UNLV | Department of GEOSCIENCE
University of Nevada, Las Vegas

Guidelines For Ph.D. Students

Department of Geoscience

University Of Nevada, Las Vegas

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1.0 Introduction

This document describes the policies and procedures under which Ph.D. students function within the Department of Geoscience ("the Department"). The Department recognizes that graduate study is much more than the meeting of mechanical deadlines, and the scholarly development of graduate students is of paramount concern to the faculty. Each student's growth is cultivated individually throughout the graduate experience as one attains the foundation, independence, intellectual curiosity, and self-discipline necessary to be a productive scientist. The awarding of the Ph.D. in Geoscience recognizes the achievement of these goals.

1.1 Graduate Program Administration

The Graduate Affairs Coordinator of the UNLV College of Sciences is a valuable contact for navigating graduate school and serves as a liaison with the Graduate College. The coordinator can help answer questions about forms and policies. The current Coordinator's contact information is available on the UNLV College of Sciences webpage (sciences.unlv.edu). The Graduate Program in the Department of Geoscience is administered by 1) A Graduate Admissions Coordinator, who's responsibility is to oversee student inquiries about graduate school in the Department and the admissions process, and B) the Graduate Program Coordinator, who's responsibility is to guide students through the regulations of their graduate program in the Department at UNLV. The two graduate coordinators are typically Graduate Faculty members in the Department of Geoscience.

1.2 Graduate College Policies

The UNLV Graduate College sets forth policies and deadlines in the Graduate College Catalog, which governs all graduate students at UNLV. New graduate students will follow the edition of the Graduate Catalog current for their year of entrance to UNLV. With Department and Graduate College approval, the Graduate Catalog in effect during the semester in which degree requirements are completed may be used. In addition, the Department of Geoscience has developed the following guidelines, which are in some cases more rigorous and rigid than those of the Graduate College. These guidelines were generated in order to establish a framework that will assure uniformly high standards throughout the Department and to permit the best possible education for Geoscience Ph.D. students. Each student is obligated to be aware of both sets of policies and to review them periodically so that they are followed to the best of each student's ability.

1.3 Petitions For Departures From The Rules

It should be understood that the policies of both the Graduate College and of the Department are somewhat flexible and written petitions for exceptions may be submitted for special cases in which extenuating circumstances occur. However, petitions for departures from the rules and guidelines must be approved in writing by the advisor, committee, Graduate Program Coordinator and Department of Geoscience Chair. The Petition must also be approved by the College of Science and Graduate College Deans. Use the UNLV Graduate College Appeal Form available on their website. If the petitions are granted, the policies may be modified, but students should not and can not rely on

such a mechanism to circumvent the regulations. Questions regarding any of the policies can and should be addressed by the student's advisor, the Department Chair or the Department Graduate Program Coordinator. If the information provided by these sources within the Department is not satisfactory, Ph.D. students should make an appointment with either the Dean or Associate Dean of the Graduate College in order to have questions answered. Do not rely on hearsay information: see it in writing.

1.4 Useful Resources

Students are responsible for their own graduate education, and are expected to consult all relevant rules and regulations available at UNLV and in the Department of Geoscience. Below are some useful links that include policies and procedures relevant to Graduate School. As web addresses frequently change, the student should stay up to date with the most recent sites, and is responsible for contacting the relevant offices directly.

1) UNLV Graduate College: http://graduatecollege.unlv.edu
2) Apply Yourself (AY): https://webcenter.applyyourself.com
3) UNLV Department of Geoscience web page: http://geoscience.unlv.edu/
4) College of Sciences: http://sciences.unlv.edu
5) MyUNLV for course registration: my.unlv.nevada.edu
6) Financial Aid and Scholarships: http://www.unlv.edu/finaid
7) Graduate and Professional Student Association (GPSA): http://gpsa.unlv.edu/
8) Office of Student Conduct: http://studentconduct.unlv.edu.
9) Office of International Students and Scholars (OISS): http://www.unlv.edu/iss

2.0 Admissions to the Geoscience Ph.D. program

The establishment of standards of admission to graduate programs at UNLV is largely the responsibility of the Graduate College. Therefore, Ph.D. students should refer to the appropriate general section in the Graduate Catalog, but also be cognizant of the introductory section to Geoscience. The Graduate College receives the credentials of applicants and the Department recommends that an applicant either be denied admission or admitted with one of the following classifications: (l) Full Graduate Standing, (2) Graduate Provisional, (3) Conditional Admission, and (4) Non-Degree Seeking Student. For either of the first two classifications there may be deficiencies listed or graduate course work specified. Transfer PhD students must defend a proposal and pass the comprehensive exams at UNLV.

2.1 Admission Requirements

Review of applicants for admission includes evaluation of previous grade point average (GPA), courses taken, Graduate Record Exam (GRE) General Test scores, letters of recommendation, and students' statements of interests. The Department generally requires a grade point average of "B" or better for admission with graduate standing. Students with less than a "B" average may be admitted if supporting data (letters of recommendation, Graduate Record Examination, publications, etc.) are sufficiently strong. GRE General Test scores should be average or better and letters of recommendation should be positive. Applicants must have completed a Bachelor's Degree in Geoscience or a related discipline.

The requirements for admission without deficiencies are listed in the Graduate Catalog (at graduatecollege.unlv.edu). The Geoscience Department requires that, at minimum, the student has taken at least six of the following eight classes or their equivalent: GEOL 220/221 Mineralogy/Optical Mineralogy, GEOL 301, Fossil Record, GEOL 330 Geochemistry, GEOL 333 Geomorphology, GEOL 341 Structural Geology, GEOL 348 Field Geology I, GEOL 426 Igneous and Metamorphic Petrology, and GEOL 462 Stratigraphy and Sedimentology. In addition, a student must have taken an introductory geology class or they may be required to attend GEOL 101 lectures and serve as a Teaching Assistant (T.A.) for GEOL 101 after admission. A student also must have taken at least 22 semester credits in supporting sciences, which include Chemistry, Computer Programming, Mathematics (Calculus or a higher level), Physics and Statistics.

The admissions recommendation made by the Department to the Graduate College may be rejected if it is judged to conflict with Graduate College standards. Students with a field(s) of interest that is consistent with a field of research emphasized by a departmental faculty member will be considered for admission, if that discipline currently does not have enough participating graduate students to be considered filled.

In order for a currently admitted graduate student to change from one department to another department or program, the student must submit a new application for admission, the required application fee, and all necessary credentials to the Graduate College. Upon admission, the student must withdraw in writing from the original department.

2.2 Admission Contingencies

Conditional Admission is given when additional admission materials are needed. It is the student's responsibility to comply with the terms of admission. Admission contingencies vary with each student and many students have none. The Department and Graduate College must receive all materials required at the time of matriculation no later than the end of the first semester. Progress toward completion of deficiencies noted at the time of matriculation should start in the first semester and be continuous until completed. Deficiencies must be completed as soon as possible. Questions should be addressed to the Department's Graduate Admissions Coordinator. Students must make their potential advisor aware of admission conditions.

2.3 International Students

The Office of International Student and Scholars (OISS) at UNLV provides expert help on navigating visa and other issues. International students in the Department of Geoscience should work closely with the OISS, their faculty advisor, and the Graduate Admissions and Program Coordinators to ensure a smooth transition into UNLV Department of Geoscience graduate program.

3.0 Financial Support

3.1 Introduction

Financial support may be obtained from a variety of sources: (1) Assistantships granted by the Graduate College upon the recommendation of the Department, (2) Fellowships and Scholarships awarded by the Graduate College or UNLV, (3)

Fellowships, Scholarships, and Assistantships sponsored by extra-university individuals and organizations that are awarded directly by the Department, Desert Research Institute (DRI) or other institution, (4) grants-in-aid of research awarded by both on-campus and off-campus organizations, (5) Research Assistantships provided to support funded research, and in rare cases (6) student can be admitted as self-funded. New students desiring financial support as a Teaching or Research Assistant must have applications on file in the Graduate College by February 1st in order to be considered for support during Fall semester and students wishing to be supported in Spring semester must have applications on file by October 1st of the preceding year. Continuing students who have already been granted financial support and desire to have their support renewed must notify the departmental Graduate Coordinator. It is the responsibility of the Ph.D. student to follow all guidelines related to their financial support.

3.2 Teaching Assistantships

The Graduate College allocates state-funded graduate assistantships to the colleges, which are then distributed to the departments. Because the Geoscience Department has a small number of these assistantships, positions are commonly used for Ph.D. students teaching in undergraduate laboratory sessions. Once students have applied for the assistantships, it is the responsibility of the Department to recommend to the Graduate College which applicants should receive available positions. The initial award of an assistantship does not assure the recipient of continuous support until a degree is attained. However, the Department attempts to continue support for initially funded Ph.D. students for four academic years under the conditions that a student performs duties satisfactorily, as determined by the student's academic advisor, dissertation committee, or T.A. supervisor (e.g. the GEOL 101 coordinator or class Professor), and maintains satisfactory academic progress, and as long as the department has positions and funds. The expected performance of Graduate Assistants is described subsequently. See the Graduate Catalog for additional guidelines on assistantships.

3.3 Fellowships

At present all UNLV fellowships available to Ph.D. students are awarded by the Graduate College and the UNLV President's Office. Applications are typically due in the Graduate College or President's Office around February 1st. Students who receive these awards usually have a 3.5 minimum GPA, high scores on the GRE and strong letters of support from faculty. If awarded a fellowship, a student receives a full academic-year stipend and tuition waiver, must enroll for at least 9 credit hours each semester of the Fellowship year, and must devote full time to academic studies. Additional guidelines for fellowships are listed under Scholarships in the Graduate Catalog and on the UNL V web pages. The Department currently awards the Faye and Jack Ross Family Fellowship to exceptional Ph.D. students.

3.4 Research Assistantships

Typically these positions are funded by extra-university agencies, such as the National Science Foundation, through grant applications by Geoscience faculty members, but are administered through the Graduate College. The duties are controlled directly by the grantee, usually a graduate faculty member. The grantee and the Graduate Program

Coordinator review graduate applicant files and the work of continuing students in the field of interest and select whom to award the positions. These positions carry the same rules and regulations as Teaching Assistantships, but the type of work required depends on the research project. The student is directly responsible to the grantee whether in the Department or at research units such as DRI. Students working as Research Assistants may be fortunate enough to work directly on their dissertation project but commonly may work on research not directly related to their dissertation. Because of the uncertainties of extra-university funding, Research Assistantships may be granted on a semester-by-semester basis. See the Graduate Catalog for more guidelines.

3.5 Other Financial Support

Funding is available from a variety of other sources to supplement student income and to defray some of the costs of dissertation research and preparation. Students may apply for scholarships through the Graduate College. Students must submit the FAFSA form to Financial Services each year in order to be considered for these scholarships. The UNLV Graduate and Professional Student Association (GPSA) awards grants-in-aid of research twice a year. Students must contact the organization directly. Additional forms of financial aid are listed in the Graduate Catalog.

Additional sources of funding, to which students may apply, include those from Sigma Xi, the American Association of Petroleum Geologists (AAPG), the Society of Sedimentary Geology (SEPM), and the Geological Society of America (GSA), all of which award grants-in-aid of student research in Geoscience. The student should independently seek information regarding these applications from on-line resources. Many of them require a short proposal regarding the project and deadlines occur throughout the year.

Scholarship money is also available within the Department. These awards are typically given to students in the earlier stages of their program (i.e. approximately initial 2-3 years for Ph.D. students) and are intended primarily to support fieldwork and data collection phases of research. Award of these scholarships is based on a balance of academic performance, research progress and financial need. Scholarships are designed to provide partial support; students are expected to also pursue other funding. To be eligible for one of these scholarships, a Ph.D. student must file a departmental application and have filed a FAFSA with financial services. Other requirements are spelled out on the application form. For questions related to scholarships communicate directly to the faculty chair of the committee. The deadline for applying is approximately November 6 for the following year.

4.0 Academic Policies

4.1 Graduate Student Responsibilities For Deadlines And Forms

The Department of Geoscience adheres to the academic policies outlined in the Graduate Catalog and each student should be thoroughly familiar with them. Further, students must adhere to the Department of Geoscience Ph.D. policies and guidelines as described in this document. It is the student's responsibility to be informed of and to meet all deadlines for forms and exams, and to fulfill all degree requirements. The Graduate College maintains an online Calendar containing relevant dates. Students will be dropped

from the program and separated from the Graduate College if they fail to fulfill these requirements.

4.2 Adherence to Student Academic Misconduct Policy

A key policy that all graduate students in Geoscience must adhere to is the current Student Academic Misconduct policy available on the website of the Office of Student Conduct. Students must understand and accept the Student Academic Misconduct policy, and adhere to it at all times. This adherence includes in all drafts of the proposal and dissertation: there are no circumstances in which the student can waive adherence to this policy. Failure to adhere to this policy may result in disciplinary action, including and up to separation from the program, even if the infraction is claimed to have been unintentional.

4.3 Required And Expected Performance Of Graduate Assistants

Details regarding Graduate Assistantships (Teaching and Research Assistantships) are outlined in the Graduate Catalog, and students are responsible for knowing the requirements and expectations. Graduate Assistants are required to begin work from one week prior to the start of Fall classes through the end of Fall semester final exam week, and from the day after the New Years holiday through the end of Spring semester final exam week. Graduate Assistants should expect to work on average 20 hours per week.

New Graduate Assistants are expected, as part of their contractual obligations, to attend all orientation events that pertain to them (the Graduate Program Coordinator will notify them in advance). These sessions are offered at the beginning of each fall semester. Also, helpful suggestions sometimes can be obtained through the GPSA. If a student is supported as a Teaching Assistant they must keep in contact with the professor in charge of the assigned class and with the Graduate Program Coordinator of the Department who may assign additional tasks within the scope of the T.A. position. Research Assistants must contact the graduate faculty member in charge of funding the assistantship. Research Assistants are guided by the same rules and regulations as Teaching Assistants, and consequently they may be asked to perform departmental duties as well as research.

Graduate Assistants, in particular Teaching Assistants, are expected to act professionally while representing the Department of Geoscience and UNLV. Failure to act professionally could result in an unsatisfactory semester evaluation. Examples of professional behavior including arriving on time to all classes and teaching assignments, presenting a professional demeanor and appearance, professional use of NSHE facilities and resources, and providing full attention to students and to the assistant's contractual obligations.

4.4 Course Grades

Satisfactory progress includes maintaining a minimum of a 3.00 GPA in all graduate- level courses. One grade of B- is permitted in the courses listed on the Degree Program as long as the overall graduate GPA remains at or above 3.00. A B- is permitted in the Ph.D. program, because Ph.D. students are encouraged to take graduate-level classes outside of their main subject area as well as outside of Geoscience. Receiving two grades of B- or one grade of C+ or lower will place a student on academic probation even

if the GPA remains above 3.00. The student will be removed from probation when the C+ or one B- is replaced with a B or higher grade in that course or that course is replaced on the degree program with a course having a grade of B or better, providing the GPA remains above 3.00. Receiving two grades of C+ or lower during the period of Ph.D. study will be grounds for automatic separation of the student from the Ph.D. program.

Any grade of incomplete received by a Ph.D. student must be completed within one semester or the student will be put on probation. If there are extenuating circumstances, an extension may be received in writing from the Graduate Coordinator or the chair of the department, with approval of the Graduate College.

4.5 Student Evaluations

The graduate faculty members of the Department of Geoscience review each Ph.D. student, and the students and their advisor receive an evaluation from the Graduate Program Coordinator after the end of each semester. The objective of these semester reports is to acknowledge significant honors and awards, recent research advances, and to convey to the student their overall progress as a graduate student and GA. Every student is individually notified regarding his or her progress in the Ph.D. program. Students should be familiar with both the Graduate College and the Departmental policies that the faculty will follow in making their decisions. Any incomplete tasks/classes or unsatisfactory remarks must be addressed.

Evaluation of a student's progress is in the following areas: contingencies/deficiencies at the time of matriculation; filing of a degree program, committee form and dissertation prospectus with the Graduate College; filing a dissertation proposal with the department; course grades; dissertation work; performance on the comprehensive exams; and performance as a Graduate Assistant, if funded. Specifics regarding each of these topics are contained in the following sections of this document.

If a student is making unsatisfactory progress, the student may be separated from the program or put on probation. The problems or requirements stated in the letter to the student must be corrected or fulfilled during the first semester of probation. If they are not, or if there is further unsatisfactory progress during any subsequent semester, the student will be placed on a second semester of probation during which time the student is not eligible for an assistantship or scholarship from the department or university. If, at the end of the second semester of probation, the student's progress remains unsatisfactory, then the student will be separated from the program.

If a student regards the faculty's decision or treatment as unjust, a request may be made of one's advisor, the department chair, or the Graduate Coordinator to call a meeting of the graduate faculty. The student will present the case in writing to the faculty one week prior to the meeting and may choose to be present at the beginning of the meeting for discussion of the situation. The graduate faculty members will deliberate the case without the student being present and, within one week, render their decision in writing. If a student continues to reject the faculty's findings, a grievance may be pursued through University channels. Additional guidelines on Probation and Separation can be found in the most recent version of the online Graduate Catalog.

4.6 General Timeline

Although there is no single time frame for students seeking to complete a Ph.D., a typical doctoral student may spend four years (or more) completing the required coursework and research. Therefore, the departmental advisor for each student will strive to provide four academic years of support. During this time the student must be a Teaching Assistant or instructor for at least one semester. The degree must be completed within six years (eight years if the Doctoral student does not have a Master's degree), or credit for course work completed will be lost. Our four-year limit on office space and Ph.D. student funding is a reflection of this four-year program and may be extended only with special permission from the Department Chair, Graduate Program Coordinator, and the student's entire committee. Therefore, if a Ph.D. student is active in the department and is or working on a dissertation, they should enroll in dissertation or dissertation research credit hours every semester following their first. The number of credits should reflect the amount of time the student is working on the dissertation project, the use of university facilities, and advisor's time.

Also, all students (whether full time or part time) must be continuously enrolled in accordance with Graduate College guidelines, as outlined in "Academic Policies" section of the Graduate Catalog. If for some reason the student can not actively participate in course work or dissertation research, or if the student is off-campus on an external Fellowship (e.g. a Fulbright Fellowship), then the student should complete a Leave of Absence form from the Graduate College. As stated in the Graduate Catalog, “during the leave of absence, the student should remain in contact with the Department. However, all degree requirements must be completed within the six- and/or eight- year policy as stated previously in the Graduate Catalog".

Before enrolling for dissertation credit hours, the student's advisor must be consulted to determine the amount and type of work to be completed for a specified number of credits during any given semester. This should be viewed as a contract, and each semester the advisor will judge whether the stated work was completed. If the work was either not completed or was of an unsatisfactory quality, then the student may be placed on probation.

5.0 Degree Progression Procedures

5.1 Upon Admission: Select Dissertation Advisor

New Ph.D. students generally enter the program after consultation with a faculty member who agrees to be the advisor. This person may remain the student's advisor, but the student or the advisor may elect to change this arrangement. Each student should talk to faculty members during the first semester to determine with whom they would like to work, and who wishes to supervise a specific student's research.

During a student's graduate study, the student or the advisor may choose to discontinue the relationship. Depending on the timing or cause for this change, the student may have to also change dissertation topics and resubmit a new dissertation proposal. In this case, the student needs to formally present the new proposal to their committee. Such changes are unusual, but do occur due to illness, sabbatical leave, or other problems. A change of advisor or any member of the committee must be approved by the Department as discussed earlier and submitted to the Graduate College for

approval using the Change in Advisory Committee form. No changes may occur during the final semester of the Ph.D. program, except in case of unforeseen emergencies; a desire to graduate by a particular semester deadline does not constitute an emergency.

5.2 Prior To And During The First Semester

Prior to enrolling for the first semester, Ph.D. students must confer with the consenting advisor listed on their admission form that was chosen based on the student's statement of interest. During the meeting, it will be decided which courses should be taken during the first semester. These should include GEOL 701 and some of the deficiencies or graduate courses that may be listed on the admission form. Students admitted in Spring must take GEOL 701 in their second semester. A Ph.D. student who earned an M.S. degree from the UNLV Geoscience Department is not required to retake GEOL 701. Before the end of the first semester, Ph.D. students must select an advisor who consents to supervise the research.

The doctoral advising committee should be established prior to the end of the 2nd semester. The Ph.D. student and the advisor need to identify additional committee members that will best augment the research requirements. Both breadth and related expertise need to be balanced. The doctoral advising committee will normally consist of the advisor (committee chair); two additional members from the graduate faculty of the Department of Geoscience; a fourth faculty member from UNLV Geoscience, a relevant discipline at UNLV or from outside the university; and a graduate faculty member from another department to serve as the Graduate College Representative. According to the Graduate College, "*The Graduate College Representative is a neutral, outside faculty member with full graduate faculty status who participates on the committee to ensure that all graduate college policies are followed, to make sure that all milestones in the student's progression are met appropriately, and to witness rigor, quality, and fairness throughout the student's culminating experience and defense*."

If the identified faculty members are willing to serve, then the student should have them sign the Appointment of Advisory Committee from the Graduate College. Students must submit the Appointment of Advisory Committee form to the Graduate College before establishing the degree program. The name of the advisor, committee members, and external member must be submitted to the Graduate College. The Graduate College must approve the Graduate College Representative suggested by the student and the advisor. The student should talk to this person and ask to what extent they wish to be involved in the student's program and progress. The Ph.D. student must not ignore this person during the years spent in the graduate program, or there may be repercussions that delay completing the degree.

5.3 During The 2nd Semester

Prior to the end of the second semester after admission to UNLV, Ph.D. students must (1) establish a doctoral advising committee; (2) identify a dissertation topic, (3) meet with the committee for the Diagnostic Interview (described below) to provide recommendations for the Degree Program; (4) submit to the Graduate College an approved Degree Program and Appointment of Advisory Committee Form.

The Appointment of Advisory Committee form must be submitted to the Graduate College not later than the last day of instruction of the 2nd semester of

enrollment (see section on selecting an advisor and dissertation committee). After establishing a committee, the student will schedule a time to meet with all committee members for the diagnostic interview. The purpose of the Diagnostic Interview is to assist new Ph.D. students in identifying any curricular strengths and weakness and set up the degree program, and is described more fully below. The Geoscience Department requires that the Degree Program form be submitted shortly after the Diagnostic Interview and prior to the beginning of the third semester. Students may request a maximum of 15 graduate credits taken at UNLV (9 credits taken at other institutions) prior to admission be included in the graduate Degree Program, providing those credits were not used to fulfill undergraduate requirements and a grade of B (3.00) or higher was achieved.

5.4 During The 3rd Semester

Before the end of the 3rd semester Ph.D. students must prepare a dissertation proposal and satisfactorily pass a Proposal Defense Examination, and submit the Department Proposal Defense Form. The Proposal Defense Examination focuses on the dissertation proposal and the student's ability to perform the research. It includes a formal oral presentation of the student's dissertation proposal, research to date, and questions by the dissertation advisory committee on the dissertation topic. The Proposal Defense Examination is to be taken prior to the Comprehensive Examination, and the student should fill out the Ph.D. Content Comprehensive Exam Form on the Department website. The Graduate College requires that the exam be taken at least three weeks before the last day of instruction of the semester.

A Graduate College Dissertation Prospectus Approval form must be approved and submitted to the Graduate College at the earliest possible date after successfully passing the Proposal Defense Examination. In addition, the complete and revised Dissertation Proposal must be submitted to the Geoscience office after successfully passing the Proposal Exam (see proposal section below).

If a student anticipates consultation with departmental faculty or use of Department facilities to conduct research or for the preparation of a proposal, then he/she must enroll in dissertation credit hours reflecting the amount of faculty time and facility use. Before enrolling for dissertation credit hours, the student's advisor must be consulted to determine the amount and type of work to be completed and to determine the number of credits during the given semester. This should be viewed as a contract, and the advisor will judge each semester whether or not the stated work was completed. Such work will be a criterion used in the evaluation of satisfactory or unsatisfactory progress of a Ph.D. student.

5.5 During The Semester After Completing Coursework

Students will take the Comprehensive Examination the semester after the completion of all required course credits or before the end of the fifth semester, which ever comes first. Required course credits are those courses listed on the Proposed Doctoral Degree Program form. The Proposed Doctoral Degree Program form should not contain significantly more courses than needed to fulfill the minimum number of course credits required. Failure to take this exam prior to three weeks before the last day of instruction of the semester after completing all required course work or the end of the

fifth semester (whichever comes first) can result in the separation of the student from the Ph.D. program.

5.6 During All Semesters Prior To The Final One

Students who hold Graduate Assistantships are required by the Graduate College to register for a minimum of 6 semester hours of credit each semester (see Graduate Catalog); the Department of Geoscience recommends that graduate assistants register for 9 credits, including dissertation credits, each semester. All students who are working on a dissertation must register for 3 semester hours of credit each semester until the document has been completed and has been given final approval (summers excluded). Students are expected to maintain continuous enrollment while working on their degree. According to the Graduate College:

> *"After admission to a graduate program, students must register for and complete a minimum of six hours of graduate degree program credits per rolling three semesters (including summer). Students working on a thesis or dissertation must register for three semester hours of credit each semester (excluding summer), until the document has been completed and has been given final approval."*

The three credits may be dissertation or non-dissertation credits. In rare cases a student may be permitted to complete the thesis in absentia waiving the registration requirement. Students must petition the Graduate College for approval. If approved, the advisor, Graduate Dean, along with the student will determine the requirements for completion of the work. A minimum of 12 credit hours of GEOL 799, Dissertation, is required for graduation.

Important information is available in the "Academic Policies" section of the Graduate Catalog. Students who are not registered for academic work within a calendar year are separated from our program and will need to reapply for admission to the Graduate College should they wish to continue. Exceptions to the above policy, as in the case of a request for a Leave of Absence, are made only in advance with the approval of the student's advisor, Department Chair (or delegate - typically the Graduate Program Coordinator), Academic Dean, and the Graduate Dean.

For Ph.D. students, annual committee meetings are required. Annual committee meetings keep the entire committee apprised of the student's progress, and provide a forum to discuss any potential changes in the plan. The Diagnostic Interview, Proposal Defense Examination, and Comprehensive Examination meetings can be counted as annual committee meetings. For Ph.D. students, satisfactory performance on comprehensive examinations is required. See the section on comprehensive examinations.

5.7 During the Final Semester

A Ph.D. student must (1) apply for graduation and pay fees prior to the deadline listed in the class schedule for each term; (2) allow at least three weeks for the committee to examine the dissertation during Fall and Spring semesters and more for summer defenses (see "Final Examination" section below), prior to scheduling the final

examination (dissertations must be submitted to the committee no less than eight weeks prior to the last day of instruction in the term in which the student will graduate); (3) obtain a written statement from all committee members that they deem the written dissertation defendable: all members of the committee must be satisfied with the dissertation **prior** to scheduling the defense.; (4) schedule the final examination (defense) with the committee; (5) deposit a copy of the defendable dissertation in the Department office at least one week prior to the exam, and notify the faculty of its presence and the date, time, and place of the exam; (6) pass the final examination no later than three weeks before the end of classes; (7) submit two unbound copies of the dissertation (one on high-quality paper) and the information required for GEOREF to the Department office staff; and (8) deposit two signed, unbound copies of the dissertation in the Graduate College two weeks before the end of classes.

Students who are graduating with a Ph.D. are encouraged to participate in the university commencement ceremony. However, you may not participate in commencement prior to completing all degree requirements.

Students are advised to determine these deadline dates, verify them, and mark them on a calendar. Students must be highly organized during their final semester. The most difficult deadlines for most Ph.D. students to meet are (l) the completion of a defendable draft of the dissertation and (2) the completion of the dissertation for deposition in the Graduate College. Students must remember that they are not working on this alone, and are relying on the efforts of five other very busy people: the committee. Therefore, students must discuss plans with the committee early. Read the guidance given above in the Dissertation section.

6.0 Description of Ph.D. Student Requirements

6.1 Diagnostic Interview

For Ph.D. students, a Diagnostic Interview must be conducted. The committee must be established prior to holding the Diagnostic Interview. The purpose of the Diagnostic interview is to assist the advising process for new Ph.D. students and to identify any of the student's curricular strengths and weakness. During this meeting, the student and the committee will determine which courses (Degree Program) the student needs to take in order to achieve success in the student's area of research interest and on the Comprehensive Examinations. The Diagnostic Interview should be scheduled with the committee during the second semester in the program. Generally the earlier this is done, the better. After the student and the committee have established the courses that a Ph.D. student will take, the student must file the Degree Program form. The Degree Program form should not contain significantly more courses than needed to fulfill the minimum number of course credits required.

Ph.D. students must have a basic knowledge in 3 content fields within Geoscience. Knowledge in these areas will be tested during the Comprehensive Examination, so the Diagnostic Interview should take into account the student's background with regards to the areas that will be tested during the Comprehensive Exam. If the structure of a Ph.D. student's committee is not representative of three of these areas, then an additional faculty member must be present during the diagnostic interview to evaluate the student's basic knowledge in that field.

6.2 Ph.D. Degree Program

The Degree Program form outlines the courses the student will complete for the Ph.D. degree. The student, the advisor and the entire doctoral advising committee will design the degree program during the Diagnostic Interview. It is strongly suggested that Ph.D. students establish and submit the Degree Program from to the Graduate College during their 2nd semester. It is required by the Graduate College that this be done prior to completing 16 credits of course work toward the degree (See Graduate Catalog on The Degree Program). The student may make minor changes in the Degree Program with advance approval from the Department and the Graduate College. Any changes in the Degree Program require filing of a Change to Degree Program Form. The Degree Program does not include deficiencies listed at the time of admissions, although a student must take those classes.

A minimum of 60 credits past the baccalaureate or bachelor's degree is required to earn a Ph.D. degree. Students entering the Ph.D. program with an M.S. degree in geology or a related field will be awarded 24 credits toward the Ph.D. Credits taken at another institution will be considered for transfer; however, at least two-thirds of the minimum number of credits required for the degree, not including dissertation credits, must be taken at UNLV. Course selection is based on the student's research objectives and requirements for the Comprehensive Examination. The 60 credits required of those students entering the program with a B.S. degree must include 12 credits of GEOL 799 (Dissertation) and at least 24 course credits at the 700-level. The 36 credits required of those students entering the program with an M.S. degree must include 12 credits of GEOL 799 and at least 12 course credits at the 700-level. In both cases, the 700-level courses must include GEOL 701 unless the student took this class previously at UNLV; remaining courses may be at the 600- or 700-level. Although more course work and dissertation credits may be taken, only 12 credits of GEOL 799, and 48 course credits for those entering the program with a B.S. or 24 course credits for those entering the program with an M.S., will count towards the degree program.

Ph.D. students are encouraged to take courses from outside of Geoscience; however, a minimum of 15 credits must be in Geoscience (GEOL) courses. A maximum of 3 credits of Independent Study (GEOL 793) are permitted, except in special circumstances in which case permission from the doctoral advising committee, the department Graduate Program Coordinator and the Department Chair is required. We strongly recommend that students take at least one class outside their major area of emphasis within Geoscience and encourage Geoscience Ph.D. students to take graduate-level courses outside of the department.

6.3 Annual Committee Meetings

Ph.D. students must meet with their committees on an annual basis. Meetings with the committee for the diagnostic interview, proposal defense, comprehensive and final exams satisfy this requirement. It is strongly advised that if any modifications of proposed work are anticipated at other times during the year (particularly if these changes are major), that a committee meeting be scheduled at the first opportunity, without waiting for the annual meeting. By agreement of the full dissertation committee, the annual meeting may take place via electronic mail, where the student fully informs the committee of progress and the committee has a chance to respond.

6.4 Dissertation Proposal

All Ph.D. students are required to write and defend a Dissertation Proposal, which outlines the scientific problem, hypotheses, and methods to be used. The selection of the research problem is the responsibility of the individual student, not that of the faculty member with whom the student desires to work. However, input from a faculty member is required and students should consider selection of a dissertation topic a collaborative effort. Students are helped through the initial phases of the proposal in GEOL 701 and by working with their advisor. The proposal should be submitted to the student's advisor as early as possible, certainly before beginning the actual project, and well before the end of the student's second semester. While taking GEOL 701 and working on their proposal, students should submit at least one draft of the proposal to their advisor.

The Ph.D. student should file the Dissertation Prospectus Approval form by the end of the second semester. The student will complete a longer dissertation proposal and formally present that to the committee during the Proposal Defense Examination. The complete dissertation proposal must be submitted to the committee at least 2 weeks prior to the date of the Proposal Defense Exam. The student should ask the committee members if they prefer the proposal in digital or printed format; if printed, the document must also be printed in color if it contains color figures, table, or other items. Following the Proposal Defense Exam, a student should revise the dissertation proposal, following the suggestions of the committee members. The revised version of the proposal must be approved by the entire committee. The revised version of the proposal is subject to an open review prior to receiving Department approval. To satisfy this review requirement, the written and committee-approved dissertation proposal must be duplicated and deposited in the Department office for a two-week period excluding holidays and summer after passing the Proposal Defense Exam. The student must notify the Geoscience faculty in writing that the proposal has been deposited for their review. Any faculty member may notify the student's adviser in writing of any suggestions or why the faculty member does not believe the proposal should be approved. If a request for discussion is not received within two weeks, the proposal is automatically approved by the Department. If any individual's objection to a proposal cannot be satisfied through the committee, the objection must be brought before the graduate faculty of the Department.

The adviser and the advisory committee should assist students in writing concise proposals and should consider proposals carefully before endorsing them. The proposal must outline the problem(s) concisely and clearly, with a statement of the problem(s) or hypotheses to be addressed and the importance to the discipline, proposed methods of approach, and expected results or contribution to Geoscience. A dissertation proposal submitted by a Ph.D. student in the Department of Geoscience should normally include a 250 word abstract, and a main proposal body that clearly and concisely defines the problem to be solved and hypotheses to be tested. The text may include preliminary results from the student’s, advisor’s, or others’ work, but should not contain final data sets. A complete proposal will typically consist of 3000 to 6000 words in the main text (exclusive of Figure Legends, tables, and references cited). The text should be double spaced with standard margins, in a readable 10 or 12 point font (e.g. Times New Roman). The proposal should be sufficiently well documented with citations from pertinent literature to assure the faculty that the student is aware of the work of other investigators in the proposed and related fields. The references cited section should be in Geological

Society of America Bulletin format (see guide for authors of GSAB at www.geosociety.org). It is recommended that students use an appropriate citation software package, like RefWorks, available for free through the UNLV Library website, or commercial software like EndNote. Typically, the bibliography of a complete proposal will include at least twenty citations, but fifty or more is common. All proposals must include a realistic budget and time schedule.

The dissertation proposal will likely need to be revised after the Proposal Defense Examination, based on committee concerns, comments, and suggestions. The student must make the suggested proposal changes and submit the revised proposal to the committee. When the committee is satisfied that the proposal is acceptable, they will approve it.

6.4.1 Suggested Format Of Dissertation Proposal

1. Cover Sheet required
2. Abstract - 250 words.
3. Main proposal text:

   The text should clearly contain the following components:

   a. A literature summary outlining the current state of knowledge relevant to the proposed research, including gaps in current understanding and outstanding problem(s) remaining to be solved.
   b. A clear statement of the hypothesis to be investigated or geologic problem to be solved. Simply generating new data that does not solve a geologic problem is rarely enough to justify proposed work.
   c. The significance to the discipline?
   d. A description of how will the hypothesis be investigated or the geologic problem will be solved
   e. Figures pertinent to the proposal, either in-line inside textboxes with legends, or after References cited.

4. References Cited
5. Estimated Budget
6. Estimated time schedule

6.5 Proposal Defense and Comprehensive Examinations

The Department of Geoscience requires the successful completion of two examinations for Ph.D. students prior to advancement to candidacy for the doctoral degree: the Proposal Defense Examination and the Comprehensive Examination. The Graduate College requires a unanimous decision by the committee to pass both exams. Students must be enrolled in the semester in which they take the exams.

The Proposal Defense Examination is usually completed prior to the end of the third semester and must be completed by the end of the fourth semester. However, it is recommended that full-time students take this exam during their second semester. The Graduate College requires that this exam be taken at least three weeks before the end of the semester. Part-time student should take this exam after completing 9 course credits and prior to completing 18 course credits. The Proposal Defense Examination is to be taken prior to the Comprehensive Examination. The Proposal Defense Examination focuses on the dissertation proposal and the student's ability to perform the research. It

includes a formal oral presentation of the student's dissertation proposal (about 25 minutes long), research to date, and questions by the dissertation advisory committee on the dissertation topic. After the committee agrees that the student has passed the Proposal Defense and have made all necessary revisions to the proposal, the committee will sign, and the student will submit, the Department Proposal Defense Form.

The Comprehensive Examination will be taken either the semester after all course work is completed or before the end of the fifth semester, which ever comes first. The format and content of the Comprehensive Examination will be determined by the student's doctoral examination committee, with approval of the department Graduate Program Coordinator. Ph.D. students must have a basic knowledge of Physical Geology and a comprehensive knowledge of three fields of Geoscience listed below. In addition, students must possess greater knowledge and understanding in their area(s) of specialization and related topics. The following non-inclusive list is provided as guidance in selecting fields within Geoscience for the Ph.D. Comprehensive Exam.

6.5.1 Comprehensive Exam Content Topics

- Hydrogeology and hydrology
- Sedimentology and stratigraphy or paleontology
- Paleontology
- Quaternary geology
- Geomorphology and/or surficial processes
- Paleoclimatology
- Soil science
- Structural geology and tectonics
- Igneous and metamorphic petrology
- Geochemistry and/or geochronology
- Economic geology
- Geophysics
- Low temperature geochemistry
- Environmental science

The Comprehensive Examination can be taken either entirely as an oral examination or with both oral and written components. The decision of which of these options to take is decided by unanimous agreement by the student's doctoral advising committee. In the case of non-unanimous agreement, both the oral and written components will be given. The doctoral advising committee will administer the Comprehensive Exam. In cases where the advising committee lacks representation in the three discipline areas that will constitute the exam subject areas, substitution of other graduate faculty of the Geoscience Department will occur. The doctoral advising committee, in conference with the Graduate Program Coordinator shall decide upon any such substitution.

Students who fail to pass either the Proposal Defense or the Comprehensive Examination on the first attempt must successfully complete a second examination (as specified by the doctoral advising committee) within the next six months in order to remain in the program. The basis of evaluation for the repeated exam should be at the same rigorous level as for the first exam. Students who entered the program with a

baccalaureate degree and who fail the second examination may be allowed to continue as a Master of Science student with the consent of the doctoral advising committee. Students who entered the program with a Master's degree who fail the examination a second time will be separated from the program. A student who has successfully passed both the Proposal Defense and Comprehensive Examinations will be admitted to candidacy for the Ph.D. degree.

To schedule these examinations, the student will consult with the committee to establish mutually convenient times; plan far in advance as it may be difficult to find a mutually-acceptable time among all members. For the oral examinations, allow for a four hour period, although the actual duration may be more or less. Also, the student must submit a Dissertation Proposal, approved and edited by the advisor, to the doctoral advising committee at least two weeks prior to the scheduled date of the Proposal Defense Examination.

6.6 Advancement To Candidacy For The Doctoral Degree

A student who has successfully passed both the Proposal Defense and the Comprehensive Examinations and completed at least one half of the Degree Program course work, will be admitted to candidacy for the Ph.D. degree. The Prospectus Approval form must be submitted to the Graduate College to advance to candidacy. The semester/term of the advancement is recorded on the student's official UNLV transcript. In some cases, Ph.D. candidates may be eligible to receive an increase in stipend upon approval of the Advancement to Doctoral Candidacy Application, although such an increase is contingent upon availability of funds and can not be guaranteed.

6.7 Dissertations

Students should download the Guide to Preparing & Submitting a Thesis or Dissertation manual from the Graduate College's web page prior to beginning writing. Each student must follow these guidelines to the letter or the dissertation will not be accepted by the Graduate College. Questions may be addressed to the student's adviser or the Thesis-Dissertation Director at the Graduate College.

Ph.D. students should have extensive discussions with their advisors and possibly their committees before embarking on writing a dissertation; every advisor follows a different procedure depending on the project and the capabilities of the student. Remember that a dissertation need not be a long document. Ph.D. dissertation lengths vary, but a series of articles ready to submit to journals are strongly encouraged. A minimum of three manuscripts that are ready to submit is acceptable. **The writing style of the dissertation should be equivalent to one in a professional peer-reviewed scientific journal.** Recently published articles in disciplinary peer-reviewed international journals should be consulted for format, style, and length (e.g. Bulletin of the Geological Society of America, Journal of Hydrology, etc.); also, completed dissertations can be used as guides, but realize that they are of variable quality and may not always be up to the standards of a peer-reviewed publication. Also recall that the writing style of a scientific dissertation or article is not easily taught in classes; instead emulation of published works is advised, and students should work closely with their advisor and committee to learn appropriate scientific writing style. Extensive reading of the current literature will assist students in their own writing. Further, keep in mind that most

journals charge money for color figures; in many cases it is wise to create the original figures in black and white format.

For guidance, we suggest that students have a completed first draft of the text, figures and tables to the advisor no later than February 1st for May graduation, no later than March 1st for an August graduation, and no later than September 1st for a December graduation. A student's advisor may have read sections of text prior to those dates, but these deadlines are aimed at a completed draft. The advisor should have up to three weeks to read and comment on the student's work. Remember, the faculty members have other teaching and research commitments, and other graduate students. Each student must be prepared to make numerous revisions quickly and return the revised drafts to the advisor until achieving a draft that the advisor deems acceptable to be distributed to the committee members. Remember that the advisor is provided up to three weeks to review each draft submitted. Depending on the advisor's comments, it may be helpful to propose a tentative defense date to all committee members to obtain a realistic view of their schedules; however, **the dissertation must be deemed defendable by all committee member before scheduling and announcing the defense date.** Remember that the committee may require one or more additional rounds of revision of the dissertation before deeming the dissertation defendable, and that up to three weeks is provided to the committee for re-review each revision. Also at this time, the Ph.D. student should advise committee members of progress so the committee can be aware that they may soon receive a draft of the dissertation. Committee members may outline their time constraints to the student (i.e. meetings, field trips, etc.), and the three week period begins when the faculty member is able to begin review. The Graduate College representative committee member may choose to see the first draft or perhaps only the defendable copy: ascertain their input and keep them appraised as appropriate. Any suggested revisions should be discussed with the committee member and advisor. It is the obligation of the committee chair to reconcile differences of opinion with regard to content and organization of the dissertation. This is achieved most constructively through meetings of the candidate with the committee.

The references cited section should be in Geological Society of America Bulletin format (see guide for authors of GSAB at www.geosociety.org). Deviations from the GSAB reference format may be approved in advance by the Dissertation Committee, as for manuscripts to be submitted to peer-reviewed journals with a different reference format. As with the Dissertation Proposal, it is recommended that students use an appropriate citation software package, like RefWorks or EndNote, and some advisors may require such use. Keep in mind that conversion of reference formats between different journal styles is only easy while using such software, and significant time savings will result from using such software.

Students writing a dissertation chapter that is a manuscript to be submitted to a journal for publication must have that chapter reviewed and approved by the dissertation committee prior to submitting the manuscript to the journal. Committee approval may be contingent on required editing and revisions. Manuscripts that have been submitted to journals without committee approval may not be used to satisfy dissertation requirements. As for the dissertation in general, up to three weeks should also be provided to the committee to review each draft of a manuscript to be submitted to a journal. This chapter

may be submitted to the committee either prior to or at the same time as the entire dissertation.

Once the committee has deemed a draft as defendable, the student must make any final changes and display the draft in the Department office for one week prior to the final examination. This displayed copy should be the nearly final version. The text should be free of grammatical and typographical errors, and figures and maps should be drafted and very near their final form, so that any person who wishes to read it before the exam can do so easily. While the dissertation is available for review in the office, the student should make final preparations for the final exam. However, to successfully pass the final exam, which includes a defense of the dissertation, a student should have been studying and preparing long before this point.

Two copies of the dissertation, unbound and signed by all members of the examination committee, must be deposited in the Graduate College office in final form at least two weeks prior to the end of instruction within the term in which the student will graduate. The Graduate Dean must give permission for extension of this deadline in writing. The Department strongly recommends adhering to the deadline and only under exceptional circumstances will it support the request to the Dean.

In addition to the two copies of the final dissertation required by the Graduate College, the Department requires that two unbound copies be submitted to the Department Chair or office staff when the document is submitted for the Chair's signature. One of these copies should be on high-quality paper. These copies will remain in the Department office for immediate use and photocopying. It is considered proper conduct to also give a bound copy to the advisor at this time. The Department usually pays the cost of binding departmental copies.

6.8 Scheduling and Preparing for the Final Examination

The regulations for the final examination, or oral defense, for Masters and Ph.D. candidates are discussed in the Graduate Catalog and should be read by every candidate. The Department adheres to the general guidelines of the Graduate College. To prepare for this examination, a student is advised to review all graduate course work, all details of the dissertation, and all current literature related to the dissertation and their field of interest. The committee will be examining to ascertain whether the student has developed a sufficient foundation with both depth in their research and breadth in Geoscience. The student may be called upon to extend one's knowledge beyond "what one knows" by testing the use of sound scientific reasoning, or the candidate may be asked to state an opinion regarding particular papers or theories to test whether the candidate possesses the ability to be critical of our science. A Ph.D. student should be in his/her most alert and educationally honed state to pass this final examination, which is only in part a dissertation defense.

The exam must occur no later than three weeks before the end of classes in the semester in which the student wishes to graduate. **The oral defense should not be scheduled during school holidays, weekends, or the summer unless all committee members agree in advance; the composition of the committee shall not be changed to facilitate scheduling during these periods.** Graduate Faculty are typically not employed by the University in the summer months between the week after the end of Spring semester, and the week before the beginning of the Fall semester, and many are

away at meetings or doing field and/or laboratory research to satisfy obligations for externally-funded grants.

Many of our Ph.D. students do not meet the deadlines for Spring graduation. If a Ph.D. student applied for Spring graduation and missed the deadlines, the student must reapply for August or December graduation and pay additional fees. If a student anticipates not making a Spring graduation, and if the entire committee approves, then the initial filing should be for an August graduation. Functionally, this change only gives an extra month to work on the dissertation. The student must discuss the expected schedule of events with the committee, and it must be approved by them. It is best if final exams for August graduation can be taken prior to the end of Spring final exam period and a final draft of the dissertation is ready for the committee to sign shortly thereafter. Remember, faculty members are not employed by the University during the summer and Committee members may not be changed just to achieve an August graduation.

6.9 Final Exam Protocol

In detail, the format of the final examination in Geoscience is as follows. During the time in which the final exam is scheduled, the candidate presents, in a professional manner, an oral summary of the dissertation stressing the major conclusions of the research. The presentation should be about 25 minutes in length and may not exceed 45 minutes. This presentation must be open to a public audience including non-graduate faculty, students, and interested people from the community. All members of the Advisory Committee must be present during the oral defense. Following the presentation, the public audience may ask questions related to the dissertation. During this time, the graduate faculty and particularly the examining committee should refrain from questioning the candidate. At the end of this brief discussion period, the public audience will be excused. As specified in the Graduate Catalog, the candidate will be fully examined with only graduate faculty members present unless the student's committee has unanimously approved the presence of other individuals. It is during this questioning period that the student must be able to defend the findings and methodology of the dissertation and to demonstrate a comprehensive understanding of a broad field of study as well as a detailed understanding of a more limited field. After completion of the question and answer period, the student will be dismissed, and the examination committee will evaluate the student's performance with the advice and consultation of any other graduate faculty members that may be present. As per Graduate Catalog policy, the advisory committee must unanimously pass the student.

If the committee votes unanimously to fail the student or the vote is not unanimous to pass, the student, in conjunction with his/her advisor, may request the committee to administer a second examination. The student must wait at least three months before taking the second examination. The Department may require additional course work, substantial reworking of the dissertation or whatever is believed necessary to prepare the student for the second examination."

Upon passing the oral exam (which includes the defense of research), the Ph.D. candidate will need to make any final revisions in the dissertation based on the advisory committee's oral and written comments. These final revisions may be substantial. This revised document should be quickly prepared and presented with additional cover sheets to all committee members. The revised dissertation must be approved by the entire

committee to ensure that the revisions were appropriately handled. After the entire committee approves of the revised Dissertation, the Culminating Experience Results form should be signed by all committee members, and submitted by the student to the Graduate College. After approval the student must also submit the final dissertation document to the Department and to the Graduate College. **Remember that the committee's role is to ensure scientific quality and rigor commensurate with a Ph.D. degree, not to meet Graduate College deadlines. In some cases (e.g. substantial and difficult revisions), student graduation may be delayed until the final document is deemed acceptable by all members of the committee.** Students should thus plan accordingly and schedule a defense as early in a given semester as possible to avoid an intractable time crunch at the end of the semester.