

**SYSTEMS ECOLOGY
INTERCOLLEGIATE GRADUATE PROGRAM**

**COLLEGE OF HUMANITIES AND SCIENCES
and
W.A. FRANKE COLLEGE OF FORESTRY AND CONSERVATION**

**Administered by
W.A. FRANKE COLLEGE OF FORESTRY AND CONSERVATION**

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**Graduate Student Guidelines and Requirements for Policies and
Procedures**

Systems Ecology Intercollegiate Graduate Program Guidelines and Requirements

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2 OVERVIEW

This document describes the governing guidelines for the Systems Ecology Intercollegiate Graduate Program (SEIGP or Program), including the processes for application for admission and requirements for completion of a program-of-study for PhD and MS graduate students. All graduate students are administratively considered as students of the SEIGP, which is "co-sponsored" by both the College of Arts and Sciences and the College of Forestry and Conservation (CFC) and administered by the College of Forestry and Conservation (CFC). The SEIGP faculty are not restricted to DBS and CFC. Rather, SEIGP faculty come from across the campus representing many departments and schools from a wide range of disciplines. Agreement to join the SEIGP as a graduate student includes acknowledging this document as guidance for the implementation and administration of the Graduate Program and the conduct for students, until it may be modified by the SEIGP faculty.

3 DESCRIPTION OF PROGRAM

Systems Ecology, as an area of study, is an interdisciplinary approach to the study of ecological systems that focuses on interactions and transformations within and among biological systems. A key component of the discipline is recognition of the large effect of humans on most of the earth's ecosystems. The goal of the program is to produce scholars who have a fundamental, interdisciplinary understanding of interactions of physical, chemical and biological factors affecting ecological systems across spatial and temporal scales and the factors affecting coupled natural and human systems. Because ecosystems are often extremely complex, the approach to systems ecology increasingly depends on computational and analytic tools that allow for a synthetic understanding of processes and responses that influence ecosystems and humans. In addition, this type of synthesis requires cross-disciplinary thinking because relevant problems and questions often transcend traditional disciplinary boundaries.

The SEIGP focuses on transdisciplinary approaches to understanding ecological systems by integrating natural and social science perspectives, and fosters faculty and graduate students who desire to synthesize that understanding across multiple scales ranging from genes to ecosystems and minutes to millennia. The main objectives of the SEIGP are to: 1) create knowledge about linkages between natural and cultural attributes at regional spatial scales; 2) enhance the learning experience for graduate students interested in broad questions in large-scale ecology; 3) develop the professional capacity of students; and 4) use the knowledge generated through this program to inform policy, broadly defined, at multiple scales. Research emanating from the SEIGP promotes healthy ecosystems, understanding of system processes across the large landscapes and riverscapes, enhances principles of environmental stewardship, and prepares graduate students to engage in science, policy, and management in an increasingly complex world of interaction between nature and humans.

4 ADMISSION TO PROGRAM

4.1 DEADLINE FOR CONSIDERATION

The application deadline for consideration for admission starting the following fall semester is **January 31st**. The deadline for consideration for admission starting the following spring semester is **August 31st**. Application materials are available through the [UM Graduate School](#). All admissions to the SEIGP must be approved by a majority vote of the SE Graduate Admissions Committee.

4.2 ADMISSION CRITERIA

Admission to the graduate program is competitive and based on the following criteria:

1. Minimum Undergraduate GPA of 3.0; Master's Degree GPA of 3.5 (4.0 scale).
2. Minimum GRE scores of 153 (Verbal), 148 (Quantitative), and 4.0 (Analytical).
3. Strong letters of recommendation.
4. Well-articulated statement of applicant's interests and goals.
5. Documented evidence from a SEIGP faculty member stating they are willing to consider serving as the student's advisor at UM.
6. Previous research and/or relevant experience.
7. Test of English as a Foreign Language (TOEFL) score of at least 79 if the undergraduate degree was not earned at an English-speaking university.

4.3 APPLICATION PROCEDURES

Applications to the SEIGP must include the following:

1. Completed application form (available on-line from the UM Graduate School).
2. Unofficial transcript(s) of all college and university course completed. Official transcripts will be required upon admittance.
3. A short statement (1-2 pages) from an SEIGP faculty member stating they are willing to consider serving as the student's advisor at UM.
4. A Curriculum Vitae (CV) detailing work experience from college entry to present.
5. Three letters of recommendation.
6. GRE scores for verbal, quantitative, and analytical
7. Test of English as a Foreign Language (TOEFL) score, if degree was not earned from an English-speaking university.

Applications should be submitted before the application deadlines (see "Deadline for consideration" above). In some cases, the SEIGP Graduate Admissions Committee may review and make decisions on applications beyond these deadlines, but in general, applicants should adhere to the January 31st and August 31st deadlines. All applicants will be evaluated based on the Admissions Criteria above (section 4.2). Under some circumstances, students may be admitted to Systems Ecology on a provisional basis if their GRE scores and/or GPA is below the minimum admission requirements pending written request by

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the potential faculty advisor and approval by the SE Admissions Committee. If admitted provisionally, a student will be required to take at least six graded credits in their first semester (i.e., not taken as credit/no credit) and must earn at least a 3.0 GPA. These represent minimum requirements, but the faculty advisor may have additional requirements for the student to move from provisional status to full admission.

4.4 TRANSFER OF UM GRADUATE STUDENTS FROM OTHER PROGRAMS TO SEIGP

UM Graduate Students that are in other UM graduate programs may transfer to the SEIGP if: 1) their Graduate Advisor (Major Professor) is a SEIGP faculty member in good standing in the program; 2) they meet all the requirements for admission specified in section 4.2 above; and 3) upon entering the program (after January 1, 2013), all SEIGP graduate students must meet program core requirements established by the SEIGP curriculum committee. A student might, in rare circumstances, have a core course waived if the Student's Advisory Committee determines that the student has taken an equivalent course.

4.5 RESEARCH ASSISTANTSHIP (RA) SUPPORT

Most graduate students in the SE program will be supported by research funds controlled by the principal investigators (PI) of grants and contracts. All RA awards are competitive. Student eligibility will be determined based on the admission criteria outlined above, but final selection of the RA will be made by the Graduate Advisor, who most often will be the PI on the grant supporting the RA.

4.6 RESPONSE TO AN OFFER OF RA SUPPORT

The following is a matter of nationally recognized standards and one of common courtesy. All offers of RAs come from the Major Advisor of the prospective student. Offers of RAs to begin in the Fall semester may be made as early as February 1st. Based on national standards, students are under no obligation to respond to this offer prior to April 15th. Nonetheless, if there is no response to an offer after a two-week period of time, the faculty may withdraw the offer so that it can be made to another student. If a student accepts an offer before April 15th and subsequently desires to withdraw that acceptance, the student may do so by submitting a written resignation of the offer at any time before April 15th. After April 15th, the student should not accept another offer without first obtaining a written release from the institution to which a commitment has been made. A similar schedule should be honored for offers of RAs to begin in the Spring semester (i.e., offers may be withdrawn by faculty after two weeks of no response; withdrawals following acceptance should be submitted before September 15th; a release for withdrawal is required after September 15th) or RAs with non-traditional dates of initiation.

5 GRADUATE ADVISOR AND STUDENT'S ADVISORY COMMITTEE

5.1 GRADUATE ADVISOR

A student's Graduate Advisor (Graduate Advisor synonym = "Major Professor") is the faculty member who agreed to serve as the student's primary advisor and is generally the PI on the grant supporting the student. The Graduate Advisor is the primary individual that helps direct the graduate student through the academic pursuits of the student's program-of-study. The Graduate Advisor typically provides office and lab space for the student and oversees the expenditures and resources associated with the student's research.

5.2 PROCESS FOR DESIGNATION OF STUDENT'S ADVISORY COMMITTEE

It is the responsibility of the student, in consultation with their Major Professor, to constitute a Student Advisory Committee (see next section) according to program timelines, and to arrange committee meetings on schedules described in the Appendices of these guidelines. Through discussion and mutual agreement, the student and Graduate Advisor/Major Professor will select an advisory committee before the end of the first semester for M.S. students and the mid-term of the second semester for Ph.D. students. The student is responsible for approaching faculty and requesting that they serve on the committee. The Major Professor, in agreement with the student, then submits the names of potential committee members to the CFC Student Services Office for submission to the Graduate School (note: this is done using the Student Advisory Committee Appointment form – See Appendices). According to university by-laws, all committee appointments are officially approved by the Dean of the Graduate School. Appointment of faculty to a Student Advisory Committee is subject to change, but should represent the firmest commitment possible. Changes to the Student's Advisory Committee must be approved by the majority of the existing committee at which time a new committee form must be submitted to the Graduate School.

5.3 ROLE OF STUDENT'S ADVISORY COMMITTEE

The primary role of a Student's Advisory Committee is to provide the intellectual expertise necessary to enable a student to devise and implement high quality research within their chosen area of interest. As a member of a Student's Advisory Committee, faculty members have the following obligations: 1) Committee members must meet with the student *as a committee* at least once each academic year to assure progress in the student's program-of-study. The results of each committee meeting will be placed into the student's file using the SEIGP Committee Meeting Report form (see Appendices). The function of this annual committee meeting will be to review student progress, to provide substantive input into the intellectual development of a research proposal, to provide guidance regarding the implementation of research, and to ensure that student research meets a high standard of scholarship. It is the primary responsibility of the Major Professor and the student to demonstrate to the committee that milestones and timelines of progress are being met. It is also the responsibility of the Major Professor and the graduate student to schedule and coordinate these annual meetings; 2) By accepting

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service on the Student's Advisory Committee, committee members agree to read and comment on research proposals or dissertation chapters in a timely manner. Students must work with their Student Advisory Committee to set specific deadlines for submission to the committee for approval of proposals or dissertation or thesis chapters; 3) Student Advisory Committee members must communicate to students what their expectations are regarding performance standards on the comprehensive exam, and clearly outline the general areas/topics in which they expect students to have competency; 4) Committee members are expected to attend and participate in the student's thesis or dissertation defense. SEIGP committee members are also expected to attend seminars or presentations by the student scheduled as part of the program requirements.

5.4 STUDENT – COMMITTEE INTERACTIONS AND EXPECTATIONS

Students must recognize that faculty face multiple competing demands and deadlines, and thus must schedule review of their materials into the Student's Advisory Committee's faculty workload. Students should submit materials so that committee members have adequate time for review and students have sufficient time to incorporate faculty feedback before deadlines and target dates. Students should scale the time available for review with the size of documents to be reviewed. Students and faculty should develop clear understanding of expectations for such turnaround well in advance of any deadlines. This generally means submitting documents weeks to months in advance of deadlines, depending on the nature of the material being submitted for evaluation or review. Open, frequent, and honest communication is the basis for positive working relationships between students and faculty advisors. Disagreements often can be traced to a failure to raise concerns or speak frankly about points of dissatisfaction as they arise. Communicating about such issues in a productive and respectful way is an important part of professional life. Students should expect respectful, frank, and critical feedback on their academic performance and professional effectiveness, based on the academic standards of the SEIGP and the professional judgments of the Major Professor and Student Advisory Committee members. At the same time, committee members should expect to hear from students about aspects of the faculty-student relationship that are counterproductive to student success, if they arise.

Students are strongly encouraged to consult with their Major Professor about concerns or problems at the earliest opportunity. Indeed, discussion with the faculty advisor must be the first step in addressing any academic, research, or professional concern. Subsequently, unresolved issues should be discussed with a member of the Student's Advisory Committee; students also may seek informal guidance from another faculty member. Students wishing to pursue an issue further should consult with the SEIGP Program Director. Student-faculty interactions that grow to the stage of conflict, or unresolved student concerns about the quality of faculty advisement, should be brought formally in writing to the attention of the SEIGP Program Director. If the Program Director cannot resolve the issue, it should be taken to the Associate Dean of the College of Forestry and Conservation.

5.5 STUDENT ADVISORY COMMITTEE MEMBERSHIP

SEIGP Student Advisory Committees must adhere to all rules and limitations of the Graduate School and of the standards of CAS, CFC, and DBS (see the [Graduate School Policies](#)). Master's and Ph.D. degree

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Student Advisory Committees differ in several ways, as described herein. Qualifications for serving as Major Professor of a SEIGP graduate student or serving on Student Advisory Committees are described in the SEIGP Faculty Guidelines document.

5.5.1 M.S. Student Advisory Committees

Master's Degree Student Advisory Committees must consist of at least three members; two must be SEIGP faculty members (one of whom is the Major Professor) and one must be a UM faculty member who is not in the SEIGP graduate program. By UM Graduate School regulations, this third, non-SEIGP committee member must be a UM employee because their additional responsibility as a committee member is to ensure that the student is held to UM academic standards, that the student is treated fairly by all committee members, and that the student's progress is not unduly delayed by failure of other committee members to act in a timely manner. Occasionally, a fourth committee member may serve at the discretion of the student's committee. If there are more than 3 members on the committee, SEIGP faculty must compose at least 50% of committee composition.

5.5.2 Ph.D. Student Advisory Committees

Ph.D. Student Advisory Committees must consist of at least five faculty members; three members must be SEIGP faculty members (one of whom is the Major Professor), the fourth member must be a UM faculty member who is not in the SEIGP graduate program, and the fifth member may come from inside or outside of the SEIGP (further discussion below). By UM Graduate School regulations, this fourth (non-SEIGP) committee member must be a UM employee because they have the additional responsibility as a committee member is to ensure that the student is held to UM academic standards, that the student is treated fairly by all committee members, and that the student's progress is not unduly delayed by failure of other committee members to act in a timely manner. The fifth committee member may come from within the SEIGP faculty, other graduate programs at UM, or from a university or agency outside of UM as long as they are qualified by training, experience, and/or degree held (PhD) to assist in the guidance and evaluation of the research and dissertation. If there are more than 5 members on the committee, SEIGP faculty must compose at least 50% of committee composition.

6 COURSEWORK AND ACADEMIC STANDARDS

6.1 GENERAL COURSEWORK

Prior to the start of the first semester at UM, the entering SEIGP graduate student must meet with their Major Professor to select the first-semester course work. Before mid-term of the first semester in residence, each SEIGP student must arrange a meeting to examine the student's previous and proposed coursework. For M.S. students, this meeting will be with the Student's Advisory Committee. For Ph.D. students, this meeting will be with the student's Major Professor and two additional SEIGP faculty members who are likely to be appointed to the Student's Advisory Committee. Faculty will consider the student's undergraduate background and GRE scores to identify any deficiencies in coursework. From this, the committee will formalize a coursework program-of-study for the next semester. Oversight for course work in subsequent semesters of the Ph.D. student will be the purview of the fully constituted

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Student Advisory Committee. The Student Advisory Committee will also guide the student in selecting courses to meet career or other educational goals and provide the necessary background for research and desired area of expertise. Selection of coursework to be taken must meet SEIGP core requirements and Graduate School requirements. Elective course work shall be suggested by the student in consultation with the Major Professor and presented to the committee. The Student Advisory Committee shall have the final approval of proposed course work that adheres to the current SEIGP curriculum requirements as set by the Curriculum Committee. A student might, in rare circumstances, have a core course waived if the student's committee determines that the student has taken an equivalent course. The results of all Student Advisory Committee meetings must be placed in the student's file using the SEIGP required forms (see Appendices).

6.2 SPECIFIC COURSEWORK

BIOS 532 (Fundamentals of Ecosystem Ecology) and **BIOS 534 (Integrated Systems Ecology)** are required components of both the M.S. and Ph.D. degrees. Both courses are offered on an annual basis (BIOS 532 generally in autumn; BIOS 534 generally in spring). All SE students must complete both courses in partial fulfillment of their respective degrees.

M.S. and Ph.D. students must complete at least three credits of graded, graduate-level coursework that brings an interdisciplinary perspective recognizably outside traditional natural science or ecology courses to address ecological systems. Courses that fulfill this requirement can be found on the [Systems Ecology Available Courses](#) page. However, students wishing to take different courses to fulfill this requirement must work with their student advisory committee to ensure that the selected course meets the spirit of the interdisciplinary course requirement.

Moreover, all Ph.D. students in SE must select and successfully complete one or more courses in modeling in partial fulfillment of their doctoral degrees. It is possible that some existing or new courses other than those listed on the Available Courses page may be deemed appropriate to fulfill the modeling requirement, but any proposed substitutions must be approved by the student's committee and/or the Director of Systems Ecology.

6.3 CREDIT REQUIREMENTS

All course work must be approved by the Student's Advisory Committee. Master's students must complete a committee-approved program of 30 (or more) semester credits of graduate-level coursework, at least 20 of which must be within the student's major discipline (as determined by their committee). As many as 10 credits may be thesis (SYEC 599). A minimum of 10 credits of the non-thesis coursework, or at least half of the credits required for the degree, must be at the 500 level. Ph.D. students must complete 60 semester credits of graduate-level coursework (as many as 20 may be dissertation, SYEC 699). The other 40 credits may include coursework, graduate seminars, or independent research (SYEC 596). There are no restrictions on the distribution of these 40 credits, however at least 20 credits of the non-thesis coursework must be at the 500 level or above, and the proposed coursework must be approved by the Student's Advisory Committee. No more than 30 credits

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from a Master's Degree can be applied to the PhD credit requirements by memo to the Graduate School.

All students supported via a Research (RA) or Teaching Assistantships (TA) in SE should register for six credits each semester during the academic year. As per the University of Montana's continuous enrollment policy, graduate degree candidates must register for at least three credits each fall and spring semester until graduation (please see section 8). In some cases, students can petition the Associate Dean of the Graduate School to reduce the registration requirement to one credit (*e.g.*, students who have completed most requirements but have not submitted a final version of the thesis or dissertation).

6.4 TRANSFER CREDITS

Transfer credits for PhD students need a memo from the CFC Student Services Office as to which courses the student's committee are approving for transfer.

For MS degrees, only courses from another Master's program or from being registered as a grad non-degree can transfer to a Master's program. Of those credits that can be transferred, only 9 credits, or one semester, can count.

6.5 ACADEMIC STANDARDS

Graduate students must maintain a 3.0 grade-point average in courses taken for graduate credit. No grade lower than a B will be accepted toward any SEIGP M.S. or Ph.D. degree requirement. Letter grades must be obtained in all courses used to meet credit requirements except seminars, research, thesis, and dissertation, which are graded on either an N (continuation) or Credit/No credit basis. Pass grades are not included in grade point calculations but may apply toward degree requirements when earned in courses offered only on a Credit/No credit basis. See university requirements for full-time graduate students funded by RAs as these may change from year to year. It is the student's responsibility to comply with university requirements. Advice can be sought from the Major Professor, the Program Director of SEIGP or from the Associate Dean of the CFC.

6.6 GRANT PROPOSALS

Students are expected to write and submit grant proposals. Especially for graduate students seeking a Ph.D., learning to write and acquire research funding is considered an integral part of the Ph.D. learning process. Ph.D. students will be highly encouraged to develop grant proposals; however, students are not permitted to submit proposals. Submission of grants for sponsored research can only be done by faculty as a matter of policy of the UM.

7 CONTINUOUS REGISTRATION AND LEAVES OF ABSENCE

The UM Graduate School requires that graduate students register for credits every fall and spring semester. The number of credits should be that deemed commensurate with use of facilities and faculty time. Students must register for a leave-of-absence if they do not plan to be continuously registered. Students who leave the SEIGP for two or more semesters without approval by the Graduate School will be dropped from the program. Re-admission is allowed through petition or reapplication through the Graduate School.

8 SEMINARS

8.1 FOCUS GROUP SEMINARS

The SE graduate seminar, a core course in the Systems Ecology curriculum, is designed to encourage the regular exchange of ideas among the SE faculty and students; provide opportunities for students and faculty to share current research ideas and interests, and expose students and faculty to a broad range of topics, approaches and perspectives from across the disciplines represented in SE. The objectives of this one-credit seminar (offered each semester) are to help build a collegial community between SE faculty and students; create a mentoring space for students to receive feedback on their research and presentation techniques outside of their core laboratory group, and help prepare students to engage as professionals in academia or another occupation related to their specialty.

The SE graduate seminar (current course designation BIOS 595) will be co-listed with the College of Forestry and Conservation's Department of Ecosystem and Conservation Science (DECS) seminar, based on a common syllabus approved by the SE Curriculum Committee. Each academic year, the seminar will be facilitated by alternating instructors: one semester it will be facilitated by a DECS faculty member, the other semester by SE faculty member from outside DECS.

In partial fulfillment of their degree programs, Masters (M.S.) students in Systems Ecology are required to register for and complete the SE graduate seminar at least twice, and Ph.D. students are required to register for and complete the seminar at least four times. It is highly recommended that both M.S. and Ph.D. students register for and complete a SE graduate seminar in their first year in the program. All SE students, even those not formally enrolled in the seminar, are expected to attend the SE graduate seminar whenever possible.

8.2 GRADUATE STUDENT PRESENTATIONS

M.S. students are encouraged to present at least one talk or poster about their research at a regional or national scientific meeting prior to or associated with the completion of the degree program and graduation. Ph.D. students are expected to present an oral presentation of their research at a national or international scientific meeting during their degree program.

9 RESEARCH PLANNING AND PROPOSALS

9.1 FORMAL RESEARCH PROPOSAL

Each student is required to complete a formal research proposal that presents the theoretical and empirical framework within which the study has been designed and will be carried out. Specifically, the proposal should consist of a title, an introduction to the research problem, how the problem fits into a broader conceptual framework defined by existing scientific literature, a justification of its importance, the specific objectives, questions and hypotheses, methods (including details about design and proposed methods of analysis), significance, and a timetable.

M.S. candidates must obtain Student Advisory Committee approval of a research proposal no later than April 1st of their first academic year. Students must also present an oral defense of their thesis proposal to their committee.

Ph.D. students must obtain Student Advisory Committee approval of a preliminary research proposal (i.e. pre-proposal) no later than April 1st of their first academic year. The committee approval of the Committee Required Coursework form should be completed in association with approval of this pre-proposal. The final dissertation proposal must be approved by the Student's Advisory Committee by April 1st of the second academic year. This proposal must be well structured; for example, in the format of an NSF Dissertation Improvement Grant.

After approval by the Student Advisory Committee, for either M.S. or Ph.D. students, a copy of the proposal signed by all committee members must be placed in the student's file. Ph.D. students must also submit a Major Professor-signed copy of the proposal for file in the DBS Administrative Office.

In approving the proposal, the Student Advisory Committee agrees that successful completion of the project will be sufficient research for a satisfactory thesis or dissertation. Any substantive changes made after Student Advisory Committee approval require discussion and approval by committee in a formal committee meeting and clearly described in context of the original proposal in the committee meeting summary.

10 FOREIGN LANGUAGE REQUIREMENT

There is no foreign language requirement for the MS or Ph.D. degree. However, familiarity with foreign journals, meetings in foreign languages, and especially an experience in a foreign country (e.g. attending a conference, course, or participating in a foreign research program) is strongly encouraged for Ph.D. students.

11 ANNUAL REVIEW OF STUDENT PROGRESS

It is the primary responsibility of the Major Professor and the Student Advisory Committee to assure that students are making adequate progress. Student Advisory Committees shall make evaluation annually at the end of the spring semester to judge whether the student is making satisfactory progress. In the event that a student has not met required levels of performance or deadlines, the student will be warned and placed on probation. Students placed on probation at the end of the spring semester will be given very specific instructions for meeting goals of satisfactory progress and given a reasonable deadline by the Student Advisory Committee. If the student fails to complete tasks or be in compliance with program standards by the following annual review, the student will be judged to be making unsatisfactory progress and the student will be dropped from the program.

12 COMPREHENSIVE EXAM (PH.D. ONLY)

12.1 DESCRIPTION

The Ph.D. student must pass both a written and an oral comprehensive examination that deals with his/her research specialization and cognate areas. The comprehensive examination is designed to test the candidate's readiness to continue with the research phase of his/her graduate studies, as well as test their knowledge broadly across the topic of systems ecology. Testing the student's general mastery of the field is regarded as an essential part of the examination. This exam should represent a breadth of knowledge including knowledge of minor or cognate fields of study.

12.2 TIMING

The comprehensive exam must be completed by the end of fall semester of the student's third year in the program or after the student has taken all of the coursework required by the Student's Advisory Committee. The conceptual emphasis of the exam must be identified by the student's committee by the end of the student's second year in the program on the basis of the student's major and minor fields of interest.

12.3 STUDENT'S ADVISORY COMMITTEE COMPOSITION

The comprehensive exam is conducted by an Examination Committee. This committee usually is comprised of the Student Advisory Committee. However, the Chair of the Examination Committee cannot be the Major Professor. The student and his/her Major Professor are responsible to make arrangements for an Examination Committee Chair. The Examination Committee Chair will construct the written exam based on questions submitted by the committee members and ensure timely progress towards the oral portion of the exam.

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12.4 EXAM FORMAT

The format includes a week-long, written portion, where the student is expected to synthesize information from the literature concerning the questions offered. The written exam will cover detailed Ph.D. level questions related to the student's general area of research interest. The Examination Committee will, in advance, provide the student with a list of topics, journal articles, books, etc., to assist the student in preparing for the exam. These materials may serve to focus the exam, but neither student answers nor faculty questions are rigidly bounded by the provided materials. The purpose of the exam is to specifically evaluate the student's mastery of his/her research focus and generally to evaluate literacy in systems ecology. Faculty will specify whether his/her question(s) is to be open- or closed-book. Prior to the exam, each committee member will submit questions to the Examination Committee Chair. The Chair will compile the questions and attempt to minimize overlap and make sure that the exam has sufficient breadth. The entire exam will be distributed to all committee members for approval before it is administered to the student by the Chair on the arranged dates. The Chair will typically allow the student to have one day to complete the questions from each committee member, although the exact format of the exam shall be determined by the Examination Committee. After the Committee has read the written portion of the comprehensive examination, the Chair will poll the Examination Committee members to decide whether the student has passed the written portion of the exam and can therefore proceed with the oral portion. If there is any question or hesitancy by any one member of the Committee, the Chair will hold a meeting of the Committee for clarification, further discussion or additional material may be pursued.

The written exam has three levels of rating: Pass, Marginal, Fail. A) Pass – Student progresses to the oral exam. B) Marginal – The examination demonstrates weakness in one or more areas. The committee will meet to discuss the next step, but it may require that portion of the exam in which performance was determined to be insufficient to be re-written. The committee may postpone for a reasonable time the oral examination until any rewritten components of the exam are determined to receive a Pass rating. C) Fail – A complete failure of the written exam will require that the student retake the exam in its entirety. A second failure of the written exam will result in termination of the student's program.

Upon successful completion of the written exam, the student will take an oral exam at least three days after and no more than 14 days after completing the written portion of the exam. Students can expect questions on the oral exam that are derived from the material they have been asked to master. The oral examination explores in-depth the areas presented in the written questions, but is not restricted to those areas. The oral examination is a minimum of two hours and restricted to no more than three hours in length. By regulation, the examination is open to all members of the UM faculty but only committee members may ask questions. All non-committee members and the student are excused before the vote is taken regarding pass or fail of the oral portion of the exam.

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Normally, the vote for admission to Ph.D. candidacy will occur at the end of the oral examination. Each Examination Committee member will rate the student's performance across both written and the oral portions of the examination in one of three categories: A) Pass – No further work is necessary. Student progresses to candidacy. B) Conditional pass – The examination demonstrates weakness in one area. The student is required to make up for this deficiency before progressing to candidacy. At the examination, the Examination Committee will specify the tasks required for the student to progress to candidacy, and the criteria for evaluating their completion. Typically, students in this category are required to take an additional course or complete additional written work. C) Fail – The examination may be rescheduled if the student fails, but the Examination Committee retains the right to recommend termination of the student's program upon majority opinion at any time.

A student can pass with one negative vote. If the student fails the examination, one repeat oral examination is permitted. A suitable interval between exams shall be determined by the Examination Committee. Failure to pass the exam after the second attempt will necessitate dropping the student from the program.

13 ADMISSION TO CANDIDACY

At least six months before the Master's or Ph.D. degree is to be awarded and after successful completion of the comprehensive exam (for Ph.D. students), the student must submit a [Graduate Degrees Application for Graduation Form](#) and meet other Graduate School requirements. Graduation applications should be brought to the CFC Student Services Office to be scanned to the student's electronic file before being submitted to the Graduate School Office with the graduation fee.

14 COMPLETION AND DEFENSE OF M.S. THESIS OR PH.D. DISSERTATION

14.1 THESIS/DISSERTATION CONTENT

The thesis or dissertation must embody the results of independent research by the candidate. It must be an original contribution to knowledge appropriate for publication in a peer-reviewed journal. The difference between a thesis and dissertation is not clear cut, but, generally speaking, lies with the extent to which the effort is a polished product and the degree to which a student is contributing new understanding to an area of research. Many students write their thesis or dissertation as a series of papers, and some submit such papers to journals before graduating. A paper or a series of papers accepted by one or more journals does not, however, ensure that the body of work will be automatically accepted by the committee as sufficient for degree requirements. The Student's Advisory Committee must look at the entire body of work and determine if it meets the programmatic standards.

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14.2 DEADLINES AND APPROVALS

The student shall determine well in advance of a desired thesis or dissertation defense date the deadlines needed by the faculty serving on the Student Advisory Committee. This may vary due to circumstances affecting faculty workloads. However, as a general guideline, students are advised that six weeks is not uncommon as a needed time prior to the anticipated defense date so that faculty can review the thesis or dissertation prior to approval for defense. The Major Professor of the student shall conduct a Student Advisory Committee meeting to determine if the thesis or dissertation is ready to be defended. This can be a virtual meeting via conference call. Each committee member must approve the thesis or dissertation for defense, after which it is submitted to the SEIGP faculty for their approval via pdf file at least one week prior to the defense. The signature of the Major Professor and all Student Advisory Committee members should be on the title page indicating that they have agreed that it is ready for defense. Unless the SEIGP Program Director receives a written objection by one or more faculty, the thesis or dissertation defense can take place on the scheduled day. In the event there is an objection, the Student Advisory Committee will meet to discuss the nature of the objection, and vote for or against proceeding with the defense. If after discussion two or more objections to proceeding with the defense are recorded in the meeting, the matter will be taken up by the SEIGP Graduate Education Committee. A 2/3 majority of the Graduate Education Committee must approve to proceed with the defense. Public notice of the defense should be posted at least one week prior to the defense, but it is highly recommended that students post their defense title, date, time and place 3-4 weeks in advance to maximize faculty and graduate student participation in the oral presentation of the defense seminar.

14.3 DEFENSE

Both M.S. and Ph. D. students are required to conduct a public presentation of his/her thesis or dissertation. The public presentation is immediately followed by a public question-answer period. Following the public presentation, the Student's Advisory Committee conducts an oral examination, which is open to all faculty members of the University. Students are required to "defend" the approach, methods, analysis, and conclusions related to their research. The oral portion of the defense should consist of a 40-45-minute presentation followed by a 10-15 minute period for questions from the faculty and others attending the defense. A one-hour block of time should be reserved for the public defense. Following the public presentation, the Student Advisory Committee will meet in "closed session" with the candidate for further examination of the dissertation or thesis. The student should schedule at least 2 hours for the closed session portion of the defense.

In case of failure, one repeat defense at least one month after the initial defense is permitted. A unanimous vote of a satisfactory performance is required by a Master's Student Advisory Committee for a pass. A Ph.D. student may not have more than one negative vote from the Student Advisory Committee to pass the defense. However, any SEIGP faculty member, from the Student Advisory Committee or not, can bring into question the adequacy of the thesis or dissertation. It is the responsibility of the SEIGP Program Director, working with the objector and the Major Professor to evaluate the adequacy of the objection and means of satisfactory completion. Failure to resolve the

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issue will be taken to the Associate Dean of the CFC who, in concert with the SEIGP Program Director will consult with the Dean of CHS and the Dean of CFC for the purpose of final resolution.

Following a successful defense, which often results in required modification to the dissertation or thesis, the student must submit before the deadline set by the Graduate School, electronic copies of the thesis or dissertation, and meet all Graduate School deadlines and requirements. For guidance in preparing a thesis or dissertation, as well as current binding fees and forms required, consult the Graduate School's [Graduation Resources](#) page. The student is encouraged to have an additional copy of the thesis/dissertation bound by a commercial binding service for his/her Major Professor.

15 SUPPLEMENT A

SEIGP DEADLINES FOR GRADUATE DEGREE REQUIREMENTS

Action	M.S. Students	Ph.D. Students
Selection of Student Advisory Committee	Before end of first semester Year 1	Before end of second semester Year 1
Approved Coursework Form	Before end of first semester Year 1	Before end of second semester Year 1
Approved thesis proposal, research budget, and research schedule	Before end of second semester Year 1	(a) Preliminary research proposal approved before end of second semester Year 1; (b) Final Research proposal approved before end of second semester second academic year
Ph.D. Comprehensive Exam	N/A	The comprehensive exam must be completed by the end of the first semester of the student's 3rd year in the program
Admission to Candidacy	Graduation applications must be filed prior to awarding of degree based on Graduate School required timelines	Application must be filed after completion of the Ph.D. comprehensive exam and 6 months before degree award
Thesis or dissertation draft, approved by major professor, made available to Student's Advisory Committee	Students must seek guidance from the Student Advisory Committee faculty, but may vary so seek guidance early in the semester of intended defense.	Students must seek guidance from the Student Advisory Committee faculty, but may vary so seek guidance early in the semester of intended defense.
Committee-approved thesis or dissertation made available to SEIGP faculty (pdf)	At least one week prior to defense	At least one week prior to defense
Committee-approved thesis or dissertation made available to the Graduate School	Follow Graduate School Regulations	Follow Graduate School Regulations

16 SUPPLEMENT B: SE GRADUATE STUDENT FORMS

1. SE Graduate Student MS Committee Appointment Form
2. SE Graduate Student PhD Committee Appointment Form
3. Committee Meeting Report Form
4. Required Coursework Form
5. Student Progress Summary Form
6. Annual Review Form
7. Result Of Annual Review Memo Format

SE GRADUATE STUDENT MS COMMITTEE APPOINTMENT FORM

University of Montana, College of Forestry and Conservation

Name: _____

ID: 790 _____

Degree: _____

Major: _____

Student's Committee:

Committee Member	Name (typed)	Signature	Date
Major Professor (CFC)			
Committee Member (CFC)			
Outside Committee Member			
4 th Committee Member (Optional)			

SE GRADUATE STUDENT PhD COMMITTEE APPOINTMENT FORM

University of Montana, College of Forestry and Conservation

Name: _____

ID: 790 _____

Degree: _____

Major: _____

Student's Committee:

Committee Member	Name (typed)	Signature	Date
Major Professor (CFC)			
Committee Member (CFC)			
Committee Member			
Outside Committee Member			
5 th Committee Member			

Note: Dissertation Chair must be different from Comps Chair. Please indicate which committee member will be the Comps Chair.

SE GRADUATE STUDENT COMMITTEE MEETING REPORT

STUDENT: _____

MS

PhD

Committee Members Present:

(Committee Chair)

DATE: _____

ACTIONS TAKEN:

**SE GRADUATE
STUDENT REQUIRED COURSEWORK FORM**

STUDENT: _____

MS

PhD

Course Work Approved by Committee:

Committee Signatures:

Date Approved:

SE GRADUATE STUDENT PROGRESS SUMMARY FORM

STUDENT: _____

MS

PhD

Date Entered Program:

Faculty Advisor:

Other Committee Members (date appointed _____):

DATE COURSEWORK APPROVED BY COMMITTEE:

THESIS OR DISSERTATION PROPOSAL:

Preproposal title & date approved by committee:

Proposal title & date approved by committee:

COMPREHENSIVE EXAM:

Area of Conceptual Emphasis:

Date completed:

RESULTS OF PREVIOUS REVIEWS:

Yr 1: _____

Yr 2: _____

Yr 3: _____

Yr 4: _____

Yr 5: _____

SE GRADUATE STUDENT REVIEW

Date: _____

STUDENT: _____

MS

PhD

Major Advisor:

All other committee members:

Dates of committee meetings this academic year:

Date Entered Program:

STATEMENT OF ACADEMIC PROGRESS:

Include the following information (i.e., list by semester: courses completed, courses in progress this semester, and courses required by your committee that need to be taken. Include in () the number of credits for each course. For courses completed include the letter grade received.

Semester	Courses completed	Semester	Credits	Grade
	Courses in progress			
	Courses needed			

SE GRADUATE STUDENT REVIEW

STUDENT: _____

ACHIEVEMENTS SINCE ADMITTANCE: (presentations, publications, grant applications submitted, grants received, fellowships, awards, etc.)

STATEMENT OF RESEARCH PROGRESS:

Date approved by committee:

Brief statement of research progress to date (list as bullets please)

Research Goals for the next year:

ANTICIPATED SEMESTER/YEAR OF DEFENSE AND COMPLETION:

SE GRADUATE STUDENT REVIEW

STUDENT: _____

FOR PhD STUDENTS ONLY

COMPREHENSIVE EXAM: (Date completed or scheduled to be taken): _____

RESEARCH ADVISOR'S RECOMMENDATION:

Advisor Signature

Date

RESULT OF ANNUAL REVIEW MEMO FORMAT

DATE: _____

TO: _____

FROM: _____, Director, SE Intercollegiate Graduate Program

RE: Annual Review of Grad Students

Option 1: The faculty has completed your annual review as required by the SE Graduate Regulations. We evaluate each graduate student to determine if his/her progress in the program is satisfactory or unsatisfactory. I am pleased to tell you that the faculty has concluded that you are making satisfactory progress as a graduate student. Please ask me or your major professor if you have any questions.

Option 2: The faculty has completed your annual review as required by the SE Graduate Regulations. We evaluate each graduate student to determine if his/her progress in the program is satisfactory or unsatisfactory. The faculty has concluded based upon your records that you are making satisfactory progress as a graduate student contingent on your fulfilling the following requirements:

If these conditions are not completed by the specified time then you will be considered to be making unsatisfactory progress. Students who are making unsatisfactory progress are not eligible for financial support from the university. You will have one additional semester to correct the conditions responsible for your unsatisfactory progress. If these conditions are not completed at that time, the faculty will reevaluate your continuation in the graduate program. Please ask me or your major professor if you have any questions.

Option 3: The faculty has completed your annual review as required by the SE Graduate Regulations. We evaluate each graduate student to determine if his/her progress in the program is satisfactory or unsatisfactory. The faculty has concluded that you are **not** making satisfactory progress as a graduate student. You must fulfill the following requirements in order to be considered to be making satisfactory progress:

If these conditions are not completed by _____, the faculty will recommend to the Graduate School that you be dismissed from the graduate program. Please ask me or your major professor if you have any questions.