

Student Handbook for the Ph.D. in Geology
Rowan University

Department of Geology, School of Earth and Environment, Rowan
University

Created: September 2021

Finalized: August 2023

Revised: April 2024

Department Chair, Professor Harold C. Connolly Jr.
Director of the Ph.D. in Geology Program,
Associate Professor Gerald Rustic

Email: geology@rowan.edu

1. INTRODUCTION

The curriculum for the Ph.D. in Geology at Rowan University was designed with an emphasis on the importance of (1) performing cutting edge research, (2) contributing in novel ways within their sub-disciplines by publishing results in high-impact, peer-reviewed journals, (3) competitively win, and properly manage, research grants, and (4) to be effective and efficient communicators of science. Students graduating with a PhD in Geology will be trained as high impact researchers and prepared for positions within academia, industry, or government agencies.

The Department of Geology within the School of Earth and Environment of Rowan University is a leader within the discipline of Geology and related fields with faculty expertise in paleontology, global climate change, planetary science, petrology, glaciology, and Earth Science education to name a few. The department is the academic steward of the Jean and Ric Edelman Fossil Park at Rowan University, a destination to discovery for the public and professional researchers alike. The department has close academic ties to the other two units of the School of Earth and Environment, Environmental Science and Geography, Planning and Sustainability, plus to the College of Engineering and the College of Education. Students are encouraged to peruse any avenue of potential interdisciplinary research with other departments or colleges, as well as that founded in traditional geology studies. Rowan University is a Carnegie ranked R2 institution and we are committed to excellence in cutting-edge research, education, and outreach.

Our Ph.D. handbook summarizes the requirements and procedures that you need to know as a Ph.D. student in the Department of Geology at Rowan University. The purpose of this handbook is to help students navigate the Ph.D. program in Geology. The handbook is a formal document that compiles information contained in the most recent Rowan University documents regarding the general requirements for the Ph.D. degree as well as all policy and procedure of the Department of Geology concerning meeting the qualifications for a Ph.D. in Geology. The handbook should be viewed as a kind of contract between individual Ph.D. students or candidates and the Department of Geology within the School of Earth and Environment.

2. DISSERTATION COMMITTEE

By the end of a Ph.D. student's first semester, they must declare their dissertation committee, with a chair. The process requires a form to be filled out and filed with the Chair of the Department listing all the committee members including designation of the chair of the committee. The committee must be composed of three members of the fully time graduate faculty, at least two of which must also be full time faculty members either tenured or tenured track within the Department of Geology. Ideally the chair of the committee is the advisor of the Ph.D. student. In addition, there must be at least one additional member of the committee that is from outside of Rowan University and approved by the both the chair of the committee and the director of the Ph.D. program or the Chair of the Department of Geology. Thus, a student's committee must be composed of at least four members with no more than a total of five (a total of two external committee members is possible). Students must fill out the appropriate departmental form to declare their committee membership.

The Chair of the Department of Geology sits as *ex officio* on all Ph.D. committees, and they are required to administer the qualifying exams or appoint a member of the faculty to do so.

3. DEGREE REQUIREMENTS

The degree of Doctor of Philosophy is awarded for the successful completion of the following requirements (Table 1): 72 course credits, including core courses and transfer credits if applicable; passing of the First and Second Examinations and Advancement to Candidacy; final defense of the dissertation, which includes full approval of the dissertation. Details of these requirements can be found below.

Table 1. Quick glance table of the program requirements mapped to milestones.

	End of semester 1	End of Year 1	End of Year 2	Final Year (Year 3, 4, or 5)
Achievement	Declare dissertation committee	Complete 36 credits of coursework Qualification examination: Written examination Oral examination (1 month after written) Review/Qualification Exam Exit Interview	Complete 36 remaining credits of coursework Candidacy examination: Dissertation proposal submitted to committee Oral examination (1 month after proposal submission) Review Interview	Dissertation defense examination
Status	PhD student	PhD student	PhD candidate	PhD

3.1 Credits

At least 72 credits of approved graduate work, including all required course work. A maximum of 30 acceptable graduate credits taken prior to admission to the doctoral program in the Department of Geology at Rowan University may be applied toward the Ph.D. degree provided the courses were completed with a grade of B or higher within an appropriate period preceding the time of application and are equivalent to comparable courses in the Department of Geology at Rowan University.

3.2 Passing the Qualification Examination

Passing of the Qualification Exam must occur after the first year in order for a student to advance to their second year in the program. Passing must occur at the level of a B or better. Failure to pass the qualification exam is grounds for dismissal from the program. A student may retake all or part of the exam once, after an appeal has been made to the program director or department chair and approved. Retaking of the exam must occur within 3 months of the first sitting of the exam or within the time frame set by recommendations from the examination committee. Details of the exam are provided below.

3.3 Candidacy Examination

Students are required to take the Ph.D. Candidacy Examination after their second year in the program. A student must pass the exam with a B or better. It is possible to retake the exam once

after a formal request made in writing is approved by the program director and the chair of the department. Retaking of the exam must occur within 3 months of the first sitting of the candidacy exam. Details of the exam are provided below. Upon completion (or terminal failure) of the Candidacy Examination, a student may apply for a M.S. degree in Geology from Rowan University.

3.4 Dissertation Defense Exam

All students must defend their dissertation and the research presented therein near the end of their last year in the program once they have received written permission from their dissertation committee and the director of the Ph.D. program (or department chair) that they are indeed ready for the exam. Details of the exam are provided below.

3.5 Dissertation

Students must complete a dissertation that embodies original research. The dissertation must be defended at an oral final examination and follow all the guidelines, formats, and procedures for dissertations established by Rowan University. <https://sites.rowan.edu/sgs/graduate-academic-services/thesis-dissertation-manual.pdf>.

3.6 Time Limit for the Doctoral Degree

All requirements for the degree must be completed no later than five years after matriculation. A one-year maximum extension for the dissertation for full-time students may be granted after approval of a written application for such a stay to the Ph.D. program in Geology and Chair of the Department of Geology.

3.7 Satisfactory Academic Progress

Students must be making satisfactory progress toward the degree to maintain status to be eligible for any financial assistance from Rowan University. A student is deemed not to be making satisfactory progress if he or she has a grade point average below 3.00, has accumulated more than two open grades (INC, etc.) and/or have not passed their exams in the time frame stipulated above.

3.8 Review interviews

All students are required to meet with the program director or department chair at the end of each year in the program for a review interview. During these reviews, students will receive feedback from the faculty of the program, including formal feedback from the student's dissertation committee, as to the nature of their progress within the program. Students will, at such time, provide feedback to the program director (or department chair) on their experiences in the program and possible ways to improve upon it. Failure to attend any one review may be grounds for dismissal from the program or withholding of a student's graduation.

3.9 Waiver of Requirements

To waive any specific requirement for the degree, a student may petition the program and appropriate representative of the Dean of the Graduate School.

3.10 Requirements for Program Success

Student outcomes within the Program are assessed through the passing of three exams and

completion of coursework as discussed below.

4.0 EXAMINATIONS

4.1 Qualification Examination

To be eligible to sit for the qualification exam all the following requirements must be met: (1) Completion of required courses with a grade of a B or better within the first year of the program, and (2) The student has established an approved dissertation committee.

Exam format: The Qualification Examination within the Department of Geology has two parts, written and oral.

Implementation of Exam: To occur no later than 2 months after the spring semester concludes. Notice to the student(s) sitting for the exam plus all examiners (committee members and those *ex officio*) is three weeks before the exam dates.

The written exam is composed of two parts:

(1) General Examination is the first part of the qualifying examination and is composed of questions from each of the professors who taught the six, first-year courses. No more than two questions may be submitted from each of the professors who taught a first-year course, and each question should not take more than an estimated one hour to answer. Students must answer all questions posed.

Summary: Number of questions for the exam: Minimum of 6 with a maximum of 12.

(2) Subject Specific Examination is the second part of the qualifying examination and is focused on questions submitted only by the dissertation committee members. All members of the dissertation committee will submit no more than three exam questions for their portion of the exam. Exam questions must be collected and collated by the chair of the dissertation committee and provided to the director of the Ph.D. program or department chair within one week of the scheduled examination.

Summary: Number of questions for the exam: Minimum of 4 (for a 4-member committee) for with a maximum of 15 (for a 5-member committee).

The exam is administered by the director of the Ph.D. program or department chair (or their designee). The major goals of the written exam are to (1) assess how well a student can communicate in writing, (2) assess the knowledge base of the student as gained from their classes during the year, and (3) a demonstrate clear understanding of the subject matter in their subdiscipline and thus future dissertation research area. The written exam may be held all in one day or over two, consecutive days as decided upon by the direction of the Ph.D. program in consultation with the department chair.

The oral examination is held within one month of completion of the written examination. The

examining board is composed of all members of the student's dissertation committee chair, plus the director of the program (or department chair or their designee) plus one member from the general faculty who is a member of both the graduate and undergraduate faculties in geology but not a member of the student's committee. These latter two members are *ex officio* serve on all Ph.D. qualification examinations within the department, with the non-program director (or department chair) serving for three-year terms. Neither the director of the Ph.D. program (department chair) and the member from the general faculty are required to ask any questions of the candidate, but they are invited to do so as needed. Their main role is to serve as a witness to the fair and honest nature of the examination process. Should there be any reason to question the effectiveness or fairness of the implement of the oral exam, the general faculty member and program director will be expected to file a formal protest with the department chair. Upon the review of the charges by the chair, the exam may be implemented again and/or members of the candidates committee can be replaced by the department chair in consultation with the program director and chair of the committee, unless it is the latter who will be replaced (then just the department chair and program director). In part the responsibility of the director of the program (or Chair) is to ensure that the examination is implemented correctly, fairly, and that all participants interests are respected and appreciated. The examination is not open to the public, but only those members of the examination board.

The oral exam is an important component that allows the committee to (1) assess the student's ability to pose a research question, (2) think through an appropriate method to attempt an answer such a question, (3) to assess how well a student understands their own research and how well they can ground their project/topic within their discipline and Earth Sciences at large, and (4) show their level of communication across a diverse audience including the typical 'elevator speech' being provided by the student to the examination board. Students may be questioned on answers they provided in the written part of the exam or any new subject that committee members feel appropriate to ask or discuss. The examination will not exceed three hours. The chair of this portion of examination will be the director of the program (or the department chair or their designee).

After completion of the oral exam, the committee chair will ask the student to leave the room while the committee deliberates on the outcome of the entire qualification exam. This process cannot take more than one hour. After the committee completes their deliberations, the student will be called back to the room with the committee (or back onto an electronic conferencing venue) and informed of the results. The appropriate paperwork is then filled out in front of the student and

Qualification Examination Exit Interview

Upon completion of the Qualification Examination, all students in the program are required to attend, either in person or via some electronic communication method, an exit interview that will coincide with their review interview with the program chair. In the interview, the program director will review the outcomes of the exam with the student. At this time, a formal review of the student's progress through the program is also reviewed and provided. The program chair will consult with the department chair on the student's progress and exam results before meeting with the student.

If a student did not pass all or part of the exam, during the interview they will be informed of their

path forward based on the recommendations of the examination committee. A student may be required to re-take all or part of the exam within three months of completing their first attempt or need to follow other recommendations from the examining board.

4.2 Candidacy Examination

For a student to be eligible to sit for the Candidacy Examination the following is required: (1) Passing of the Qualification Examination with a B or better, (2) Completion of the second year within the program and successful completion of all course work offered within that year with a B or better, (3) Permission of the dissertation committee to sit for the examination, and (4) Submission of a draft dissertation proposal to the student's dissertation committee.

Exam Format: The structure of the examination is that the student's dissertation committee must receive the proposal at least one month prior to the scheduled examination. The Candidacy Examination is an oral examination conducted by a student's dissertation committee along with the director of the Ph.D. program (or department chair or their designee) during which the student describes and defends all aspects of their proposal. The student must be able to explain their research in the context of the historical development of the research discipline; relate their project to ongoing research in their field and must demonstrate a thorough command of the literature relevant to the research. The examination must take place at the end of a student's second year in the program and upon completion of all relevant course work. If these two milestones have not been achieved, then the director of the program must work with a student's mentor to determine a best course of action for the quickest pathway to sit for the examination.

The exam must occur within the department, although it can also be hybrid via a digital method if needed, and is limited to three hours, with a maximum of one hour devoted to an oral presentation by the student candidate. The chair of the examination committee shall be the student's dissertation advisor as defined above. The program must be notified of the exam at least one month in advance and the notice must contain the following information: Student name, date, time, and room number of the exam, name of the members of the committee, and the title of the exam/dissertation. Following the exam, the committee may require revisions to the proposal to be completed within 3 months of the exam. A student, at the decision of the committee, may also be required to re-take the oral exam within a designated time frame recommended by the committee and agreed upon by the director of the program or the department chair. The presentation part of the examination must be open to the public, and at most 30 minutes of the second part of the examination must be open to questions from the public. The last part of the examination is closed session with only the student and the examination committee, plus the director of the program or their designee, present. After the examination has been completed, the examining committee will enter into closed deliberations with the candidate. Upon completion of their discussions, the committee must inform the student immediately of their decision (pass or fail) and provide critical feedback within 48 hrs of the examination as to the outcome (e.g., details on their grade and why). All appropriate paperwork must be completed at the time of exam feedback is provided.

Upon successful completion of the candidacy examination and the first two-year's worth of coursework, the student will be admitted for candidacy within the doctoral program. Working with their committee the student will conduct research for the doctoral dissertation and write the dissertation.

Upon approval of the dissertation by the dissertation Committee, the Department of Geology Ph.D. program director or Chair will schedule that student's dissertation defense.

A formal review of the student's progress in the program and their achievement to candidacy status will occur within one month of passing their candidacy examination. During that interview, students are encouraged to provide feedback on the program to the director of the program.

4.2 Dissertation Defense Format

The exam must occur within the University and can be hybrid with a digital format. The defense requires an oral presentation with maximum of one hour. The chair of the committee shall be the student's dissertation advisor and shall orchestrate the examination. The oral presentation must be open to the public (maximum one hour of questioning from the public after the conclusion of the student's presentation) and questions from the floor may be entertained at the discretion of the chair. After closing questioning from the public, the chair will convene a closed session of the committee for questioning the candidate. The entire examination may not last more than four hours.

It is the responsibility of the chair of the committee to contact the program director at least four weeks in advance to schedule the defense. The notice must contain the following information: Student name, proposed date and time, the Committee members' names (including their campus affiliation and e-mail addresses), and lastly the complete title of the dissertation. Upon successful completion of the defense, all paperwork must be filed immediately thereafter. If a student does not pass the defense, they have up to six months to retake the exam following the recommendations of the committee and by petitioning, in writing, the chair of the committee and the director of the program and chair of the department. Written agreement from all three must be provided to the student within two weeks of receipt of the petition. An agreement to permit another try is not guaranteed and must be supported by the above three faculty members.

Change log:

Originally drafted in September 2021.
Revised November 2022.
Revised August 2023.
Revised April 2024.

Notes:

Chair may be interchangeable with Head unless the department should have both at some point in the future, then both will need to act in consultation with each other and it is the chair's job to implement all policies and procedure in collaboration with the Ph.D. program director.