



BOISE STATE UNIVERSITY

Graduate Student Handbook: Geoscience Degree Programs

Department of Geosciences

Boise State University

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Introduction

This graduate student handbook is intended as a supplement to official university publications such as the *Boise State University Graduate Catalog* and the *Standards for Preparation of Dissertation, Theses, and Projects*. The purpose of this handbook is to provide students and faculty with information about the required curriculum, timeline, and policies of the graduate programs administered by the Department of Geosciences. Specifically, this handbook covers the following degree programs:

- M.S. Geophysics
- M.S. Geosciences
- M.S. Hydrologic Sciences
- Ph.D. Geophysics
- Ph.D. Geosciences

The Department of Geosciences also offers a professional Master of Earth Science (M.E.Sci.) degree that includes the completion of coursework and a capstone portfolio but does not require the completion of an original research thesis. More information on this program, including its curricular requirements, can be found in the *Boise State University Graduate Catalog*.

While efforts are made to keep this handbook current, it is the student's responsibility to stay informed of changes in the Graduate College and Graduate Program policies and regulations. This handbook is updated as of **October 2022**. For more up-to-date information and links to current forms, both within the department and university, refer to the graduate student resources page at <https://www.boisestate.edu/earth/graduate-student-resources/>.

Description of Geoscience Graduate Degrees

The degree programs encompassed by this handbook are research-based degrees and incorporate advanced coursework. Admission to these programs is based on the compatibility of the applicant's research interests with those of a prospective primary advisor, the availability of support (assistantships), and the applicant's academic preparation and potential. A student admitted into a M.S. or Ph.D. program, with the exception of the Masters of Earth Science, is expected to write and present both a research proposal and a thesis or dissertation based on original research carried out by the student. The thesis/dissertation should make significant contributions to the body of scientific knowledge. The M.S. thesis may be more narrowly focused and limited in scope than a Ph.D. dissertation, and contributions to the body of scientific knowledge may consist of application of current theory, extension of analytical methods to novel systems, and/or application of existing analytical approaches to extant datasets. A Ph.D. student must also complete preliminary exams designed to assess knowledge in topics relevant to the degree program and dissertation research.

More thorough descriptions of the graduate degree program requirements and milestones can be found at the Department of Geosciences website (<https://www.boisestate.edu/earth/graduate-student-resources/>), the Boise State Graduate College website (<https://www.boisestate.edu/graduatecollege/>), other portions of this handbook and the handbook's supporting documents.

Department of Geosciences Assistantships

The Department of Geosciences is able to fund graduate students through Research Assistantships (RAs), Graduate Assistantships (GAs), or a combination of the two over the course of a graduate student's tenure. Both RAs and GAs sign contracts for nine month periods that include tuition waivers and stipends for the academic year and year-round health insurance. Please refer to the Graduate College website (<https://www.boisestate.edu/graduatecollege/funding/ga-information-for-departments/current-rates/>) for more information regarding tuition rates and health insurance coverage dates for spring, summer, and winter graduations. Continued funding is contingent upon full time enrollment, satisfactory progress of their degree program, and availability of funds. Students should read the terms of their contract letter carefully to make certain there are no misunderstandings about the length of support or conditions for remaining in good standing. Students funded as GAs or RAs are considered employees of the university and will receive an employee email address (student_name@boisestate.edu) in addition to a student email address (student_name@u.boisestate.edu).

Department-funded GAs carry a responsibility of providing up to 20 hours of service to the Department per week, most often in the form of serving as a Teaching Assistant (TA) for two or more sections of a class. Assignment of Teaching Assistants to classes and sections occurs prior to the Fall and Spring semester and is coordinated by the chair of the Department of Geosciences. During the contract period, a Graduate Assistant (GA) cannot work for Boise State University under any compensable arrangement other than the GAship. Department policy prohibits students on GAs from accepting additional employment without the written approval of the primary advisor and the program. GAs may seek extramural funding and job opportunities during the summer months if it is in their professional or personal interest.

Research assistantships (RAs) funded by research grants also support many students. The terms of such assistantships will depend on the amount of funding available and the terms of the grant. The principal investigator of the grant or primary advisor can provide details of expectations for students funded with RAs. Boise State University places limits of up to 20 hours that the RAship supervisor may assign in order to satisfy the work obligation of the assistantship, however this limit is independent of the substantial time spent by the RA on educational and developmental activities including research.. Summer RA funding is at the discretion of the student and their primary advisor and should be discussed well in advance of the summer term (i.e., March).

Students may also secure funding through external fellowships. While some fellows maintain employee status and associated benefits (e.g., NASA FINESST awardees), others are not considered employees and health insurance may not be included as a benefit (e.g., NSF GRFP). The fellowship stipulations should be reviewed with the student's primary advisor prior to award acceptance and they should work with a representative of the graduate program committee to identify alternative options for tuition and/or health insurance support as needed.

Terminology used in this handbook

The ***Department of Geosciences*** is in the College of Arts and Sciences (COAS) at Boise State University. Six graduate degree programs (including five with thesis/dissertation requirements) are administered by the Department of Geosciences. Graduate courses offered by the department have either GEOPH, GEOS, or GEOG as a prefix. Graduate students may enroll in classes with either prefix to fulfill geology, hydrology, and geophysics degree programs. The Department of Geosciences is led by a rotating ***department chair*** who generally serves a three-year term.

The ***Graduate College*** is a university-wide office that handles policy and procedures common to all graduate students. The Graduate College is led by a ***Dean***.

The ***primary advisor*** is usually the individual who most closely works with the student in their research capacity. A primary advisor outside of the department may be endorsed to advise a graduate student within the Department of Geosciences, however an ***administrative advisor*** (from within the Department of Geosciences) must also be on the ***Supervisory Committee***. Eligible primary and administrative advisors are provided in the current ***Boise State University Graduate Catalog***.

The ***Supervisory Committee*** is a group of 3 to 5 faculty or professionals who advise, give feedback, and ultimately approve the thesis or dissertation of the graduate student. Non-BSU faculty may serve on graduate student committees with approval from the Graduate College so long as they represent a minority of the committee.

The ***Graduate Program Committee (GPC)*** is a group of (usually) three regular Department of Geosciences faculty members who rotate through the role of ***Graduate Program Coordinator***. They are responsible for assuring that students, advisors, and committee members comply with graduate student policies outlined in this handbook and in the graduate student catalog. They also liaison between the Department and the Graduate College. They can be used as a resource and should be consulted if issues arise with the ***Supervisory Committee*** or ***Graduate College***.

Orientations

New Students

All new graduate students are required to attend program orientations held during their first semester. In the fall semester these orientations include:

- 1) introductions of faculty/staff/students made during the first meeting of *Graduate Seminar* (held as part of GEOS598)
- 2) orientation provided in Introduction to Research Program Development (GEOS601) offered in the Fall each year.
- 3) teaching orientation required of students who are funded or partially funded on GA lines. This orientation includes a formal meeting held by the Graduate College during the week prior to first classes. Additional teaching orientations may also be provided internally by the department.
- 4) onboarding meeting with GPC member(s) in the middle of the first semester (initiated by GPC)

While most graduate students begin their programs during the fall semester it is not uncommon for some students to start in the winter semester or summer. For students admitted off-cycle (in January) the primary advisor is responsible for conveying critical orientation materials. These students should also reach out and arrange to meet with the *GPC* for an introduction during their first month on campus.

Returning Students

- 1) introductions of faculty/staff/students made during the first meeting of *Graduate Seminar* (held as part of GEOS598)
- 2) teaching orientation for first-time GAs is obligatory and is recommended for students who have previously had TA support. This orientation includes a formal meeting held by the Graduate College during the week prior to the first week of classes. Additional teaching orientations may also be provided internally by the department.
- 3) yearly GPC check-in as a part of group meetings (initiated by GPC)

Student Responsibilities

General

The Department of Geosciences will provide the necessary tools and the environment for the student's growth and professional development. The primary advisor has the responsibility for regular mentoring of their students. The student is responsible for understanding all deadlines and academic requirements and initiating a process of regular communication with the primary advisor and supervisory committee.

Additionally a student is responsible for:

- Completing all forms and paperwork required of all graduate students at Boise State in advance of appropriate deadlines.
- Completing all forms and paperwork required of Department of Geosciences graduate students
- Checking email regularly. Email is the primary professional correspondence used in the Department of Geosciences and for Boise State University business. It is the obligation of the student to check both student and employee email accounts or initiate email forwarding between accounts as needed. The employee email address should be used primarily for professional correspondences.
- Working with the primary advisor, committee members, and GPC to ensure that all degree requirements are met in a timely manner.
- Forming a supervisory committee in the first year, meeting with the committee semesterly, and submitting a progress assurance form semesterly to the committee.
- Completing the appropriate number of credits for their degree, including GEOS/GEOPH593 or GEOS/GEOPH693 research credits.
- Spending appropriate amounts of time each semester to achieve excellence in research activities, course work, and (if applicable) teaching. Participating in synergistic scholarly and outreach activities such as attending and presenting at conferences and communicating science through publication, seminars, and educational outreach opportunities.
- Representing the shared values and mission statement of the Department of Geosciences (see <https://www.boisestate.edu/earth/>)
- Planning for and registering for classes in a timely manner and remaining in good academic standing, which includes maintaining a minimum 3.0 GPA

Curricular Expectations

Careful planning at the start of the graduate program is essential for a student to complete program requirements in a timely manner. Up-to-date descriptions of curricular requirements for a student's particular degree program are provided in the Graduate Student Catalog (<https://www.boisestate.edu/graduatecatalog/>). Students must refer to the list of curricular requirements for their degree program. Students should use the catalog guidelines for the academic year they were admitted, however with permission from the Supervisory Committee they may petition the Graduate College and Registrar for another year's catalog.

Some graduate students may consider satisfying curriculum requirements using transfer credits from another university. This is permitted with successful submission and approval of a Request for Approval of Transfer Credits form found at the Graduate College pages (<https://www.boisestate.edu/graduatecollege/forms/>). More than half the total degree credits need to be completed at Boise State.

A minimum registration of 9 credit hours (per semester) is needed for Department of Geosciences graduate students to maintain their benefits and funding, however students are allowed to register for up to a maximum of 16 credit hours per semester. Registering for more than 12 credit hours, however, is not generally recommended and should only be allowed following discussion with the primary advisor. Students also should seek approval to register for classes at the 300-level (or lower) and for classes that could be construed as unrelated to the course-of-study (e.g., art, music, language). Students do not need to register for classes in summer unless they are planning to graduate. During the semester of graduation (including summer) students must sign up for at least 1 credit of GEOS/GEOPH593 or GEOS/GEOPH693.

Two classes are required for all graduate students:

- GEOS601 (2 credits; fall semester of first year) - *Introduction to Research Program Development* covers student orientation, work-life balance, career development, and introduction to research.
- GEOS598 (1 credit; required registration every semester but only 1 credit counts towards degree) - *Graduate Seminar* provides a weekly opportunity for students to learn about a wide array of topics related to Earth science.

The following class is required for thesis-producing M.S. students:

- GEOS593 or GEOPH593 (variable credit; recommended every semester) - *M.S. research*. Students are required to complete a minimum of 6 thesis credits and should sign up for credits with their primary advisor. Satisfactory progress results in a provisional passing grade (IP) awarded by their advisor. These IP grades become a passing grade when the thesis is accepted.
- A special case of GEOS/GEOPH593 (variable credit) is in the second semester of the M.S. program when students present their proposal for research in written form to their committee and in oral form to the Department of Geosciences community. Full details and expectations for the *Masters Thesis Proposal* are provided as an appendix in this handbook.

Three classes are required for Ph.D. students:

- GEOS693 or GEOPH693 (variable credit; recommended every semester) - *Ph.D. research*. Students sign up for credits with their primary advisor. Satisfactory progress results in a provisional passing grade (IP) awarded by their advisor. These IP grades become a passing grade when the dissertation is accepted.
- GEOS687 or GEOPH687 (1 credit; usually taken in 3rd semester of Ph.D.) - *Doctoral preliminary exam* is a written test conducted over the course of one week during the first month of the semester. Preparation for the preliminary exam begins during the student's 2nd semester. Full details for the *Doctoral Preliminary Exam* are provided as an appendix in this handbook. The outcome of the preliminary exam, a prerequisite for the comprehensive exam (GEOS691), is Pass/Fail.
- GEOS691 (1 credit; usually taken in 4th semester of Ph.D.) - *Doctoral comprehensive exam*. Students present work already accomplished and their proposal for continuing research. Registration for GEOS691 is contingent upon a successful pass in GEOS/GEOPH687. Full details for the *Doctoral Comprehensive Exam* are provided as an appendix in this handbook. The passing outcome of the comprehensive exam permits students to continue in the Ph.D. program and apply for candidacy through the Graduate College.

Note on research credits: Students are encouraged to register for at least 1 credit hour of research (either M.S. or Ph.D.) each semester *unless* total credit hours will exceed 12. As part of these credit hours, students must meet regularly with their advisor and at least once per semester with their committee. In order to ensure that students are meeting their educational goals, the committee meeting should include a discussion of their completed Progress Assurance Form.

Advising

Primary Advisor Role

The *primary advisor* assumes the responsibility for day-to-day mentoring and professional development of their students. The advisor is identified during the review of the student's graduate application and must be assigned before admission. To chair a graduate committee, the primary advisor must be a member of the university's graduate faculty and hold an appointment in the Department of Geosciences. Alternatively, a faculty member outside the Department of Geosciences may serve as primary advisor if they have an endorsement from the Department of Geosciences to chair a committee and if a Department of Geosciences faculty member agrees to serve on the committee and act as an *administrative advisor*. The GPC approves of primary advisor selection and *administrative advisor* (if relevant) during the acceptance process.

Appointment of Supervisory Committee

The Supervisory Committee is charged with general guidance of the graduate student, including design and approval of the program of study, approval of research proposals (for M.S. students), administration of the preliminary and comprehensive examinations (for Ph.D. students), supervision and feedback on research progress, and participation in the thesis or dissertation defense.

The Supervisory Committee consists of a primary advisor who serves as chair, and at least two additional members for M.S. programs or three additional members for Ph.D. programs. PhD students in particular are encouraged to have a member of their committee who is external to the advisor's department. All committee members must be approved as graduate faculty. A list of approved graduate faculty can be found on the Graduate College's Faculty and Staff Resources page. If a proposed committee member is not graduate faculty, a request for nomination must be submitted by the primary advisor through the Graduate Faculty Nomination Form available under the Administrative Resources section of the Department of Geosciences website. Contact information and a curriculum vitae for the nominee must be provided. It can take several months for approval of graduate faculty requests, so they must be submitted far in advance of any degree milestone. Students should NOT directly submit graduate faculty requests.

Students should form a Supervisory Committee during their first semester of enrollment in the graduate program. Composition of the committee should be based on a reasonable match between student and faculty academic interest. Selection of the committee typically begins with the graduate student and primary advisor agreeing on appropriate committee membership. The student then contacts and meets with potential members to determine their availability to serve on the committee. Once a committee has been identified, a Supervisory Committee Appointment Form must be submitted through the Graduate College. The form will then be routed to the GPC and to the Graduate College for approval. A change in composition of the committee can be made after its appointment, but only in accordance with program policies and the approval of the Graduate College.

It is highly encouraged for students to assemble and meet with their Supervisory Committee by the end of the first semester.

Mentoring Strategies

The primary advisor is principally involved in mentoring, but all supervisory committee members are also available to provide additional support and guidance. Formally, mentoring occurs as part of M.S. or Ph.D. research credits (GEOS/GEOPH593 or GEOS/GEOPH693).

Students should arrange to meet formally with their entire committee at least once per semester to report on progress. The student is responsible for presenting a completed *Progress Assurance Form* to their entire committee for review and discussion. This form is provided as a supporting document to this handbook. The Progress Assurance Form is a short document that allows you and your committee to quickly assess your progress, identify potential barriers to success, and devise strategies for effective research and teaching (if applicable) moving forward. The advisor will retain the form and consult with the GPC if there are any issues that need to be addressed. The Progress Assurance Form should ideally be completed within the last month of the semester and can be reviewed during a committee meeting or with the primary advisor. An in-progress passing grade (IP) is given to students who are making satisfactory progress with their research. These grades become a pass (P) when the thesis or dissertation is complete and approved in the student's last semester.

Students are highly encouraged to proactively engage with their supervisory committee and with their primary advisor. Regular (weekly) meetings with the primary advisor is typical for Department of Geosciences graduate students.

Occasionally a student, or faculty, may seek to change the composition of the supervisory committee or even a primary advisor. In this case, the GPC will become involved and facilitate the transition by means of a formal petition. The ability to make changes depends upon mutual agreement of students, faculty, and GPC, and the availability of suitable funding to support the student if there is a change in primary advisor.

Very occasionally a student or faculty may decide that a change of academic program (within the Department of Geosciences) is appropriate. In these cases the Primary Advisor, Supervisory Committee, and GPC will consult with the student to assess whether a change in degree program is possible.

M.S. Programs Specific Details

M.S. Thesis Proposal (part of GEOS593 or GEOPH593)

An important benchmark for M.S. students is the thesis proposal in the second semester of the first year. The process of writing and presenting the thesis proposal is designed to help focus students for their upcoming research and provide an opportunity to practice science communication. A student should enroll in at least 1 credit of GEOS593/GEOPH593 in the semester of their thesis proposal to provide a structured time for proposal preparation.

Students must submit to their Supervisory Committee a written thesis proposal containing a brief literature review that summarizes the motivation for their work, proposed methodology, preliminary data and results (as applicable), anticipated impact, timeline, and a plan for obtaining and utilizing the resources necessary to complete the research. The recommended template for the written proposal is given as an appendix to this handbook. A complete draft proposal is evaluated by the committee and returned to the student with comments and suggestions for possible revision. M.S. students are required to give a 15-20 minute public presentation of the thesis proposal, allowing for 5-10 minutes of audience questions.

A satisfactory thesis proposal is graded as a pass by the supervisory committee and is accompanied by a letter or email of confirmation from the primary advisor. The letter may contain a request for more information or stipulations for students enrollment in directed curriculum. A satisfactory result is assigned as a grade of “in progress (IP)” for GEOS593/GEOPH593 for the semester when the thesis proposal is given.

Appropriate planning and communication with the primary advisor is needed for the thesis proposal. Scheduling of the oral proposal generally happens during the regular seminar times (GEOS598) and in the second half of the semester (e.g., after spring break for spring semester). Students are responsible for scheduling their presentation in advance, confirming that all supervisory committee members are available, and delivering a final text version of the thesis proposal to their committee *at least one week* prior to their presentation.

Admission to Candidacy

Admission to candidacy is required by all degree-seeking graduate students and serves as an essential intermediate check that a program’s curriculum requirements will be satisfied. Candidacy should be pursued as soon as a student has passed at least one-half of the total credit requirements of the program and completed their thesis proposal defense. Typically candidacy is sought in the third semester for M.S. students.

Students submit an Application for Admission to Candidacy to the Graduate College for their assessment of compliance. It is the responsibility of the graduate student to review credit requirements for their respective degree program for the graduate catalog corresponding to the year of their enrollment. It is recommended that the draft Application be endorsed by the primary advisor and the appropriate Graduate Program Coordinator prior to submission. The Graduate College conducts the final assessment as to if the proposed

curriculum satisfies the requirements of the student's program in the Graduate Student Catalog. Any transfer credits to be applied to a degree program (requested using Graduate College forms) must be approved prior to the request for candidacy. An approved Application for Admission to Candidacy is a binding agreement between the student and university. Any subsequent changes to coursework requires approval by the Supervisory Committee, GPC, and the Graduate College.

M.S. Thesis Defense Procedures

As students begin to draft their thesis they should familiarize themselves with the Graduate College's webpages on Standards for Preparation of Dissertation, Theses and Projects. These pages describe in detail formatting requirements, and deadlines and procedures for submission of theses as well as contacts of Graduate College staff who can help with questions related to thesis preparation.

An intent to graduate and give an oral defense should be discussed with the entire supervisory committee during a student's penultimate semester. The committee is well suited to evaluate whether the timeline for graduation is appropriate. Many students underestimate the time needed to provide the committee with the final thesis draft leading to overly optimistic thesis defense scheduling. Students should try to schedule their defense date by the beginning of the semester they intend to graduate and be aware of all Graduate College calendar deadlines for Thesis and Dissertation dates. Deadlines, which occur earlier in the semester than students may realize, include intent to defend forms (deadline during the first week of the semester) and last date to submit a thesis or dissertation (two thirds of the way through the semester).

Notification of the event must be provided to the Graduate College by completing a Defense Notification Form to be submitted *at least two weeks prior to the defense date*. Within this form you will be prompted to apply for graduation. Failure by any parties to abide by Graduate College deadlines may result in rescheduling of the oral defense and impact a student's ability to graduate on time.

Oral defenses are recommended as in-person presentations (when permitted) and via virtual link when necessary. The entire supervisory committee must be physically or virtually present and the date of the defense is determined jointly by the Supervisory Committee in compliance with the calendar of deadlines published by the Graduate College. Defenses should be scheduled for a time when the department community can attend (e.g., during scheduled GEOS598 meeting times).

A public defense of the M.S. thesis is held in the student's last semester after the Supervisory Committee has reviewed a final version of the thesis, which should be distributed *at least four weeks prior* to the defense. A final version of a thesis should be authorized by the primary advisor prior for distribution to the supervisory committee. This draft need not be in graduate-college approved format, but it must be complete. The reason for this timeline is to allow the Supervisory Committee ample opportunity to review the final thesis draft prior to the oral component of the defense. The entire supervisory committee should review the thesis *at least two weeks prior to the defense date* and jointly authorize the oral presentation to go forward.

The thesis defense begins with a public oral presentation of the thesis, a public question and answer period, and a closed-door defense of the thesis with the supervisory committee. After the defense, the chair/advisor of the defense committee calls for a vote to determine whether a student passes or fails. A passing grade is generally contingent upon completion of requested modifications to the thesis. A provisional passing grade decision can be provided on the day of the defense. Committee requests for revision are collated by the primary advisor and provided to the student in the form of a letter within one week of the oral defense. All revisions must then be made and stay within compliance of the calendar of deadlines published by the Graduate College.

As part of the thesis defense the student will need to obtain signed approvals from the Supervisory Committee members. The Defense Committee Approval Form should be downloaded from the Graduate College website in advance of the defense and all committee members should sign the form immediately after a successful oral defense. This form should then be submitted to the Graduate College. After implementing revisions to the written thesis, as recommended by the committee and primary advisor, the Access Agreement for a Thesis or Dissertation form should be completed by the student and signed by the primary advisor.

A student who fails the defense will be officially notified in writing and may be permitted to try again with approval from the supervisory committee and petition to the GPC.

The final version of the thesis must be submitted to the Graduate College for approval by the Dean of Graduate Studies. Before final acceptance, it must conform to the standards of the Graduate College as determined by the thesis editor. Students should refer to the Thesis/Dissertation Formatting Requirements Checklist provided by the Graduate College. The student and primary advisor should discuss whether an embargo should be requested for electronic publication of their thesis (using the Embargo Request for a Thesis or Dissertation form). An embargo is a delay in publication that is commonly requested when the thesis will be minimally revised and submitted to a journal for peer review and publication.

Upon thesis acceptance, a passing grade will be awarded for GEOS/GEOPH593 and previous semesters of GEOS/GEOPH593 will be changed by the registrar from IP to P.

Ph.D. Program Specific Details

Ph.D. Preliminary Exam (GEOS/GEOPH687)

The preliminary exam is an important tool used to assess a Ph.D. student's assimilation and synthesis of knowledge and skills needed for successful Ph.D. research activities. Students must register for GEOS/GEOPH687, for which the GPC chair is listed as the instructor, in the semester that the preliminary exams will be completed. The week-long exam must be scheduled with approval of the supervisory committee for the first month of the student's third semester, with the written exams administered over one week and the oral exams occurring approximately one week later. **Exceptions to this timeline should be discussed with your primary advisory and supervisory committee and must be requested in writing to the chair of the Graduate Program Committee at least 6 weeks prior to your examination period.** The preliminary exams should be completed when the student has developed a strong enough foundational background in their field, through coursework, independent reading, research, and other educational experiences, that they have the knowledge and skills to answer questions relevant to their degree and subdiscipline. A delay in preliminary exam may be requested for extenuating circumstances (e.g., entering the Ph.D. program directly from an undergraduate degree, by authorized leave of absence, engaging in a fellowship or extensive fieldwork for a semester). The GPC will review the petition, which must be submitted by the student's second semester, and potentially authorize a delay.

It is the obligation of the primary advisor to coordinate the distribution of study guides to the student in the semester prior to the preliminary exam. These study guides include contributions from all committee members and are intended to facilitate preparation for the exam questions. Study guides should be provided to the student at least two months in advance of the written exams.

The written exam is developed by supervisory committee members with each committee member providing one set of questions per day. The goal is to assess a student's expertise in topical subjects related to their dissertation and identify gaps in knowledge or curriculum that may need to be addressed. The supervisory committee is given some latitude in how to deliver the exam, but the student should expect one set of questions per committee member per day beginning on Monday and lasting through Thursday or Friday. Each daily set of questions is intended to be open-book and open-resource and should be answerable by a well-prepared student in about four hours. The series of questions can be provided sequentially (at the beginning of each day) or as a package at the beginning of the week at the discretion of the primary advisor and committee and with clear instructions provided to the student.

The oral exams are administered after the student has had time to reflect on and the committee members have been able to review their written responses. There is no formal structure to the oral exams but generally the committee takes turns asking the student to clarify written responses, with follow-on questions that may bridge the topical examinations. The oral exams should take no more than two hours.

At the end of the oral exam, the committee will discuss the student's overall performance. A grading rubric, scoring guidelines, and possible outcomes of the exams are provided as an appendix to this handbook. Informal feedback, including their overall assessment (pass, pass with remedial study, incomplete, or fail), should be provided immediately after committee deliberation. The primary advisor will then compile

feedback from the committee and relay it to the student and the GPC within one week of completing the preliminary examination. This feedback entails corrected answers (from each committee member) and a written assessment of the test. This assessment can either be a pass, a pass requiring students to engage in remedial study (to account for identified deficiencies), an incomplete grade allowing students to retake the preliminary exam in the following semester, or a failing grade for which re-examination is not possible. In the case of a qualified pass or incomplete the student will sign the letter requesting the remedial actions and this will be retained as a contractual obligation by the dissertation advisor and the GPC chair.

Students and primary advisor should be aware that the grade for GEOS/GEOPH687 is reported by the GPC chair as P, F, or I.

Ph.D. Comprehensive Exam (GEOS691)

The comprehensive exam represents a significant milestone and an important assessment of whether the student is prepared to advance the body of knowledge in their field. Students should register for GEOS691, for which the GPC chair is listed as the instructor, in the semester following the preliminary exam (which is typically the 4th semester) and has both a written and oral component. A passing grade in the preliminary exam (GEOS/GEOPH687) is required as a prerequisite to enroll in GEOS691. A passing grade in the comprehensive exam is required for Ph.D. students to advance to candidacy.

The Ph.D. Comprehensive exam involves both a written and an oral component. Appropriate planning is needed for both tasks and regular communication with the primary advisor and supervisory committee is critical. Comprehensive exams are generally completed in the second half of the semester. The written component must be submitted to the student's supervisory committee *at least two weeks prior* to their presentation. The oral component is typically scheduled during the Wednesday or Friday class periods for the GEOS598 regular seminar times. Students are responsible for scheduling their presentation in advance, confirming that all supervisory committee members are available. The defense must be added to the department calendar using the links provided on the department website. The requirements for the written and oral components are described in the following paragraphs.

The written component of the comprehensive exam consists of the submission of a dissertation proposal to the supervisory committee. The dissertation proposal describes the proposed scope of work, anticipated scientific impact, timeline, and a plan for obtaining and utilizing the resources necessary to complete the research. A complete proposal is evaluated by the committee and returned to the student with comments and suggestions for revision (if required). Requirements for dissertation proposals are given as an appendix in this handbook.

The oral component of the comprehensive exam consists of a public presentation (in-person pending modality restrictions) of the dissertation proposal and a private oral evaluation of the proposal with the supervisory committee. The public dissertation proposal presentation is a 35-40 minute presentation followed by 10-15 minutes of public questions. The private closed-door oral evaluation with the supervisory

committee, which will include discussion of both the written and oral products, occurs directly following the oral presentation.

It is the obligation of the primary advisor to provide committee feedback to the student and to the GPC within one week of completing the comprehensive examination. This assessment can either be an unqualified pass, a pass requiring that students modify their curriculum plan of study, or a failing grade. Failure of the comprehensive examination is documented by submission of a Report of Failure of a Comprehensive Examination form to the Graduate College and by submitting the appropriate grade for 691 Doctoral Comprehensive Examination. A comprehensive examination that is failed on the first attempt can be repeated once, but only if a second attempt is requested and approved by the program. Any request for a second attempt must be in writing to the graduate program coordinator and must be made within five (5) working days after the doctoral student has been notified of the failure. If a second attempt is not requested, or if a request is made but not approved by the program, then a grade of fail (F) is assigned to the 691 credit(s) and the doctoral student is dismissed from the program and Boise State by the Graduate College. If the request is approved by the program, then the second attempt must occur within twelve (12) months after the first attempt, and an incomplete grade (I) is assigned to the 691 credit(s) until the result of the second attempt is known. If a second attempt is not made within twelve (12) months after the first attempt, or if the second attempt is failed, then a grade of fail (F) is assigned to the 691 credit(s) and the doctoral student is dismissed from the program and Boise State University by the Graduate College. The grade for GEOS691 must be reported by the primary advisor to the GPC chair well in advance of the end of the semester grading period.

Admission to Candidacy

Admission to candidacy is required by all degree-seeking graduate students and serves as an essential intermediate check that a program's curriculum requirements will be satisfied. Candidacy should be pursued as soon as a student has passed at least one-half of the total credit requirements of the program and completed their preliminary and comprehensive exams. Typically candidacy is sought in the fifth semester for Ph.D. students.

Students submit an Application for Admission to Candidacy to the Graduate College for their assessment of compliance. It is the responsibility of the graduate student to review credit requirements for their respective degree program for the graduate catalog corresponding to the year of their enrollment. It is recommended that the draft Application be endorsed by the primary advisor and the appropriate Graduate Program Coordinator prior to submission. The Graduate College conducts the final assessment as to if the proposed curriculum satisfies the requirements of the student's program in the Graduate Student Catalog. Any transfer credits to be applied to a degree program (requested using Graduate College forms) must be approved prior to the request for candidacy. An approved Application for Admission to Candidacy is a binding agreement between the student and university. Any subsequent changes to coursework requires approval by the Supervisory Committee, GPC, and the Graduate College.

It is the responsibility of the graduate student to review credit requirements for their respective degree program for the graduate catalog corresponding to the year of their enrollment.

Ph.D. Dissertation Defense Procedures

This section outlines Department of Geoscience guidelines on Ph.D. dissertation defenses. When planning for your defense and subsequent graduation, it is extremely important that you meet all of the requirements of the department and Graduate College. **The Ph.D. timeline in the department website's student resources section is an invaluable resource in regard to requirements:**

<https://www.boisestate.edu/earth/graduate-student-resources/>. You can access most of the required forms directly from the Graduate College's *Graduate Forms & Guidelines* webpage or through links provided by the Graduate Student Success Center. Note that your committee members must all be approved as graduate faculty far in advance of your defense, so make sure your committee is approved at the beginning of the semester in which you plan to defend. The defense date should also be scheduled at the beginning of the semester that a student intends to graduate, ideally during Wednesday or Friday GEOS 598 meeting times. Graduate College dissertation deadline dates occur earlier in the semester than most students realize and include intent to defend paperwork (deadline during the first week of the semester) and last date to submit a thesis or dissertation (generally two thirds of the way through the semester). If you defend later in the semester, with a graduate date the following semester, you must still submit all the required forms and complete the graduation application before your defense.

An intent to graduate should be discussed with the entire supervisory committee during the student's penultimate semester. The committee is well suited to evaluate whether the timeline for graduation is appropriate. Many students underestimate the time needed to provide the committee with the final dissertation draft leading to overly optimistic thesis defense scheduling.

When writing your dissertation, make sure you comply with the preferred format of your primary advisor and that you also adhere to all the requirements posted on the Graduate College's webpages on *Standards for Preparation of Dissertation, Theses and Projects*. These pages describe in detail formatting requirements and procedures for submission of dissertation as well as contacts of staff who can help with questions related to dissertation preparation.

A public defense of the Ph.D. dissertation must be scheduled in advance, with notice provided to the department as well as the Graduate College. The defense is public and you will not be allowed to defend unless the Graduate College is notified of the event and has sufficient time to publicly announce the defense. A final draft of the dissertation should be approved by the primary advisor and then distributed to the supervisory committee *at least four weeks prior* to the defense. This draft need not be in graduate-college approved format, but it must be complete. The reason for this timeline is to allow the supervisory committee ample opportunity to review the final dissertation draft prior to the oral component of the defense. The entire supervisory committee must review the dissertation at least *two weeks* prior to the defense date and authorize the oral presentation to go forward. Failure by any parties to abide by these deadlines may result in rescheduling of the oral defense and impact a student's ability to graduate on time.

Oral defenses are recommended as in-person presentations (when permitted) and via virtual link when necessary. The entire supervisory committee and a graduate faculty representative from outside of the committee (see next paragraph) must be physically or virtually present and the date of the defense is determined jointly by the supervisory committee in compliance with the calendar of deadlines published by the Graduate College. The student must add the defense to the department events calendar and notify the Graduate College of the defense date by completing a *Defense Notification* form as early in the semester as possible, but no less than two weeks in advance of the defense date.

An additional requirement for the Ph.D. defense is that a Graduate Faculty Representative (GFR) be involved. The GFR is a member of the Boise State University graduate faculty outside of the Department of Geosciences who has no association or vested interest in the work of the student. This individual's obligation is to observe the defense and verify protocol is followed such that the defense is a fair and objective process. It is the obligation of the student and the primary advisor to find a GFR willing to attend the public defense and subsequent private presentation. The Graduate College maintains a list of eligible GFRs who should be invited to participate well in advance of the oral presentation. The GFR will also initiate a formal vote to pass or fail the student at the conclusion of the closed-door defense.

The oral dissertation defense begins with a public oral presentation followed by a closed-door defense of the dissertation with the supervisory committee. After the defense, the primary advisor calls for a vote to determine whether a student passes or fails. A passing grade is generally contingent upon completion of requested modifications to the written dissertation. A provisional passing grade decision can be provided on the day of the defense, however a supervisory committee will typically make the passing grade contingent upon dissertation improvements or revisions. Requests for revisions are collated by the primary advisor and provided to the student in the form of a letter within one week of the oral defense. All revisions must then be finished promptly to stay within compliance of the calendar of deadlines published by the Graduate College.

A graduating student must provide two forms to be signed by all Supervisory Committee members. The first form is a final thesis approval form and the second is an oral defense approval form. The student is encouraged to collect signatures on the day of the defense, however the thesis approval form will not be released until the primary advisor has seen and approved of the revised dissertation document and signed the approval form. A student who fails the defense will be officially notified in writing and may be permitted to try again with approval from the supervisory committee and petition to the GPC.

The final version of the dissertation must be submitted to the Graduate College for approval by the Dean of Graduate Studies. Before submission, it must conform to the standards of the Graduate College as determined by the dissertation editor. Students should refer to the Standards and Guidelines for Theses and Dissertation page hosted by the Graduate College. Upon submitting the dissertation a passing grade will be awarded for GEOS/GEOPH693 and previous semesters of GEOS/GEOPH693 will be changed by the registrar from IP to P.

Academic Standing and Probation

GPA Requirements

Student performance in the classroom provides a measure of progress and achievement and is particularly important in the early portion of a student's program. All students admitted to the program must maintain a cumulative GPA of 3.00 (including for transfer and summer courses). If the cumulative GPA drops below 3.00 the Graduate College will take action and put a student on academic probation. If the next semester's GPA drops below 3.00 the student will be dismissed from the graduate program. Probation will continue until a student's cumulative GPA rises above 3.00. Graduate students will not be authorized to graduate unless their cumulative GPA is above 3.00. A student whose semester GPA is below 3.00 will be put on academic notice by the College of Arts and Sciences. Graduate courses (500 or 600-level) must be passed at a grade of C or better to count for program credit. Undergraduate classes (400-level) must be passed at a grade of B to count for program credit.

Incomplete Grades

A grade of I (*Incomplete*) is assigned when extenuating circumstances make it impossible for a student to complete a course before the end of the semester, subject to the requirement that the student has been in attendance and has done satisfactory work for most of the semester. In order to receive an incomplete on a graduate course, the student and instructor must agree to a contract which stipulates the work that is required and the time frame in which it must be completed for the student to receive a grade in the class.

Residency Requirements and Duration of Program

A Ph.D. student must spend at least one academic year in full-time, on-campus graduate study at Boise State University. Additional residency requirements can be imposed by the dissertation advisor as needed. The minimum duration of study for the Ph.D. degree is three academic years beyond the baccalaureate degree. All requirements for a Ph.D. degree, including courses completed at another college or university, must be started and completed within a single continuous interval of no more than ten years.

Supporting Documents

[MS Thesis Proposal](#)

[PhD Comprehensive Exam](#)

[Graduate Student Resources](#)

[Progress Assurance Form](#)