSC.

M.S. Thesis Proposal Presentation
M.S. Program – Thesis Defense Form

MEMORANDUM

TO: Graduate School
FROM: Raymond Torres, Graduate Studies Director
Department of Earth and Ocean Sciences

This is to certify that ____________________________________________

(PRINTED NAME)

___________________________________________________________,

(successfully passed his/her M.S. Thesis Defense/Comprehensive

(SSN#)

Exam on __________, 200___. The Thesis is entitled: ____________________________

(DATE)

(PLEASE PRINT)

___________________________________________________________.

Members of the Examining Committee:

(Please print names below) (Please use signature below)

Chairperson

Signature

2nd Reader (Committee Member)

Signature

3rd Reader (Committee Member)

Signature

4th Reader (Committee Member if necessary/desired)

Signature

NOTE: After committee members sign above, return this form to the Student Services Office, Room 108, PSC.

M.S. THESIS DEFENSE / COMPREHENSIVE EXAM

UNIVERSITY OF SOUTH CAROLINA • COLUMBIA, SOUTH CAROLINA 29208 • 803/777-4506 • Fax 803/777-6610

MAINTENANCE OF EQUAL OPPORTUNITY INSTITUTION

B-2
Ph.D. Program – Thesis Proposal Form

MEMORANDUM

TO: Graduate School
VIA: Raymond Torres, Graduate Studies Director, Department of Earth and Ocean Sciences
FROM: Ph.D. Thesis Examination Committee

This is to certify that ______________________, passed / failed / other (see note) has her Ph.D. Thesis Proposal Presentation Exam on __________________, 200__

Note (if applicable):


Members of the Examining Committee:

Major Professor/Research Director __________________________ Signature __________________________

Committee Member __________________________ Signature __________________________

Committee Member __________________________ Signature __________________________

Committee Member (if necessary/desired) __________________________ Signature __________________________

Note: After committee members sign above, return this form to the Student Services Office, Room 108, PSC.

Ph.D. Thesis Proposal Presentation
Ph.D. Program – Comprehensive Examination Form

MEMORANDUM

TO: Graduate School

FROM: Raymond Torres, Graduate Studies Director
Department of Earth and Ocean Sciences

This is to certify that ____________________________,
(PRINTED NAME)
______________________________________________, successfully passed his/her Ph.D. Comprehensive Examination
(SSN#)
on ____________________________, 200__.

Note (If applicable): _________________________________.

Members of the Examining Committee

(PLEASE PRINT NAMES BELOW) (PLEASE USE SIGNATURE BELOW)

Major Professor/Research Director	Signature

Committee Member	Signature

Committee Member	Signature

Outside Committee Member	Signature

After committee members sign above, return this form to the Student Services Office, Room 108, PSC.

Ph.D. COMPREHENSIVE EXAM
MEMORANDUM

TO: Graduate School

FROM: Raymond Torres, Graduate Studies Director
Department of Earth and Ocean Sciences

On ____________________, 200____, we, the undersigned, examined ____________________________
__________________________________________ to determine the character

(PRINTED NAME)  (SSN#)

and qualifications of his/her dissertation leading to the Doctor of Philosophy Degree. We report that he/she successfully passed.

The Dissertation is entitled: ____________________________________________________________

(Please Print)

Members of the Examining Committee:

(PLEASE PRINT NAMES BELOW)  (PLEASE USE SIGNATURE BELOW)

Chairperson ____________________________ Signature ____________________________

2nd Reader (Major Professor) ____________________________ Signature ____________________________

3rd Reader (Committee Member) ____________________________ Signature ____________________________

4th Reader (Committee Member if necessary/desired) ____________________________ Signature

NOTE: After committee members sign above, return this form to the Student Services Office, Room 108, PSC.

Ph.D. DISSERTATION DEFENSE
MEMORANDUM

DATE:

TO: Raymond Torres, Graduate Studies Director, Department of Earth and Ocean Sciences

FROM: 

Student Name  
Signature

Major Professor/Research Director  
Signature

The following citation and abstract are submitted to fulfill the peer-reviewed publication requirement for the doctoral degree in Geological Sciences. My dissertation defense is scheduled for ________________, 20__. 

Article Citation: (Please include the following: author(s), year, title, journal name or book title, volume, page numbers).

________________________________________________________________________

Abstract:

________________________________________________________________________

After major professor signs above, return this form to the Student Services Office, Room 108, PSC.

Peer-reviewed Publication Form
Example of form used for Graduate Program Evaluation

Department of Earth & Ocean Sciences
Ph.D. Program Assessment
Ph.D. Comprehensive Exam Survey

1. The Comprehensive exam demonstrated an adequate understanding of fundamental principles and practices related to areas beyond the students specialized area.

   ![4. Strongly Agree](4)
   ![3. Agree](3)
   ![2. Uncertain](2)
   ![1. Disagree](1)
   ![0. Strongly Disagree](0)

Comments:

2. The Comprehensive exam demonstrated an adequate understanding of fundamental principles and practices related to the student’s area of specialization.

   ![4. Strongly Agree](4)
   ![3. Agree](3)
   ![2. Uncertain](2)
   ![1. Disagree](1)
   ![0. Strongly Disagree](0)

Comments:

3. The examination demonstrated knowledge of the applications of appropriate scientific methodology.

   ![4. Strongly Agree](4)
   ![3. Agree](3)
   ![2. Uncertain](2)
   ![1. Disagree](1)
   ![0. Strongly Disagree](0)

Comments:

4. The examination demonstrated the student’s abilities with respect to quantitative problem-solving skills.

   ![4. Strongly Agree](4)
   ![3. Agree](3)
   ![2. Uncertain](2)
   ![1. Disagree](1)
   ![0. Strongly Disagree](0)

Comments:

5. The examination demonstrated knowledge on the application of appropriate experimental/numerical techniques.

   ![4. Strongly Agree](4)
   ![3. Agree](3)
   ![2. Uncertain](2)
   ![1. Disagree](1)
   ![0. Strongly Disagree](0)

Comments:
6. The examination demonstrated the student's knowledge of and ability to use appropriate equipment, including maps, etc.

4. Strongly Agree
3. Agree
2. Uncertain
1. Disagree
0. Strongly Disagree

Comments:

7. The examination demonstrated effective written communication skills.

4. Strongly Agree
3. Agree
2. Uncertain
1. Disagree
0. Strongly Disagree

Comments:

8. The examination demonstrated effective oral communication skills.

4. Strongly Agree
3. Agree
2. Uncertain
1. Disagree
0. Strongly Disagree

Comments:

9. Other Comments:

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<tr>
<th>For Graduate Studies Office Use Only</th>
<th>Survey S/N</th>
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<tbody>
<tr>
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<td></td>
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<tr>
<td>Semester &amp; Year of Student Dissertation Proposal:</td>
<td></td>
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<tr>
<td>Semester &amp; year of Student Comprehensive Exam:</td>
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<tr>
<td>Semester &amp; Year of Student Dissertation Defense:</td>
<td></td>
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<td>Semester &amp; Year of Student Graduation:</td>
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Department of Earth & Ocean Sciences
Ph.D./M.S. in Geological Sciences Graduate Programs
Graduate Student Academic Year Progress Report

PERIOD OF REPORT

SUMMER 20__ To SPRING 20__

1. GENERAL INFORMATION

Student Name:

Semester and Year of admission:

Year in Graduate Program:

Major Professor:

Departmental Dissertation/Thesis Committee Members (if known):

Outside Dissertation Committee Member (for Ph.D. only, if known, name and affiliation):

2 COURSE WORK TAKEN THIS ACADEMIC YEAR

2.3 MAYMESTER / SUMMER I

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<th>Course Name</th>
<th>Credit hours</th>
<th>Final Grade</th>
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Total Credit Hours:

2.4 SUMMER II

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<th>Course Designation</th>
<th>Course Name</th>
<th>Credit hours</th>
<th>Final Grade</th>
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Total Credit Hours:

2.1 FALL SEMESTER

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<th>Course</th>
<th>Course Name</th>
<th>Credit</th>
<th>Final Grade</th>
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</table>
Designation | hours
--- | ---

Total Credit Hours:

**2.2 SPRING SEMESTER**

<table>
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<tr>
<th>Course Designation</th>
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<th>Credit hours</th>
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Total Credit Hours:

**3. SOURCE OF FUNDING**

Please indicate if you were funded as an IA / RA / TA or OTHER if you were supported by your own funding or a fellowship.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Funding Type (IA, TA, RA, Other)</th>
<th>Lab Sections Taught if IA/TA (include days and times)</th>
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<tr>
<td>SUMMER II</td>
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**4. HONORS / AWARDS** (please indicate all honors / awards that you applied, nominated and / or obtained this year.)

**5. SEMINARS / MEETINGS ATTENDED** (give locations and dates)

**6. PRESENTATIONS GIVEN** (give titles, authors, locations and dates)
7. ABSTRACTS PUBLISHED or SUBMITTED (give titles, authors, journals and dates and indicate if peer reviewed or not)

8. PAPERS PUBLISHED or SUBMITTED (give titles, authors, journals and dates and indicate if peer reviewed or not)

9. Please give actual and/or expected dates of the major meetings with the Dissertation/Thesis Committee as required by the program

<table>
<thead>
<tr>
<th>Committee Meeting/Action</th>
<th>Date Carried Out</th>
<th>Date Expected to be carried out</th>
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<tbody>
<tr>
<td>Ph.D. Dissertation Proposal / Qualifying Examination</td>
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<tr>
<td>Ph.D. Program of Study Submission</td>
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<tr>
<td>M.S. Thesis Defense</td>
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</tbody>
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10. Name and Signature of Advisor acknowledging the contents of the report (Items 1 to 9). You can fill 11 and 12 after you have obtained the signature.

Major Advisor Name:                                     Signature:

11. If you would like to schedule a confidential appointment with the Graduate Director or the Graduate Studies Committee please so indicate and you will be contacted as soon as possible.

Yes          No

12. Comments (Please add any comments you would like the Graduate Studies Office to consider).