

# Guidelines for M.S. and Ph.D. Degree Programs

Department of Geological Sciences and Engineering, Mackay School of Earth Sciences and  
Engineering University of Nevada, Reno

Revision Date: May 2018

## I. Introduction

Welcome to the Department of Geological Sciences at the University of Nevada, Reno! We are glad you are here, and we hope you will have an enjoyable, stimulating, and rewarding stay in our department. We have an outstanding faculty and excellent research facilities, and all of these are at your disposal. Basically, all you need to do to obtain your graduate degree here is to complete some classes, conduct research, write a thesis or dissertation on some original research, jump through some necessary hoops, and you're done! In actual practice, its not really that simple, but we hope this handbook will help you to navigate through graduate school.

It is important to realize that the successful and timely completion of a graduate degree is entirely dependent on YOU. No one else will take the classes for you, do your fieldwork, or write your thesis. Of course, the faculty are here to help you, and fellow students are often the most help of all, but it is up to you to become aware of all university and departmental requirements and deadlines that pertain to your degree program. You also need to make sure you are aware of department policies that may change from time to time.

Communication is the name of the game. At times, you will have to track down those busy faculty members on your advisory/examining committee to discuss what classes you should take and to schedule committee meetings. You will have to learn to be a bit of a personnel manager, as well as a knowledgeable practitioner of some discipline within the earth sciences. After you leave graduate school and begin a new job, decisions about your career advancement will be based on how you communicate with and relate to other people at least as much as on your technical competence. Use your time here in graduate school to practice, or acquire, these "people skills." You and your advisory/examining committee will be glad you did.

This Guide is intended as a supplement to the Graduate Student Association (GSA) Handbook, which details the policies of the UNR Graduate School. The GSA Handbook documents University standards for course work, thesis preparation, and publication. It presents, in detail, those steps necessary for successful completion of graduate studies at UNR. The UNR Graduate School is ultimately responsible for both admitting graduate students and approving the completion of their graduate programs. However, in some instances, the Graduate School defers certain decisions to individual Departments. This Guide is intended to codify the pertinent policies of the Department of Geological Sciences toward its graduate programs in Geology, Geological Engineering, Geophysics, and Geochemistry. In addition, faculty in the Geological Sciences Department advise or work with students from interdisciplinary graduate programs, such as Hydrologic Sciences, Atmospheric Sciences, and Environmental Science and Health. All UNR interdisciplinary graduate degree programs have assigned graduate Directors. Due to the interdisciplinary nature of these degree programs, policies and procedures may differ from those presented in this document. Information

and guidance on policies and procedures for graduate students enrolled in these programs can be obtained from the interdisciplinary graduate Directors. Much of the material summarized here regarding Graduate School requirements is drawn freely from the GSA Handbook, to which you are referred for more detail. A handy checklist in the GSA Handbook illustrates the sequence of steps a student must follow to eventually be awarded an advanced degree.

### ***Program Description***

#### **Geology**

- Masters of Science
  - Graduate students conduct research within the department and/or in association with the Center for Neotectonic Studies, the Ralph J. Roberts Center for Research in Economic Geology, the Arthur Brant Laboratory for Exploration Geophysics, the Desert Research Institute, the Nevada Bureau of Mines and Geology, the Seismological Laboratory, and the United States Geological Survey-Reno Field Office.
  - Both regional and international research programs are available. Field-related studies and research are among the strengths of our programs. The University of Nevada, Reno is located near the boundary between the Great Basin and Sierra Nevada physiographic provinces, and is near many world-class localities for field studies, ranging from glaciated high country to high desert environments. Lake Tahoe and Yosemite, Great Basin, and Lassen Volcanic national parks are all within easy reach of Reno. We have state-of-the-art field instrumentation for geologic, seismic, gravity, magnetic, electrical, and rock properties studies. We also have one of the world's largest digitally recorded seismic networks.

#### **Student Learning Outcomes**

- Doctor of Philosophy
  - The University's Ph.D. in geology invites students to explore earth-science research areas such as geodynamics, volcanology, geochemistry and petrology, earth and planetary surface processes, earthquakes and seismology, and mineral and energy resources -- to name just a few.
  - Field studies are a natural area of emphasis for this program – and not simply because the faculty is highly active in world-leading research. The University of Nevada, Reno is located near the boundary between the Great Basin and Sierra Nevada physiographic provinces and is near many world-class localities for field work, ranging from glaciated high country to high desert environments. Yosemite, Great Basin and Lassen Volcanic National Parks and Lake Tahoe are all within easy reach of Reno.

#### **Geoengineering**

- Doctor of Philosophy
  - Geo-engineering is an interdisciplinary field in which modern engineering meets earth science. The University's geo-engineering faculty have been at the forefront of

numerous Nevada-based and worldwide engineering projects that require insight into the planet's natural features or the mineral resource extraction process.

- This program comprises faculty and resources from the University's Department of Geological Sciences and Engineering<sup>1</sup> and the Department of Mining Engineering<sup>2</sup>. It offers a broad range of possible dissertation research topics, including soil and rock slope stability, rock mechanics, geologic fracture mechanics, volcano hazards, urban geo-engineering, aerospace remote sensing, pure and applied geomathematics/geostatistics, mine ventilation, materials handling, and surface and underground mine design.

## **Geological**

- Master of Science
  - The program is designed to enhance students' professional abilities in engineering and the geological sciences. Although often equated with geotechnical engineering, a discipline closely aligned with civil engineering, geological engineering is more correctly characterized as a program focused on geologic hazards mitigation and natural resources characterization.
  - In one sense, geological engineering is a form of environmental engineering. The MS program emphasizes the professional nature of the geological engineering discipline. Consequently students are required to be excellent in both geology and engineering core subjects. If they are deficient in the core courses they must be taken. Geological engineering plays a vital role in engineering with natural materials (rock, soil, water and even snow). Geological engineers are unlike other engineers who use manmade materials like steel, concrete, asphalt and composites to design and construct. Geological engineers are intimately involved with our environment in assessing and design ways to alleviate the effects of geologic hazards like landslides, earthquakes, floods and volcanic eruptions or by mitigating or mediating potential man-made hazards including contaminated ground water and poorly sited landfills. They design foundations for structures, tunnels and open pits for large excavations. Geological engineers design facilities for mitigating the flow of groundwater pollution, for the location of sanitary municipal landfills and for the storage of hazardous waste.
  - Today, there is a critical national need for geological engineers in the heavy construction industry, the minerals industry, the energy industry, and for fundamental research at national laboratories. On graduating a GE is capable of being professionally registered as an engineer on passing the relevant State Examinations.

## **Geophysics**

- Master of Science
  - Geophysics applies mathematical and physical principles to the study of the Earth and planets. The curriculum introduces the global properties of the Earth (gravity, magnetic field, crustal motions, interior dynamics) and the determination of near-

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<sup>1</sup> <https://www.unr.edu/geology>

<sup>2</sup> <https://www.unr.edu/mining>

surface and interior properties through the use of seismology, electromagnetics, potential fields, remote sensing, geodesy and GPS. The curriculum provides a broad grounding in physical and mathematical fundamentals useful for future graduate study or for work in energy, natural resource or engineering industries. Students will gain experience in the integrated application of geologic observations and geophysical measurements to the analysis of Earth science and related engineering problems using current, industry-standard computational and GIS tools.

- Doctor of Philosophy
  - Armed with an array of cutting-edge technologies and tactics, geophysicists apply mathematical and physical principles to the study of the earth and planets.
  - The University of Nevada, Reno geophysics program prides itself on bringing traditional classroom subjects, such as mathematics and physics, into the great outdoors. Hence its motto: "The earth is our laboratory."

## II. Graduate Program Director

To assist graduate students in their degree programs, the Graduate Program Director is responsible for knowing what students are in the program, their status, and what their plans are with regard to completion of their degrees. The Director maintains a database to track each student, to assure that no one gets lost or waylaid. The success of this task relies on communication; please let the Director know who you are when you arrive, and keep him/her abreast of any changes in your plans.

The Graduate Program Director's job includes helping new students meet and match interests with faculty, supplying information regarding policies and updates, and on departmental assistantships. Feel free to discuss any issues relating to our graduate programs with this individual.

The Graduate Program Director will also enforce Graduate School and Departmental guidelines and deadlines. The Director will attempt to mediate any problems that may arise between students and advisory/examining committee members. The first resort of a student in difficulty with the committee and/or advisor is the Graduate Program Director. Unresolved matters are referred to the department chair, and if appropriate, the graduate school for action.

### *Program Directors*

**Scott Tyler, Ph.D.; Geology (MS, Ph.D), Geological (MS), Engineering Geophysics (MS, Ph.D)**

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## **Robert (Bob) Watters, Ph.D.; Geoengineering (Ph.D)**

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**Note:** This handbook lists graduate program academic policies and procedures. It includes information on graduate school policies, degree requirements, timeline for degree completion, committee selection guidelines and comprehensive exam/thesis requirements. Every effort has been made to make this handbook accurate as of the date of publication; however, this handbook does not constitute a contractual commitment. Graduate programs may not offer all of the courses as described, and policies are subject to yearly review and changes with program director and Graduate Council approval.

### **III. General University and Departmental Requirements for an Advanced Degree at UNR**

Graduate students enrolled in both the M.S. or Ph.D. programs in the Department of Geological Sciences are obliged to comply with the requirements of both the Graduate School and the Department. As in most other universities, it is the sole responsibility of the student to become aware of all policies, procedures, and deadlines appropriate to their degree program. All graduate students need both to consult their advisors and to check the latest updates on policies. A visit to the Graduate School in the Student Services Building in the first semester of graduate work is strongly recommended to secure copies of the GSA Handbook and all forms that will eventually be needed by the student. It is best to plan ahead and meet often with your Advisor to ensure that all are aware of timing and procedures

#### ***Annual Registration***

The UNR Graduate School requires that students must register for at least three credit hours each semester or obtain a written leave of absence approved by the student's advisor and the Department chair. Please note that unless these approved leaves are in the Graduate School's records (that is, recorded on the Program of Study), extensions of the 6- and 8-year requirements for M.S. and Ph.D. degrees will not be approved by the graduate dean.

#### ***Major Advisor and Committee***

An approved application for graduate standing lists the name of the student's temporary Advisor. Usually the temporary Advisor becomes the student's permanent Advisor through the completion of Program of Study paperwork (Graduate School form) during the first committee meeting. The student also selects members of the Advisory-Examining Committee, who are recorded on and sign the Program of Study. The Program of Study is then formally approved by the graduate director and then the graduate dean. All committee members are involved in the determination of appropriate coursework and approval the thesis or dissertation proposal. They also help design and administer the relevant examinations and eventually approve the final thesis or dissertation.

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- [Declaration of Advisor/Major Advisor/Committee Chair form](#)<sup>6</sup>
  - For master's students, the completed form must be submitted to Graduate School by the end of the student's second semester
  - For doctoral and MFA students, the completed form must be submitted to Graduate School by the end of the student's third semester

### ***Advisor***

When you arrive as a new graduate student in Geological Sciences, you will be assigned a temporary Advisor, who will help you get started, and who may ultimately become your research Advisor. Your temporary advisor in most cases selected you from the applicant pool as a promising student. We strongly encourage new students to select a general research area and a permanent Advisor sometime during the first semester of residence, and the full advisory/examining committee before the end of the second semester. Your thesis or dissertation Advisor will help you: 1) plan your course schedule, 2) identify a research project, 3) seek funding, and 4) find office or desk space.

You are free to change Advisors or committee members at any time during your graduate work. However, if you decide to change Advisors, some discussion with your present Advisor is essential, especially if you have received grant support from that Advisor. You may have an obligation to provide your present Advisor with data, reports, or other information related to research for which you received funding. If you already have a permanent Advisor and Advisory/Examining committee, a change can be made by submitting a written agreement signed by the student, former Advisor or committee member, new Advisor or committee member, and Department Chair. The Graduate School must also be notified of this change, using their Change of Advisory Committee form.

### ***Advisory/Examining Committee composition:***

The Advisory/Examining committee needs to be formed in time for the first committee meeting convened before the end of the 2nd semester. This committee provides guidance during graduate research.

For the M.S. degree, this committee is composed of 3 or more faculty members:

- the principal Advisor (a.k.a. Committee Chair, thesis advisor, or major advisor),
- an additional member from the degree program Graduate Faculty list
- Graduate School Representative who is outside of your department and degree program

Doctoral committees require at 5 or more members:

- the principal Advisor
- 2 additional members from the degree program Graduate Faculty list
- faculty member from a related discipline (outside of DGSE)
- Graduate School Representative

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<sup>6</sup> <https://www.unr.edu/Documents/graduate-school/Declaration-of-Advisor.pdf>

The committee members provide additional counseling and expertise beyond that of the thesis advisor, maintain standards, and can help with problems that may arise. A list of all UNR Graduate Faculty may be found on the Graduate School web site, and a search bar allows you to call up those in a specific degree program, if needed.

Both M.S. and Ph.D. committee meetings should be arranged by the student, and should take place a minimum of once each year. Students should be in contact with committee members on a semester basis to keep them apprised of their progress. The role of the Graduate School Representative is to provide an objective external perspective and to assure that Graduate School policies are being followed. The role of the Advisory-Examining Committee in graduate examinations is described later.

### ***Program of Study***

Advanced degrees are conferred by the university following approval of the graduate faculty, the graduate dean, and completion of an approved Program of Study. The [Program of Study form](#)<sup>7</sup> (Graduate School Form) documents the members of the Advisory-Examining Committee, coursework, and research the student has chosen for his/her advanced degree work

Development of a Program of Study is an important component of the graduate program in the Department of Geological Sciences. The Program of Study, as implemented in this Department, serves a variety of purposes: (1) it defines the classes, Advisory-Examining Committee; (2) it is produced sufficiently early in the student's stay in our Department to guide the student and to remind the faculty of student needs; (3) it enables students to take charge of their graduate program. The graduate student is free to choose his/her research direction or area of specialization, Research Advisor, and committee members, but the experience of these faculty members is crucial to judicious selection of appropriate coursework and thesis topics.

The Program of Study should be approved by the Department of Geological Sciences and then turned into the Graduate School once the majority of courses are decided upon and it is determined when they will be taken, the end of the 2nd semester for MS students and by the end of the 2nd year for PhD students. Typically, the Program of Study form is presented and signed at the committee meeting where the student presents his/her final thesis proposal.

### ***Changes to the Program of Study***

Once the Program of Study is filed with the Graduate school, the student is obligated to take all of the courses listed in the program. Any changes must be made by filing a Change in Program of Study (Graduate School form).

### ***Thesis Proposals***

The Department of Geological Sciences requires that a draft thesis proposal be submitted to the Advisory/Examining committee as part of the Program of Study Package at the first committee meeting by the end of the second semester. This draft should be circulated to the committee a few

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<sup>7</sup> <http://www.unr.edu/Documents/graduate-school/program-of-study.pdf>

weeks in advance of the committee meeting. Copies of the draft thesis proposal go only to the committee and are not submitted to the graduate school. The final thesis proposal is usually produced shortly after the first committee meeting, taking into account any suggestions made during that meeting, before their first field season starts.

### ***Dissertation Proposals***

For Ph.D. students, the initial draft proposal presented at the first committee meeting is usually a preliminary outline. The final draft of their dissertation proposal is often modeled after NSF research grant proposals in length and style. The proposal must be approved by the Advisory/Examination Committee in advance of the comprehensive examination.

### ***Annual Progress Report***

Graduate students must fill out a 1-page form annually in all programs, except Hydrologic Sciences. The form is currently available on line at the DGSE graduate program web site, but may also be obtained from the department Graduate Program Director or department Administrator (Marie Russell) as a PDF. The form is due each year on April 15th and is intended to allow for tracking of student progress through their degree program. The form includes sections for both the student and an advisor's evaluation of their progress (excellent, good, satisfactory, unsatisfactory). Most students who are meeting all deadlines should receive an evaluation of good, whereas those few outstanding students exceeding expectations of their committee will receive an excellent. Failure to file this form will result in an unsatisfactory evaluation. Students making unsatisfactory progress towards their degree and will no longer be eligible for departmental TA support. The Annual Progress Report replaces the former department G-1 form, petition to enter the 3rd semester.

Foreign Language - The Department of Geological Sciences has no foreign language requirement for the Ph.D. degree.

## **IV. Departmental Requirements for a M.S. Degree**

This section summarizes the standards for the M.S. degree with thesis option (Plan A). The Department of Geological Sciences does not normally offer the M.S. non-thesis option. It is important to understand that earning a graduate degree involves much more than just completing a fixed number of graduate classes. The student's Advisory/Examining Committee may require the student to take additional courses if, in its opinion, training or background is needed to reach the degree of proficiency typical of others holding this degree in the student's chosen field of specialization. The number of classes required by the Graduate School is really a minimum, because the amount of preparation a student needs for thesis research varies considerably across departments and specialties.

### ***Course Work -31 cr of graduate courses, including:***

- GEOL 795 Comprehensive exam (1 credit, taken second semester for all M.S. programs)
- 24 credits of formal coursework (at least 12 credits at the 700 level)

- 3 credits of GEOL 790(1 unit) (Students must enroll in 3 units over the course of their program.)
- 6 cr of thesis (GEOL 797)

Many students will therefore take three semesters of GEOL 790 (3 credits), three or four 700-level courses (9-12 cr), three or four 600-level courses (9-12 Credits), one credit of GEOL 795 and 6 cr of thesis to satisfy these requirements.

A minimum of 31 credits of acceptable graduate courses (grade of C or better and listed on the Program of Study) must be completed. A maximum of 9 credits completed elsewhere (Grade B or better) can be transferred and applied to the M.S. degree at UNR. Eighteen of the 24 credits must be in the major field of study. The overall grade point average for graduate classwork must be maintained above 3.0. If you fall below 3.0, you will be placed on academic probation, and allowed one semester to bring your grades up to 3.0 or above. Failure to meet this standard will result in your being dismissed from the program.

The Graduate Seminar (GEOL 790) is required of all students entering MS. and Ph.D. programs in Geology, Geophysics, and the M.S. in Geologic Engineering. Master's students must enroll a minimum of 3 semesters.

Graduate seminar is a forum for faculty and students from UNR and other organizations to present information on cutting edge topics in the geological sciences. The seminar schedule varies each semester.

### ***M.S. Examinations***

Two examinations are required for the M.S. degree.

1. Comprehensive examination. In their second semester, MS students will be required to sign up for one credit of MS Comps (GEOL 795), under the direction of the Graduate Director. The MS Comp Exam consists of two requirements: a formal thesis proposal including presentation and approval of your Program of Study. Students are required to submit a formal thesis proposal to their committee and have a committee meeting to discuss both the proposal and their proposed Program of Study prior to the end of their second semester in residence (does not include summer semester). Both must be approved by their committee and forwarded to the Graduate Director to enable the Director to provide a grade (S/U) for the student. Failure to complete this requirement in the allotted time will result in the student being dropped from the program. Under extenuating circumstances, the student may petition for an extension, but any petition must be approved by their thesis committee before it will be considered by the Graduate Director.
2. Final oral examination. A final Oral Examination (Thesis defense, announced two weeks in advance and open to the public including a public presentation) is held with the Advisory-Examining Committee to evaluate the quality and professional standards of the student's research. After successfully completing this examination and approval of the final draft of the thesis, the student is advanced to Master's candidacy and may apply for graduation. The thesis defense is usually about 2 hours long and consists of a public talk (~30 – 45 min) followed by a closed session with the committee where questions are asked and specific recommendations/revisions are suggested for the thesis. The thesis should be scheduled in a venue that can sufficiently accommodate the audience (usually 30 or more people).

Time Limits - All requirements for this degree must be completed within six calendar years preceding conferral of the degree.

## **V. Departmental Requirements for the Ph.D. Degree**

This section summarizes the standards for the Ph.D. degree. This degree signifies completion of a substantial body of work by the student that displays distinction, original scholarship, and superior achievement.

Residency - Six semesters of graduate study are required. Two consecutive semesters (Fall and Spring, or Spring and Fall), must be spent at UNR in full-time study (minimum of nine credits per semester). The university residency requirement must be met before a student is allowed to advance to candidacy.

### ***Course Work - 73 cr of graduate credits including:***

- 48 credits of formal coursework, (at least 30 credits at the 700 level)
- 5 credits of GEOL 790 (1 unit) (Students must enroll for a minimum of 5 credits over the course of their program)
- 1 credit graduate comprehensive exam (GEOL 795)
- 24 dissertation credits (GEOL 799)

A minimum of 73 graduate credits is required for a Ph.D., of which at least 48 credits must be in course work. With the approval of the Advisory-Examining Committee and Departmental Chair, up to 24 credits (Grade B or better) can be transferred from other graduate work and applied to the UNR Ph.D. program. At least 30 credits of formal course work must be in 700 level classes. One credit of 795 (Comprehensive) must be taken. At least 24 credits should be in dissertation research. Any exceptions to these requirements must be approved by the Advisory/Examining Committee, Department Chair, and Graduate Dean. See Program of Study Requirements (PDF on graduate school web site) for additional details about requirements.

The Graduate Seminar (GEOL 790) is required of all students entering MS. and Ph.D. programs in Geology, Geophysics, and the M.S. in Geologic Engineering. Doctoral students must enroll in a minimum of 5 semesters.

Graduate seminar is a forum for faculty and students from UNR and other organizations to present information on cutting edge topics in the geological sciences. The seminar schedule varies each semester.

### ***Advisory/Examining Committee:***

The committee is very important in guiding the student's progress toward an advanced degree, and high priority should be placed on forming the committee early in the graduate program (e.g., the first

year). For a student entering a Ph.D. program with a Bachelor's degree, the committee should be formed prior to the completion of 24 credits of graduate work (usually during the 2nd or 3rd semester). For the student with a Master's degree, the committee should be formed by the end of the second semester. The committee is also charged with approving the student's Program of Study.

Examinations - Geological Sciences requires three examinations for a Ph.D. degree.

A formal Qualifying Examination administered by the DGSE Doctoral Candidate Examining Committee (the "Examining Committee") to assess the student's general knowledge of geology and his/her level of preparation for a Ph.D. program. The Examining Committee consists of two members of the DGSE Graduate Faculty chosen annually by the Graduate Director and the student's doctoral advisor. The examination will be scheduled through the Graduate Director, and consist of a 1-2 hour oral questioning on fundamental concepts in geosciences that would be expected for a doctoral candidate at the end of their first year. Subjects typically covered include: concepts of plate tectonics, the geologic record, rock and mineral forming processes, fundamental geophysics and geochemistry, etc. The Examining Committee will report either "pass", "pass with recommendations" or "fail" based on a simple majority vote in writing to the Graduate Program Director. In the case of "Pass", the student may continue in the doctoral program. In the case of "Pass with Recommendations", the committee will provide suggestions for additional coursework or studies that should be undertaken during the student's progress toward the doctoral degree. These recommendations shall be used by the advisor to help define the student's plan of study. In all other cases, the student will not be allowed to continue in the department's doctoral program, but may be eligible to complete the requirements of a Master's degree.

In Geological Sciences, the Qualifying Exam is generally taken prior to or coincident with the first committee meeting, by the end of the 2nd semester of residency. The exam can be delayed in unusual cases until the end of the third semester, but only by acceptance of a written petition to the Graduate Program Director cosigned by the student and the Advisor. Students having a master's degree should take the exam during their second semester of residency. For students matriculating without having a master's degree, the university requires that the Qualifying Examination must be taken prior to completion of 24 credits, typically in their third or fourth semester of residency.

In addition to the Qualifying Exam, each doctoral student is expected to submit a dissertation proposal outline to their Advisory-Examining committee and have a committee meeting to discuss both the proposal and their proposed Program of Study at the end of the second semester and no later than the end of their third semester in residence.

The Comprehensive Examination is intended to evaluate the student's overall knowledge and understanding of his/her field. Students sign up for 1 credit of GEOL 795 the semester they take their exam. This exam is required by the university for all Ph.D. degrees. This exam includes both oral and written sections and may cover material not offered in formal coursework. The written part should be completed over a one-week period, and is followed within two weeks by an oral examination, typically of 2-3 hours duration. The student is admitted to Candidacy following

completion of residency requirements, course requirements, and acceptable performance on the Comprehensive Examination.

***Specific guidelines regarding examination procedure:***

The Department and the Advisory-Examining Committee are responsible for the format of the exam, and for its execution and results. The exam may be taken after a minimum of 75% of the student's required coursework (beyond the B.S.) is complete, but must be taken no later than eight calendar months before graduation. The exam must be both oral and written, and must test the student's mastery of a broad range of knowledge, and not merely the course work that has been completed. The student fails the exam if more than one negative vote is cast by members of the Advisory/Examining Committee. The exam may be retaken once, if additional study is approved by the Advisory-Examining Committee. The Advisory-Examining Committee determines the period of additional study. The Advisory-Examining Committee is the official examining committee for both written and oral examinations. External examiners may be added or deleted only with prior consent of the Advisory-Examining Committee. The specific role of any external examiner is to be determined in advance of the exam by the Advisory-Examining Committee.

The major advisor is the chair of the Advisory-Examining Committee, and is responsible for:

- ensuring that the Graduate School Guidelines are followed.
- ensuring that Departmental Guidelines are followed.
- ensuring that the format and procedures for the examination that have been approved by the Advisory-Examining Committee are followed.
- keeping committee members and the student informed at each stage of the process.

The last examination is the Final Oral Examination, announced two weeks in advance and open to the public is held with the Advisory-Examining Committee to evaluate the quality and professional standards of the student's research. The defense is usually about 2 hours long and consists of a public talk (~30 – 45 min) followed by a closed session with the committee where questions are asked and specific recommendations/revisions are suggested for the dissertation. The should be scheduled in a venue that can sufficiently accommodate the audience (usually 30 or more people).

***Dissertation***

The preceding steps help make sure you are prepared for the research and writing of a dissertation. The dissertation must represent original and independent research of high quality and should reflect a mastery of research techniques and literature. The dissertation documents the ability of a student to select an important problem to be investigated, to study it competently, and to express the results in a comprehensible manner.

According to Graduate School regulations, the format of the dissertation can vary in that the student may elect either the "dissertation" or "publication" option. The Graduate School standards for organization, scope, and content of the dissertation are the same regardless of the choice of option. The publication option carries additional constraints including a prior written document listing responsibilities for revisions and follow-up to be signed by both the student and faculty

members (co-authors) involved. For the publication option, the Graduate School does not require acceptance and publication of manuscripts submitted to journals as prerequisites to successful completion of the dissertation.

Publication of one's dissertation prior to its approval by the committee does not in any way imply that it will be approved by the student's committee; publication and dissertation approval are separate processes.

Time Limits - All requirements for the Ph.D. degree, exclusive of prior M.S. work, must be completed within eight (8) calendar years.

## VI. Graduate School Requirements

### *Graduate School Academic Requirements:*

All graduate students must maintain a cumulative graduate GPA of 3.0. If their GPA drops below 3.0, they are either placed on probation or dismissed. Undergraduate courses will not count towards graduate GPA.

Probation: students whose cumulative graduate GPA falls between 2.31 and 2.99 are automatically placed on academic probation for one semester. If they fail to raise their cumulative GPA to 3.0 by the end of one semester, they are dismissed from their graduate program. Thesis, dissertation, S/U graded credits, and transfer credits have no impact on a student's GPA.

**Dismissal:** students whose cumulative graduate GPA is 2.30 or lower are dismissed. Dismissed students are no longer enrolled in their graduate program but may take graduate-level courses as a Grad Special. Dismissed students wishing to complete their degree must obtain approval to take graduate-level courses, raise their graduate GPA to at least 3.0, and then re-apply to their graduate program. Any courses taken in an effort to raise their GPA will be included in the graduate special/transfer credit limitation (9 credits for master's degrees).

Please refer to Nevada System of Higher Education CODE on Student Program Dismissal Procedures (SPDP) and review conference policies: (NSHE CODE, Chapter 11, Sections 1-3). If program dismissal is based upon failure to maintain required grades or a required GPA as described above, SPDP does not apply and the student may be summarily dismissed from the graduate program.

### *Transfer Credits*

These are credits transferred from another institution. Credits completed at UNR in another program or as a graduate special do not need to be transferred. Transfer credit can be requested on the [Graduate Credit Transfer Evaluation Request form](http://www.unr.edu/Documents/graduate-school/GraduateCreditTransferEvaluationRequest.pdf)<sup>8</sup> available on Graduate School website, and must be signed by the student, major advisor, and graduate director. Transfer credits applied to a master's program must comply with the time limitation on master's work (6 years). Thus, if a student took a course five years prior to admission, they would have to complete the degree within one year for the

<sup>8</sup> <http://www.unr.edu/Documents/graduate-school/GraduateCreditTransferEvaluationRequest.pdf>

course to apply to the degree. Credits from a completed master's degree will be exempt from the 8-year time limitation for those students pursuing a doctoral degree.

### ***Graduate Assistantships***

All graduate students holding an assistantship (teaching GTA or GRA) are considered Nevada residents for tuition purposes. Non-resident tuition is only waived for the duration of the assistantship. To be eligible for an assistantship, students must be admitted to a degree-granting program and be in good academic standing. The student must have an overall GPA of at least 3.0 and must be continuously enrolled in at least 6 graduate level credits (600-700) throughout the duration of the assistantship.

State-funded assistantships (GTA/GRA) may be held for a maximum of: three (3) years for master's degree students and five (5) years for doctoral degree students.

Graduate School: [General information](#)<sup>9</sup> and the [Graduate Assistantship handbook](#)<sup>10</sup>.

### ***Leave of Absence***

**Continuous Enrollment:** To maintain "good standing" all graduate students are required to enroll in a minimum of three (3) graduate credits each fall and spring semester until they graduate. International students may be required to enroll in nine graduate credits each fall and spring semester depending on the requirements of their visa. All students holding assistantships (whether teaching or research assistantships) are required to enroll in a minimum of six (6) graduate credits each semester they hold the assistantship.

**Leave of Absence:** Students in good standing may request a leave of absence by completing a [Leave of Absence form](#)<sup>11</sup> during which time they are not required to maintain continuous registration. Usually, a leave of absence is approved for one or two semesters. The leave of absence request may be extended by the student filing an additional leave of absence form. Students applying for a leave of absence should not have any "incomplete" grades which could be changed to "F" and have a detrimental impact on their cumulative GPA. Requests for leave of absences must be received by the Graduate School no later than the last day of enrollment for the semester the leave is to begin.

**Reinstatement:** When a student has been absent for one semester or more without an approved leave of absence, he or she may request reinstatement via the [Reinstatement form](#)<sup>12</sup>. This form allows the program the option to recommend the student be re-admitted to their graduate program based on their previous admission OR require the student to re-apply for admission which would require students to

<sup>9</sup> <http://www.unr.edu/grad/funding/graduate-assistantships>

<sup>10</sup> [http://www.unr.edu/Documents/administration-finance/hr/hr-graduate/GA\\_handbook.pdf](http://www.unr.edu/Documents/administration-finance/hr/hr-graduate/GA_handbook.pdf)

<sup>11</sup> [http://www.unr.edu/Documents/graduate-school/leaveofabsencer\\_9.23.pdf](http://www.unr.edu/Documents/graduate-school/leaveofabsencer_9.23.pdf)

<sup>12</sup> <https://www.unr.edu/Documents/graduate-school/Notice-of-Reinstatement-Graduate-Standing.pdf>

submit a new application for admission and pay the application fee. The Notice of Reinstatement to Graduate Standing must be received by the Graduate School no later than the last day of enrollment for the semester the reinstatement is to begin.

### ***Health Insurance***

All domestic degree seeking graduate students, who are enrolled in six or more credits (regardless of the course level) in a semester, will be automatically enrolled and billed for the University sponsored health insurance for each term they are eligible (fall & spring/summer). If a student has other comparable coverage and would like to waive out of the student health insurance, it is the student's responsibility to complete the [University online waiver form](#) <sup>13</sup> prior to the deadline. If approved, a health insurance waiver is good for the current academic year only. A new waiver must be submitted each academic year. All international graduate students are required to carry student health insurance, and the cost will be automatically added to your student account. Any international graduate students with insurance questions must contact the [Office of International Students and Scholars \(OISS\)](#) <sup>14</sup> directly.

[Information on Graduate health insurance](#) <sup>15</sup>.

## **VII. Theses and Dissertations**

The Department of Geological Sciences has several important policies regarding theses and dissertations.

First, the existing Graduate School regulations regarding the format, scope, and organization of the thesis or dissertation are the same (!) regardless of whether the student chooses the “dissertation” or “publication” option. Departmental policy on theses and dissertations in addition specifies that all figures, tables, and captions must be interleaved or embedded within text where first cited, as in published journal articles. Use and follow the guidelines of a refereed journal in your field for headings, citations, figures and captions, and references cited.

Second, the student's Advisor is ultimately responsible for the research quality, since his/her signature is required on the title page of the thesis or dissertation for the student to be awarded the degree. This responsibility resides with the Advisor regardless of any previous or pending publications by the student. This means that publication by itself is not considered by anyone to be a substitute for approval of the thesis or dissertation by the Advisory-Examining Committee. Published papers submitted to fulfill thesis or dissertation requirements may require extensive revision before acceptance by the advisor and committee.

Third, if a student chooses the “publication option”, the student and advisor will discuss in advance, agree to, and place in writing, a statement defining what publications will be expected of the

<sup>13</sup> <https://studentinsurance.usi.com/UNR/unr-grad>

<sup>14</sup> <https://www.unr.edu/oiss>

<sup>15</sup> <http://www.unr.edu/grad/health-insurance>

student. These publications can be derived from, say, chapters of the dissertation, and formatted for the appropriate journals. This approach enables the research to be organized in modules, but it also is expected that the publications will be tied together into a coherent whole, which is the main rationale for writing an extended work such as a thesis or dissertation. Note that the Graduate School stipulates that actual publication is not a requirement. Most faculty have a general policy regarding publication with students (who will be first author, etc.) Ask about this early in the process.

General comments regarding publication--Publication of the significant results of thesis or dissertation research is an important aspect of graduate education, but its role and emphasis can vary between programs. Normally, the M.S. thesis is considered to be sufficient evidence of competence at the Master's level. However, it is often to the student's advantage in the job market to publish part of the thesis. For example, employment prospects and future advancement may be enhanced for new hires in the petroleum industry who publish in AAPG Bulletin, or for minerals exploration geologists to publish in Economic Geology. The Department of Geological Sciences encourages, but does not mandate, publication of the M.S. thesis. However, individual faculty advisors may add to this recommendation as long as this is clearly understood and agreed to by the student and specified in the Program of Study.

Research at the Ph.D. level should lead to publications in refereed scholarly journals. By definition, this work involves new methods, collection of new data, formulation of new analyses, or perhaps construction of new syntheses that advance the state-of-the-art in a particular field. Publication by the student can be very important at this stage of his/her career.

In practice, however, it may be unrealistic or impossible to predict whether or what parts of the thesis or dissertation can or should be published. Only as the work nears completion does this usually become apparent. The student should not hesitate to negotiate how publication should be carried out (who is to be first author, where it will be published, etc.) early on. In certain cases, a student's work may be an integral part of the Advisor's research and publications. To ensure that authorship and credit issues are resolved fairly, the student should discuss these issues with the Advisor and committee members. Failing resolution at that level, students should meet with the Graduate Program Director or Department Chair.

General comments about rough drafts of the thesis or dissertation--The end product of your graduate degree in Geological Sciences is your thesis or dissertation. That document is a record of your research methods and results, and should be carefully crafted. Others will probably use your work in years to follow, so it makes sense to understand what is expected in the final form of the thesis or dissertation.

Nobody writes a perfect and acceptable thesis on the first try. The number of drafts you will need depends on a many factors, including (a) how good a writer you are; (b) how extensively you, your advisor, and your committee have interacted during the course of your research; and (c) the complexity of your research project. It is never possible, or even desirable, to predict the number of drafts needed. However, to minimize the amount of rewriting you will have to do, it is extremely

important that you communicate with your Advisor and committee during your thesis research, not just at the very end, a few days or weeks before you would like to defend and start a new career.

Before you actually start the writing, get together with your Advisor and discuss your thesis. Does he/she think you are ready to begin writing? If so, present a detailed outline and ask for comments; once your Advisor has given approval for you to start writing, do the same thing with your committee members. Don't forget that they can also have useful things to impart to you, and that they will eventually be called upon to sign your thesis. See USGS Suggestions to Authors for excellent advice about writing style, expression, and grammatical pitfalls, before you present your first draft to your Advisor.

Many students find it easiest to submit early drafts to their Advisor in small, manageable chunks. That way, they can find out early whether major problems exist. Depending on the Advisor, the student should consider progressing to a second or third draft before submitting the thesis to the rest of the committee. The committee members will appreciate a clean, better-written draft, and will have a better chance of evaluating the science. Most Advisors will insist on this strategy.

You must get input from your Advisory-Examining Committee before you try to defend your thesis or dissertation. Be patient, but ask for their comments on your draft within a reasonable amount of time (say, one month), remembering that a rough draft exceeding 100 pages will usually require a lot of editing for both style and scientific accuracy. Don't be discouraged by all the red ink on your masterpiece. There may even be requests for some additional lab or fieldwork. Demands for additional work signal that (1) you and your committee have not been communicating effectively about expectations, or (2) you or your committee are not adhering to the Program of Study. Your Advisor and the Advisory-Examining Committee are the "quality control" on theses and dissertations, but you should keep in mind the bounds on your project that were agreed to in your Program of Study. If you think that your committee is being unfair or autocratic, discuss this with your advisor (if you can) or the Graduate Program Director.

Plan on at least several months (3 or more) just for the writing of your M.S. thesis; additional time is then needed for the reviews of your drafts and rewriting. Thus, for a May graduation, an M.S. student should be well into writing by September of the previous year. For the Ph.D., eight months to a year of full-time writing are commonly necessary to produce the first draft or two. You can streamline this effort by planning ahead and discussing each aspect of your research with your Advisor and committee members. If you've followed the process correctly, there should be very few surprises to you or to them during the writing phase of your graduate education. Your ultimate aim is to defend your thesis and at that point have to make only minor changes, if any, to your last draft.

***Thesis Credits:***

Per graduate school policy beginning Fall of 2013 all thesis credits must now be taken as S/U, Satisfactory/Unsatisfactory. A grade of "U" will not be factored into your graduate GPA, and therefore will not affect your academic standing, but this still suggests failure to meet requirements for the degree. Additionally, a grade of "U" means that those credits are not be applicable to the

program of study and do not accrue towards the total number of required credits for thesis/dissertation. A grade of “U” affects the number of completed credits applicable for financial aid purposes. Should you receive a “U” grade you should discuss with your thesis advisor a plan of action to get back on track for timely completion of the degree.

Graduate School forms and resources related to thesis and dissertations:

- [Graduation Application deadlines](#)<sup>16</sup>
  - Must be submitted to the graduate school several weeks in advance. Check website for exact dates
- [Master’s Thesis Filing Guidelines](#)<sup>17</sup>
- [Doctoral Dissertation Filing Guidelines](#)<sup>18</sup>
- (Doctoral students only) [Dissertation Title Form](#)<sup>19</sup>

### ***Notice of Completion:***

This document is generally signed by the committee at the end of a successful thesis or dissertation defense and can be downloaded from the forms section of the Graduate School web site. In some cases, the Advisor may withhold their signature until revisions are made. At the time of your defense, provide the department Chair with a draft of your thesis or dissertation on CD. This is not the final copy and will be reviewed for informational purposes, then not saved. Once the draft has been examined by the department Chair, and the committee has signed off on the notice of completion, you may obtain the signature of the Graduate director. Either the Department Chair or Graduate Director may sign the notice of completion. After collecting all departmental/committee signatures, obtain the signature of the Dean of the Graduate School and turn the form in before the posted deadline (posted on graduate school web site).

- Notice of completion – completed form should be submitted after all requirements have been met.
  - [Master’s form](#)<sup>20</sup>
  - [Doctoral form](#)<sup>21</sup>
- [Exit Survey](#)<sup>22</sup>

### ***Final Review Approval:***

After your final revisions have been completed and approved by the Chair of your advisory committee you need to obtain their signature on the Final Review Approval form and deliver this to the Graduate School for authorization and date to accept the final thesis.

- Final Review Approval – Obtain sign-off from advisory committee chair
  - [Master’s Final Review Approval](#)<sup>23</sup>

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<sup>16</sup> <https://www.unr.edu/grad/graduation-and-deadlines>

<sup>17</sup> <http://www.unr.edu/grad/forms/thesis-filing-guidelines>

<sup>18</sup> <http://www.unr.edu/grad/forms/dissertation-filing-guidelines>

<sup>19</sup> <http://www.unr.edu/grad/graduation-and-deadlines/dissertation-title-form>

<sup>20</sup> <https://www.unr.edu/Documents/graduate-school/notice-of-completion-master-degree-updated.pdf>

<sup>21</sup> <https://www.unr.edu/Documents/graduate-school/notice-of-completion-doctoral-degree.pdf>

<sup>22</sup> <https://www.unr.edu/grad/forms-and-deadlines/exit-survey>

<sup>23</sup> <http://www.unr.edu/Documents/graduate-school/thesis-final-review-approval-form.pdf>

- [Doctoral Final Review Approval](#) <sup>24</sup>

### ***Thesis Filing Guidelines:***

Most students elect to deliver the thesis electronically, in this case the signature page (“Committee Approval Page”) can be on standard paper. If you elect to submit paper copies of your thesis/dissertation the signature page must be on the required bond. Pay careful attention to format, page numbering and spacing requirements specified by the graduate school. [Details and additional information](#) <sup>25</sup> is available on the Grad School website.

Graduate School forms and resources related to thesis and dissertations:

- [Master’s Thesis Filing Guidelines](#) <sup>26</sup>
- [Doctoral Dissertation Filing Guidelines](#) <sup>27</sup>
- (Doctoral students only) [Dissertation Title Form](#) <sup>28</sup>
- (Doctoral Programs only) [Doctoral degree admission to candidacy form](#) <sup>29</sup>

## **VII. Requirements for specific degree programs Department of Geological Sciences**

### ***M.S. Geology***

Required coursework: Aside from GEOL 790 and 795, there are no core courses specified for the M.S. degree in Geology. Course work laid out in the Program of Study is designed by the Advisory/Examination Committee on an individual basis.

### ***Ph.D. Geology***

Required coursework: Aside from GEOL 790 and 795, there are no core courses specified for the Ph.D. degree in Geology. Course work laid out in the Program of Study is designed by the Advisory/Examination Committee on an individual basis.

### ***M.S. Geological Engineering***

Required coursework: Aside from GEOL 790 and 795, there are no core courses specified for the M.S. degree in geological engineering. Students that are admitted to this program from Bachelor of Science degrees that are non-engineering related are expected to make up the following undergraduate course deficiencies as a minimum: CE/MECH 241 (statics), CE 372 (strength of materials), and MINE 350 (fluid mechanics). Additionally, a student’s examination committee may recommend that the third semester of calculus and a course on differential equations be added as deficiencies. All M.S. students in geological engineering are required to take the Fundamentals of Engineering examination prior to graduation and this is the reason why deficiency coursework is

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<sup>24</sup> <http://www.unr.edu/Documents/graduate-school/dissertation-final-review-approval-form.pdf>

<sup>25</sup> <http://www.unr.edu/grad/forms/thesis-filing-guidelines>

<sup>26</sup> <http://www.unr.edu/grad/forms/thesis-filing-guidelines>

<sup>27</sup> <http://www.unr.edu/grad/forms/dissertation-filing-guidelines>

<sup>28</sup> <http://www.unr.edu/grad/graduation-and-deadlines/dissertation-title-form>

<sup>29</sup> <https://www.unr.edu/Documents/graduate-school/17doctoral-degree-admission-to-candidacy-updated.pdf>

required of students from non-engineering backgrounds. Moreover, all M.S. students are encouraged to take at least one course from each of the geological engineering faculty for purposes of broadening knowledge of the geological engineering discipline. Students have two degree options: thesis and non-thesis. Students opting for the non-thesis option are required to write a professional paper and pass an oral examination prior to graduation.

### ***M.S. Geophysics***

Required coursework: Aside from GEOL 790 and 795, there are no core courses specified for the M.S. geophysics. In addition, for those students specializing in seismology, there is a recommended course sequence for that can be obtained from the Seismology Office. For students specializing in other areas of geophysics, the course work laid out in the Program of Study is designed by the Advisory/Examination Committee on an individual basis.

### ***Ph.D. Geophysics***

Required coursework: Aside from GEOL 790 and 795, there are no core courses specified for the Ph.D. degree in Geophysics. Course work as laid out in the Program of Study is designed by the Advisory/Examination Committee on an individual basis.

### ***M.S. and Ph.D. in Hydrology and Hydrogeology***

Contact the [interdisciplinary graduate program in Hydrologic Sciences](#)<sup>30</sup> for specific information relating to exams and coursework. (775) 784-6469

## **VII. A Final Word**

We on the faculty hope that these Guidelines and suggestions will be helpful to you. It is our intent that this written record of what is required of both students and faculty involved in our graduate programs will encourage fruitful and enjoyable interactions in our Department. Please feel free to discuss any aspect of the graduate program with your Advisor, the Graduate Program Director, and the Department Chair. If you find aspects of this document that need clarification or revision, be sure to let the faculty know so that we can improve the Guidelines for the next edition. Good luck in your graduate studies!

### ***Graduate Student Association***

The [Graduate Student Association](#)<sup>31</sup> (GSA) represents all graduate students and promotes the welfare and interests of the graduate students at the University of Nevada, Reno. The GSA works closely with appropriate university administrative offices, including the Graduate School and Student Services and reports to the President of the University. The GSA government functions through the Council of Representatives, Executive Council and established committees.

### ***Graduate School Forms***

All [forms](#)<sup>32</sup> are available at The Graduate School website.

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<sup>30</sup> <http://www.hydro.unr.edu>

<sup>31</sup> <https://www.unr.edu/gsa/>

<sup>32</sup> <https://www.unr.edu/grad/forms-and-deadlines>

### Schedule for M.S. Degree in Geological Sciences

#### **First semester:**

1. Graduate seminar (Geol 790)
2. Select Thesis advisor
3. Discuss program of study with Thesis advisor
4. Discuss possible thesis topics with Thesis advisor

#### **Second semester:**

1. Select Advisory/Examining committee
2. Prepare thesis proposal
3. Comprehensive exam (GEOL 795). Hold first committee meeting to defend proposal and obtain approval for Program of Study from committee.
4. Begin thesis research
5. Submit Program of Study to Graduate School

***Annual Progress Report due April 15<sup>th</sup>***

#### **Third semester:**

1. Complete 3/4 of classes
2. Discuss thesis outline with Thesis advisor. Write introductory and background sections of thesis.
3. Go to Graduate School web site and familiarize yourself with upcoming deadlines to apply for graduation and submit notice of completion.

#### **Fourth Semester:**

1. Graduate Seminar Geol 698 and
2. Complete all classes for MS degree
3. Submit rough drafts of thesis text to advisor early in semester
4. Wrap up thesis research early in semester
5. Circulate thesis draft to committee, allowing sufficient time for their review (usually 3 weeks minimum).
6. Apply for graduation
7. Schedule final defense with committee once draft is approved.

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<sup>33</sup> <https://catalog.unr.edu/>

8. Present public oral thesis defense. And  
revise thesis as necessary.
9. Submit a draft of thesis at time of  
defense to department Chair.
10. Obtain signatures on notice of  
completion and turn in with thesis by  
deadline posed on the Graduate School  
web site.

***Annual Progress Report due April 15<sup>th</sup>***

**Recommended schedule for Ph.D. Degree in Geological Sciences (entering with M.S.)**

**First semester:**

1. Graduate seminar (Geol 790)
2. Select Dissertation advisor
3. Discuss program of study with  
Dissertation advisor
4. Discuss possible Dissertation topics  
with advisor
5. Select 2 additional departmental  
members for Advisory/Examining  
committee

**Second semester:**

1. Finish selecting Advisory/Examining  
committee
2. Prepare dissertation proposal outline and  
draft
3. Hold committee meeting; pass qualifying  
exam, obtain approval for classes, proposal  
outline, and Program of Study from  
committee.

***Annual Progress Report due April 15<sup>th</sup>***

**Third semester:**

1. Continue class work
2. Dissertation research (begin during  
prior summer)
3. Complete dissertation proposal and  
circulate to committee for approval.
4. Copy of proposal to Graduate Director

**Fourth Semester:**

1. Complete class work
2. Pass written and oral comprehensive  
exam
3. Apply for Candidacy
4. Continue dissertation research
5. Submit Program of Study to graduate  
school

***Annual Progress Report due April 15<sup>th</sup>***

**Fifth semester:**

1. Wrap up research
2. Begin writing introductory sections of dissertation
3. Begin circulating rough drafts of dissertation to advisor
4. Go to Graduate School web site and familiarize yourself with upcoming deadlines to apply for graduation and submit notice of completion.
6. Public presentation of thesis and defend to committee, revise dissertation as necessary
7. Submit a draft of dissertation at time of defense to department Chair.
8. Obtain signatures on notice of completion and turn in with thesis by deadline posed on the Graduate School web site.

**Sixth Semester:**

1. Complete residency requirement
2. Circulate draft of dissertation to advisor early in semester. (Allow 3 weeks for review)
3. Circulate revised draft to committee (allow 3 to 4 weeks for review)
4. Apply for graduation
5. Schedule final oral exam (defense) with committee.

**Recommended schedule for Ph.D. Degree in Geological Sciences (entering without M.S.)**

**First semester:**

1. Graduate seminar (Geol 790)
2. Select Dissertation advisor
3. Discuss program of study with Dissertation advisor.
4. Discuss possible Dissertation topics with advisor

**Second semester:**

1. Select Advisory/Examining committee
2. Prepare dissertation proposal outline
3. Hold first committee meeting, obtain approval for classes, proposal outline and Program of Study from committee

***Annual Progress Report due April 15<sup>th</sup>***

**Third semester:**

1. Dissertation research (begin during prior summer)
2. Continue class work
3. Work on dissertation proposal
4. Schedule Qualifying Exam (after 24 credits)

**Fourth semester:**

1. Continue dissertation research
2. Complete dissertation proposal and circulate to committee
3. Copy of proposal to graduate Director
4. Submit Program of Study to graduate school

***Annual Progress Report due April 15<sup>th</sup>***

**Fifth semester:**

1. Continue dissertation research
2. Complete class work
3. Pass written and oral comprehensive exam
4. Apply for Candidacy

**Sixth semester:**

1. Complete residency requirement
2. Wrap up dissertation research.
3. Begin writing introductory sections of dissertation.

***Annual Progress Report due April 15<sup>th</sup>***

*Depending on progress on your research topic, continue with coursework and thesis credits until prepared to proceed. Note the expectation*

*for time to completion for a PhD without an MS is a maximum of 5 to 6 years.*

**Seventh semester:**

1. Wrap up dissertation research
2. Circulate draft of dissertation to advisor (Allow 3 weeks for review)
3. Go to Graduate School web site and familiarize yourself with upcoming deadlines to apply for graduation and submit notice of completion.

**Eighth semester:.**

1. Circulate revised draft to committee (allow 3 to 4 weeks for review)
2. Apply for graduation
3. Schedule final oral exam (defense) with committee Post public announcement of your defense a minimum of 1 week in advance and choose a room that will hold a sufficient public audience (30+ people)
4. Public presentation of thesis and defend to committee, revise dissertation as necessary

5. Submit a draft of dissertation at time of defense to department Chair.
6. Obtain signatures on notice of completion and turn in with thesis by deadline posed on the Graduate School web site.